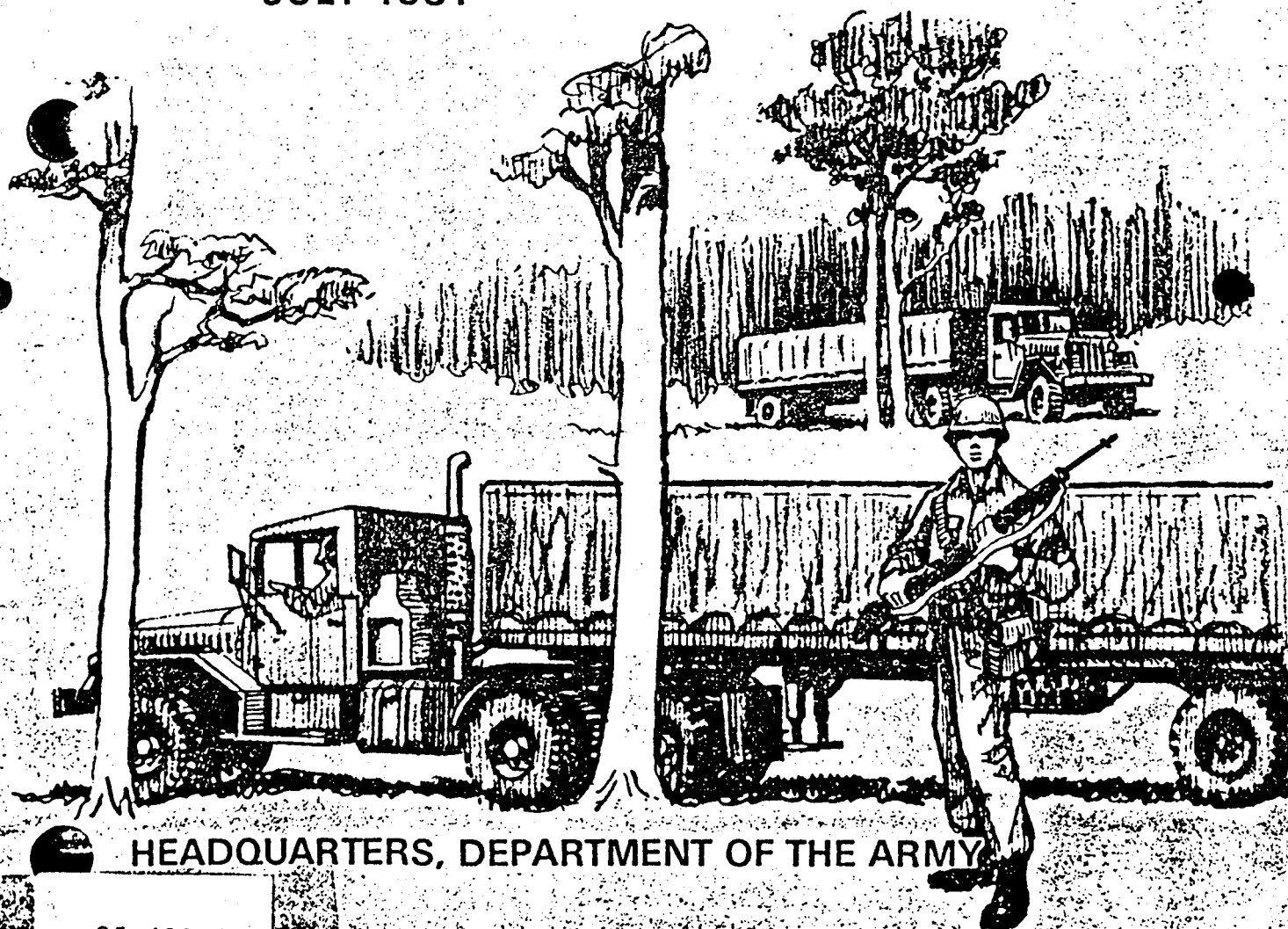


FM 9-84

NUCLEAR SPECIAL AMMUNITION DIRECT AND GENERAL SUPPORT UNIT OPERATIONS

JULY 1981



HEADQUARTERS, DEPARTMENT OF THE ARMY

NUCLEAR SPECIAL AMMUNITION DIRECT AND GENERAL SUPPORT UNIT OPERATIONS

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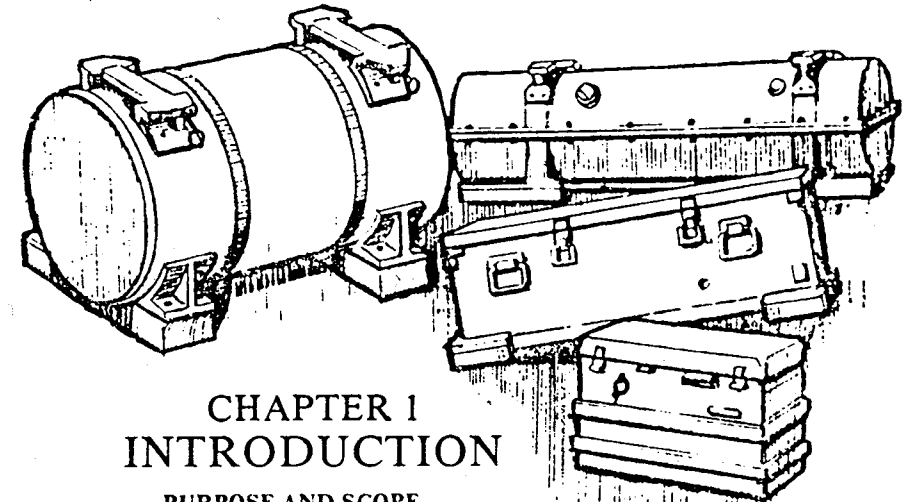
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WHEN USED IN THIS PUBLICATION, "HE," "HIM," "HIS," AND "MEN"
REPRESENT BOTH THE MASCULINE AND FEMININE GENDERS.

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CHAPTER 1 INTRODUCTION

PURPOSE AND SCOPE

This manual defines the organization of units and how they provide nuclear special ammunition service support in the theater of operations.

It provides guidance to commanders, staff officers, and other personnel involved in the logistics of nuclear special ammunition items. The unit organizational structure for nuclear special ammunition service support can be tailored to varying force structures and will be responsible for all levels of combat. For a description of the entire class V (ammunition) support system and procedures, see FM 9-6, Ammunition Service in the Theater of Operations.

This manual encompasses logistics, supply, storage, transportation, maintenance (including that of training equipment and associated test and handling equipment) safety, security and escort service. The material in this manual applies to all nuclear special ammunition service support field operations worldwide. The combat operations and procedures discussed in this manual complement and supplement FM 100-50, Operations for Nuclear-Capable Units.

COMMENTS ABOUT FM 9-84

You are encouraged to recommend changes to improve this manual. Key your comments to the specific page, paragraph, and line of the text. Provide reasons for each comment to make sure it can be evaluated. Use DA Form 2028 (Recommended Changes to Publications and Blank Forms) and mail to the Commandant, US Army Missile and Munitions Center and School, Attn: ATSK-CC, Redstone Arsenal, Alabama 35897.

**USE DA FORM 2028
TO RECOMMEND
CHANGES**

AMMUNITION CHARACTERISTICS

The term ammunition refers to devices charged with explosives, propellents, pyrotechnics, initiating composition, or nuclear or chemical material. It is used in connection with defense or offense, including demolitions. Certain ammunition can be used for training, ceremonial, or nonoperational purposes.

Ammunition is Divided Into Two Categories.

Conventional Ammunition. This category includes small arms, tank and artillery ammunition; high-density, low-maintenance rockets and missiles; mines, grenades, pyrotechnics, and high explosives; and certain chemical ammunition items (ammunition filled with smoke, incendiary, and riot control agents). Bursting and igniters for chemical ammunition and thickeners for flame fuels are also grouped as conventional ammunition. When the same propelling charge is used for special and conventional ammunition, the charge is considered to be an item of conventional ammunition. Only those quantities required to insure complete rounds of special ammunition are stored and issued with special ammunition items.

Special Ammunition. This category is used for ammunition items that require extraordinary control, handling, or security. Special ammunition includes nuclear and nonnuclear warhead sections; atomic demolition munitions; nuclear projectiles; and associated spotting rounds, propelling charges, and repair parts. It also includes missile bodies (except missiles combining high density, low maintenance, and conventional ammunition features); related components of missile bodies (less repair parts); and missile propellants. A complete round is included within the meaning of the term special ammunition. Lethal and incapacitating chemical agents and ammunition are also included in this category but are not discussed in this manual.

Certain items which are closely related to nuclear special ammunition are supplied through special ammunition class V channels (e.g., associated test and handling equipment and special tools.)

PECULIARITIES OF NUCLEAR SPECIAL AMMUNITION SERVICE SUPPORT

Control. National policy requires that nuclear special ammunition be stringently controlled. A command decision at the appropriate level is required for every supply action involving nuclear special ammunition in the theater of operations. This includes such actions as establishing the prescribed nuclear load (PNL) for a firing unit, placing rounds in a special ammunition storage facility, or issuing rounds to a unit.

Accountability. The political sensitivity, military potential, and the high cost of nuclear special ammunition require an accurate account of each nuclear weapon. Accountability must be by continuous receipts. It does not end until the weapon is expended or destroyed, and then only through proper reporting procedures.

**REQUIRES
EXTRAORDINARY
CONTROL, HANDLING,
AND SECURITY**

**IS STRINGENTLY
CONTROLLED**

Security. Strict security measures must be used in all phases of receipt, storage, and movement of nuclear special ammunition. Physical security must be provided wherever stocks are located. Logistical data and accounting information must be reported by secure means if available. Personnel assignments to nuclear duty positions are strictly controlled through the personnel reliability program (PRP).

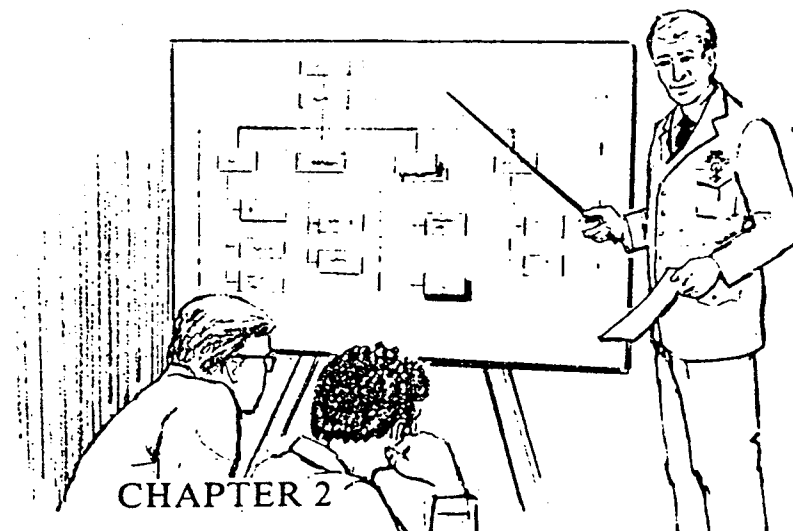
Field Storage. The transition from peace to war will cause nuclear special ammunition to be removed from fixed storage facilities and dispersed to mobile field storage locations. The term field storage location (FSL) is used to specify any field location for nuclear weapons storage. An FSL may be operated by either an ordnance unit or a nuclear capable unit. The primary purpose of the FSL is to preclude unauthorized and uncontrolled access to weapons.

Maintenance. Rigid technical maintenance requirements must be satisfied and related special maintenance reports must be kept on each round of special ammunition until it is actually expended or destroyed. Unlike conventional ammunition, special ammunition is not considered to be expended when issued to a firing unit or emplacement team.

Safety. Vigorous safety programs and practices are required to minimize the possibility of loss of life, personal injury, or property damage resulting from a nuclear accident or incident. Special safety requirements are imposed by the Secretary of Defense and published in Army regulations (AR). Explosions, fires, and nuclear radiation represent the greatest hazards in a nuclear accident or incident.

**STRICT SECURITY
MEASURES MUST BE
USED**

**VIGOROUS SAFETY
PROGRAMS ARE
REQUIRED**



CHAPTER 2

LOGISTICS SUPPORT STRUCTURE

SECTION I. ORGANIZATION OVERVIEW GENERAL

This section gives an overview of the logistics support structure for special ammunition in a typical theater of operations. The specific support structure may vary according to the unique requirements of the particular theater.

This support structure must:

- Insure operational readiness during peacetime.
- Provide a smooth transition from peace to war.
- Assure complete round service.
- Support both US forces and non-US forces as required.

The special ammunition logistics system manager (LSM) at theater Army (TA) is responsible for the special ammunition logistics system and is the single point of contact for special ammunition logistics matters within the TA. The LSM for special ammunition is normally the commander of the special ammunition ordnance brigade, which performs special ammunition logistics functions for the TA. The special ammunition logistics organization is shown in figure 1.

**THE SINGLE POINT
OF CONTACT**

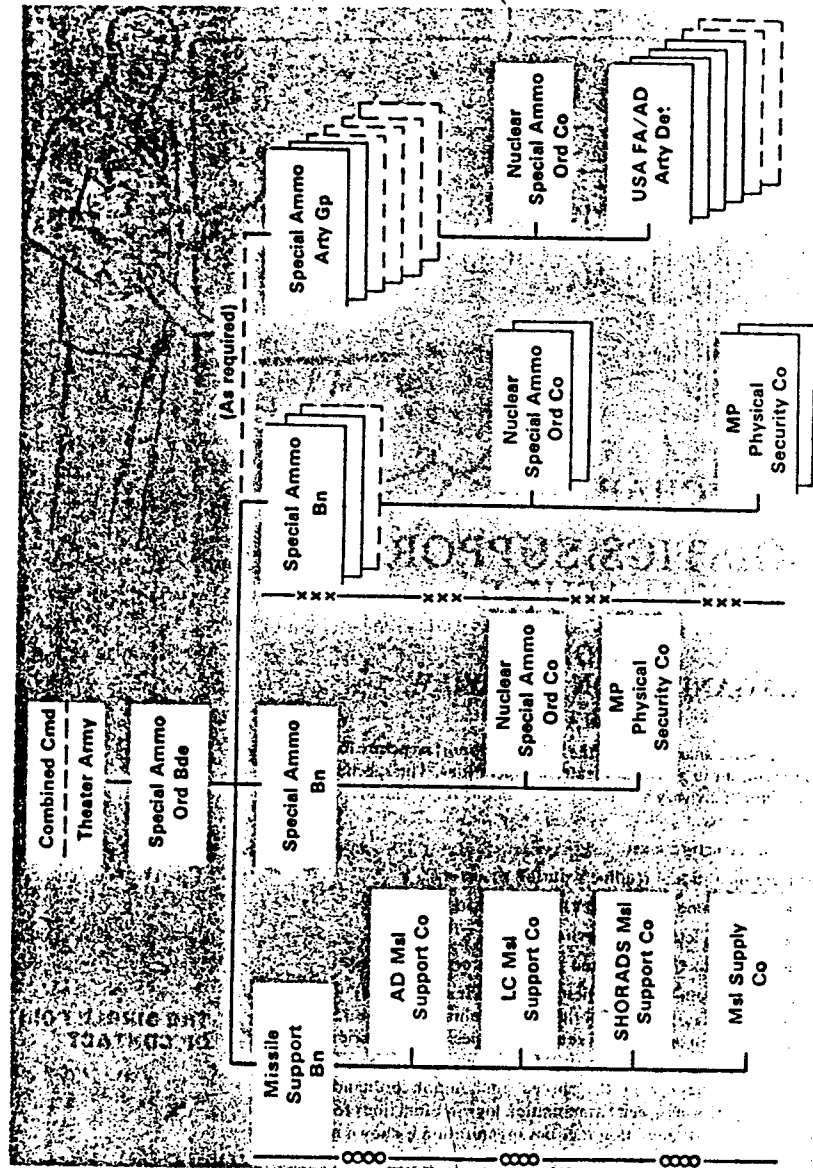


Figure 1. Special ammunition logistics support organization.

ORDNANCE BRIGADE, SPECIAL AMMUNITION

The special ammunition ordnance brigade is a major subordinate command of the TA. It is responsible for providing complete round service and sustaining support for Army nuclear weapons and high-cost/low-density missiles. This service includes supply, storage, accountability, security, surveillance, and maintenance of the items from entry into the theater until expenditure or retirement. The brigade logistics operations center (LOC), located at the brigade headquarters, provides centralized management of special ammunition logistics functions.

**PROVIDES
CENTRALIZED
MANAGEMENT**

Special ammunition is allocated through tactical command channels, down to division level. The brigade commander provides the means to carry out the decisions of the tactical commander. To be immediately responsive to the appropriate tactical commander, the brigade headquarters provides a liaison element to the TA headquarters or to each combined command, as needed. These liaison elements provide the command link between the logistics command and the tactical command for coordinating the supply, movement, and control of special ammunition.

The special ammunition ordnance brigade is organized to provide nuclear logistics support to both US forces and non-US allied forces. Support to US combat forces is provided by the special ammunition battalions and missile support battalion assigned to the brigade. When operating in a combined theater, such as Europe, the brigade provides specialized support to non-US allied forces through its assigned special ammunition artillery groups. Through these artillery groups, the brigade maintains US custody of all US Army nuclear weapons and provides logistics supply and maintenance support to non-US forces as required.

ORDNANCE BATTALION, SPECIAL AMMUNITION

The special ammunition ordnance battalions are major subordinate headquarters of the special ammunition ordnance brigade. They exercise command and operational control over assigned/attached nuclear special ammunition ordnance companies and military police security companies.

Ordnance special ammunition battalions are assigned to the special ammunition ordnance brigade on the basis of one battalion per two to six companies commanded. The battalion provides a US corps with nuclear special ammunition supply and maintenance services and operates nuclear special ammunition storage areas.

The battalion headquarters is the command link between the special ammunition ordnance brigade and the operating companies assigned to the battalion. It insures compliance with brigade operational guidance and implements the plans, policies, programs, and schedules of the brigade to insure that the tactical requirements for nuclear special ammunition in the divisions and corps are met.

During wartime or increased alert, the battalion headquarters establishes a nuclear weapons logistics element (NWLE) at the corps tactical operations center (CTOC) to coordinate nuclear logistics support for the corps.

ORDNANCE COMPANY, NUCLEAR SPECIAL AMMUNITION—DIRECT SUPPORT/GENERAL SUPPORT (DS/GS)

The nuclear special ammunition ordnance company (TOE 9-84) provides nuclear special ammunition (DS and GS) to the corps and division firing units, engineer emplacement units, and other noncorps units on an area basis.

In peacetime, the company operates a fixed storage and maintenance facility for the receipt, storage, and maintenance of nuclear special ammunition.

In wartime, the company establishes mobile special ammunition supply points (SASP) and an FSL for storage, issue, resupply, and maintenance of nuclear weapons for supported units.

Two nuclear special ammunition ordnance companies support each corps with an additional company located in the communications zone (COMMZ). This additional company operates an airhead and a facility for the receipt, storage, maintenance, and issue of theater reserve stocks. Physical security is provided to each ordnance company supporting a US corps by a military police (MP) security company (TOE 19-97). Ordnance companies supporting non-US forces normally have an organic security platoon to provide internal physical security, with external physical security being provided by the supported forces.

A more detailed discussion of the nuclear special ammunition company is contained in section II of this chapter.

MISSILE SUPPORT BATTALION

The missile support battalion is a major subordinate headquarters of the special ammunition ordnance brigade. The battalion exercises command and operational control over assigned/attached conventional ammunition and missile support companies. The missile support battalion is located in the COMMZ and provides DS/GS missile maintenance and supply services for all supported weapon systems. The battalion provides DS/GS missile support to COMMZ elements, GS to the theater supply system, and backup DS and GS to corps elements through its assigned missile support companies. The battalion, through its missile supply company, provides for the storage and supply of theater reserve stocks of class V components for guided missiles and large rockets. For more information on the missile support battalion, see FM 9-59, Unit Operations for Support of Missiles and Air Defense Gun Systems.

MISSILE SUPPORT COMPANY

Missile support companies are assigned to the missile support battalion and provide DS/GS maintenance support for air defense and land combat systems.

Separate companies support:

- Medium and long range air defense (AD) missile systems.
- Short range air defense systems (SHORADS).
- Pershing missile systems.
- Land combat (LC) missile systems.

Electronic testing and maintenance of missiles stored in the COMMZ will be provided by the appropriate DS/GS missile support company. These companies also provide backup support to corps elements and can provide technical assistance and on site maintenance to using units in the theater.

MISSILE SUPPLY COMPANY

A conventional ammunition company (DS/GS) is assigned to the missile support battalion to provide supply and maintenance support of missile class V items (less nuclear warhead section) for the theater. This unit will receive, store, secure, maintain, and issue the reserve stocks of missiles, less the nuclear warhead section. The company will also operate a storage facility for theater reserve stocks and is responsible for resupply of these stocks using theater transportation assets. During wartime, teams from this company are attached to the SASP and corps FSL.

ARTILLERY GROUP, SPECIAL AMMUNITION

US Army special ammunition artillery groups are assigned to the special ammunition ordnance brigade to support non-US forces when operating in a combined theater. These groups are assigned to the brigade on the basis of one group for each allied corps-size unit supported. Each artillery group is a major subordinate headquarters of the brigade and provides specialized support to non-US allied forces based on programs of cooperation and national political agreements. The artillery group headquarters exercises command and control over assigned/attached field artillery detachments and/or air defense artillery detachments and a nuclear special ammunition ordnance company, normally organized under a modified TOE 9-84. The artillery group provides nuclear storage and maintenance support to a designated non-US, corps-size unit. Specific support requirements and responsibilities may vary from one artillery group to another, but certain functions will always be performed by US personnel. At a minimum, the US ordnance company will provide maintenance services for nuclear projectiles and warhead sections. The ordnance company and the artillery detachments will maintain US custody and accountability of nuclear special ammunition allocated to allied forces.

PERFORMED BY US PERSONNEL

SECTION II. NUCLEAR SPECIAL AMMUNITION ORDNANCE COMPANY

ORGANIZATION

The nuclear special ammunition ordnance company, DS/GS, TOE 9-84, is organized to provide direct and general support to firing and/or emplacement units. The information presented here describes a nuclear special ammunition company in support of US forces. When supporting non-US forces, the organization and equipment of the company are modified according to the type and amount of support provided by the non-US forces. A diagram of this organization is shown in figure 2.

Company Headquarters. Provides the normal functions of command and control, provides administrative support to the unit, and operates the unit supply and food service facilities. The company headquarters supervises the mission functions of the company. The commander establishes plans, policies, and procedures required to do the unit mission. The executive officer commands the FSL in the dispersed mode.

Quality Assurance/Quality Control (QA/QC) Section. Provides QA/QC support to the appropriate unit elements. The section enforces requirements and standards. It plans, directs, executes, and reports on inspection and QA/QC activities required by the unit supply and maintenance operations. This section is responsible directly to the company commander.

Operations Section. Coordinates and manages the mission functions of the company. Section personnel prepare and maintain mission-related records and reports. They prepare required mission-related plans, policies, and schedules. The section maintains the classified document control register and operates a communications automatic data processing (ADP) center.

Maintenance and Service Platoon. Coordinates, manages, and provides the equipment, vehicles, operators, and craftsman to support unit operations.

- The organizational maintenance section of the platoon provides organizational maintenance on organic unit equipment (less ADP equipment) and operates the unit motor pool and POL storage and dispensing facilities.
- The service section of the platoon provides engineer equipment, pooled vehicles, specialized equipment, operators, drivers, metal workers, and welders necessary to support unit operations.

Nuclear Weapons Maintenance Platoon. Coordinates and performs the unit nuclear weapons maintenance mission.

- The nuclear weapons maintenance section provides DS/GS maintenance for nuclear special ammunition, including trainers. The section also provides technical assistance to supported units.

**IS RESPONSIBLE
DIRECTLY TO THE
COMPANY
COMMANDER**

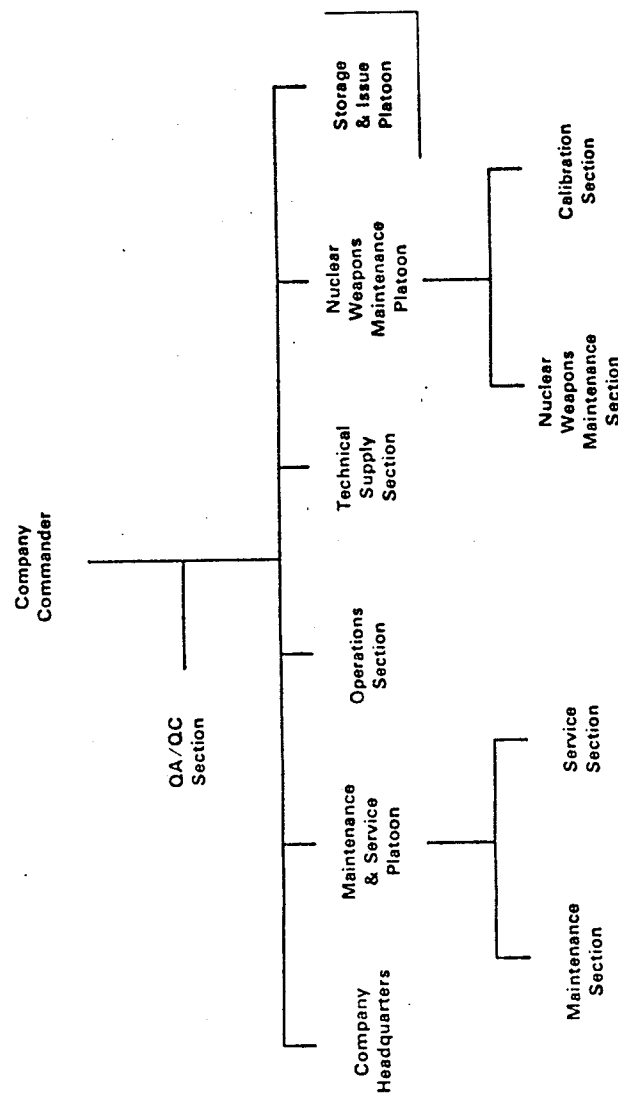


Figure 2. Nuclear Special Ordnance Company, DS/GS (TOE 9-84).

SASP COMMANDERS ARE PLATOON LEADERS

- The calibration section schedules and provides maintenance, repair, calibration, and modification of organic and supported unit electrical and electronic components and associated test and handling equipment. In the dispersed mode, a maintenance team would be assigned to the FSL and to each SASP.

Storage and Issue Platoons. Perform the receipt, storage, and issue functions. In the dispersed mode, one platoon, augmented with personnel and equipment from other company elements, will operate the FSL. The other platoon will divide into two sections. Each section, augmented with personnel and equipment from other company elements, will operate a SASP. The platoon leaders serve as SASP commanders.

Technical Supply Section. Provides repair parts supply support. Section personnel perform requisition, receipt, storage, issue, and stock control functions for repair parts. The section operates direct exchange (DX) and shop supply activities and provides packing and crating services.

MISSION AND CAPABILITIES

The mission of the nuclear special ammunition ordnance company is to establish and operate an ammunition supply and maintenance facility/facilities for the receipt, storage, issue, maintenance, and accountability of nuclear special ammunition.

The mission includes the following activities:

- Nuclear special ammunition supply and maintenance support (DS/GS) to firing organizations as required.
- Complete round DS/GS supply for nuclear projectiles and atomic demolition munitions; DS/GS supply of nuclear warhead sections; and DS supply of repair parts peculiar to nuclear special ammunition.
- DS/GS maintenance for nuclear special ammunition and associated test and handling equipment to include calibration, disassembly/assembly, test, modification, and component replacement.
- Technical assistance to supported units.
- Escort service for the movement of nuclear special ammunition when required.
- DS/GS maintenance of supported unit trainers.

The company, at full strength (level 1), can operate two SASPs and one FSL in the dispersed mode when supporting a corps. When located in the COMMZ, the company does not disperse SASPs but can operate two FSLs in support of the theater. Either FSL, or both, will furnish the assets to operate an airhead. The unit is 100 percent mobile, with stocks, using organic assets. Operating elements of the company are staffed for two-shift operations. The unit is capable of doing organizational maintenance on organic equipment, less ADP equipment.

The company depends on an MP security company (TOE 19-97) for total external security. The MP company is collocated with and under the operational control of the ordnance company. Both companies depend on the corps support command (COSCOM) and theater Army area command (TAACOM) for medical, chaplain, legal, finance, and personnel and administrative services.

EXTERNAL SECURITY RESPONSIBILITY

ASSIGNMENT AND ALLOCATION

The company is assigned to a special ammunition battalion of the TA special ammunition brigade. The company is allocated to the TA on the basis of one company per two divisions with authorized nuclear weapon system capability or two companies for each supported corps. One additional company is allocated for the COMMZ.

METHOD OF OPERATION

The company, together with the missile supply company, provides complete round nuclear special ammunition supply support to firing units in the corps area of operation. All supply support actions are normally made on a supply point distribution basis; however, unit distribution may be used in emergencies when transportation and security personnel are provided. TAACOM or corps transportation assets may be used for unit distribution and shipments from the COMMZ. When practical, use aircraft to reduce transit time and the need for physical security.

COMMUNICATIONS EQUIPMENT

Communications equipment includes wire, radio, and radio teletypewriter. The wire communications are used for internal command and control. When connected to the area signal communications network, wire communications are used for communication with higher headquarters and adjacent units. Radio provides frequency modulated (FM) voice (secure) communications between the FSL, SASP, MP element, and the battalion headquarters. Radio is used extensively during ground movement operations, but is only used for emergencies in the field location. Radio teletypewriter equipment, including encryption and decryption devices, is used to send classified reports to the battalion headquarters and the appropriate NWLE.

Security for nuclear special ammunition stocks is provided by the MP security company under the operational control of, and collocated with, the company. The MP company also provides the communications equipment required for control of the physical security of the nuclear special ammunition stocks.

The operations section insures a smooth working relationship among the operating elements of the company. It develops and coordinates the unit standing operating procedures (SOP) and prepares signal operating instructions. It controls the ordering, receipt, recording, maintenance, and distribution of classified documents. It performs stock accounting for mission materiel on hand. In so doing, it sends scheduled and special reports to higher

**RESPONSIBILITY
FOR EMERGENCY
DESTRUCTION**

headquarters on the quantity, allocation, and condition of stocks; maintains stock locator records; and reports or requests disposition of unserviceable materiel.

The nuclear weapons maintenance platoon performs inspection, repair, disassembly/assembly, test, and modification of nuclear weapons, components, training materiel, and associated test and handling equipment, to include maintenance and calibration of special purpose test, measurement, and diagnostic equipment (TMDE-SP). These functions include the disassembly, inspection, and testing of assembled weapons and the replacement of defective components. Platoon responsibilities exclude repair of missile-related electronic, mechanical, and test equipment which is the responsibility of guided missile maintenance organizations.

The storage and issue (S&I) platoons receive, store, and issue war reserve nuclear weapons and nuclear components. This includes the receipt, storage, and issue of complete round nuclear artillery projectiles, with associated propellant charges and spotting rounds, atomic demolition munitions, and nuclear warhead sections. In the dispersed mode, a team from the missile supply company is collocated to receive, store, and issue missile class V items supplied by the missile support battalion in order to provide complete round missiles to supported units. The S&I platoons are responsible for the safe storage and handling of unit stocks. The platoons normally have primary responsibility for emergency destruction (ED) and are augmented with all available personnel and equipment from other company elements for emergency operations.

The maintenance and service platoon, in performing its functions, provides the equipment, vehicles, operators, and skilled personnel to support unit operations. The organizational maintenance section operates the unit motor pool and POL facilities. It performs organizational maintenance on unit vehicles, materials handling equipment (MHE), power generation equipment, engineer equipment, radios, and other equipment (less ADP) organic to the company. The service section provides engineer and other specialized equipment with drivers/operators necessary to support unit operations, such as preparation and maintenance of storage areas or firefighting operations.

EMPLOYMENT

US Corps. Normally, two nuclear special ammunition ordnance companies support a US corps. During peacetime, each company operates a fixed site facility for the receipt, storage, maintenance, and issue of nuclear special ammunition. During wartime, each company is capable of deploying two 100 percent mobile SASPs and one 100 percent mobile FSL. The SASPs will disperse in the corps forward area to support the division. Each SASP will secure, transport, store, issue, and maintain nuclear special ammunition. The SASP can receive resupply from the theater airhead, the theater FSL, or its own supporting FSL. The corps FSL will be centrally located to the rear

of the two SASPs it supports and is responsible for reserve stocks. Each FSL performs the same supply and maintenance functions as a SASP and has sufficient personnel and equipment for resupply operations. The FSL is twice the size of a SASP and can receive resupply from the theater airhead or the theater FSL. The corps NWLE provides stockpile management instructions to the SASPs and FSLs and coordinates nuclear special ammunition logistics support from the Corps Tactical Operations Center (CTOC). The special ammunition ordnance battalion retains command and control of the companies in the corps area.

COMMZ. Normally, one additional nuclear special ammunition ordnance company is located in the COMMZ to provide rear support to the theater and corps. During peacetime, this company will operate a fixed site facility for the receipt, storage, and maintenance of nuclear special ammunition reserve stocks. During wartime, the company can deploy two completely mobile FSLs and operate an airhead. The FSLs will furnish the assets necessary to operate the airhead. Each FSL provides security, transportation, storage, resupply, and maintenance for theater reserve stocks. Stockpile management instructions are provided by the special ammunition brigade LOC. Command and control is retained by the special ammunition ordnance battalion in the COMMZ.

Non-US Corps. When operating in a combined theater, a nuclear special ammunition ordnance company supports each non-US corps size unit with certified nuclear delivery units. The personnel and equipment authorizations for this company are modified based on support provided by the user nation forces, such as external security and vehicles with drivers. During peacetime, each company operates a fixed storage and maintenance facility. During wartime, each company, with user nation support, is capable of deploying two 100 percent mobile SASPs and a 100 percent mobile FSL. Stockpile management instructions are provided by the special ammunition brigade LOC through the appropriate special ammunition artillery group, which retains command and control of the company.

The concept for employment of nuclear special ammunition ordnance companies is shown in figure 3.

**RETAINS COMMAND
AND CONTROL**

**PROVIDES STOCKPILE
MANAGEMENT
INSTRUCTIONS**

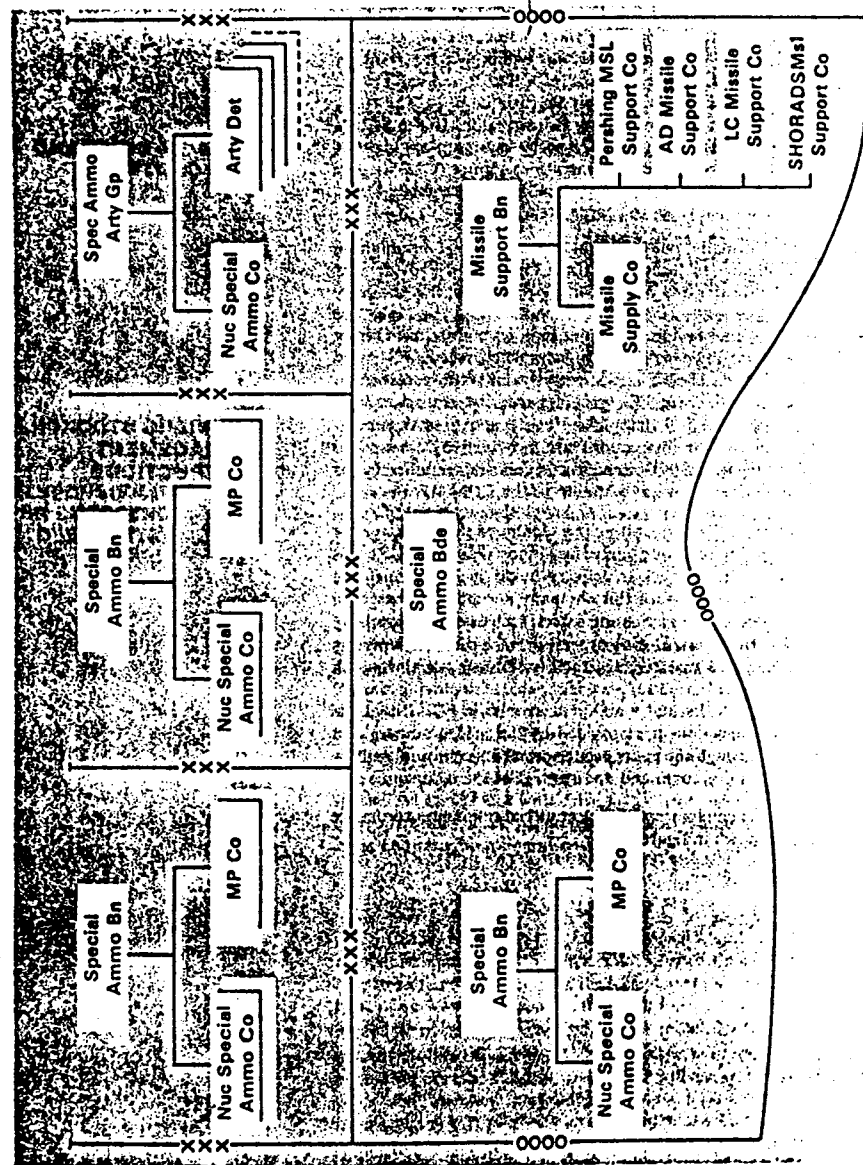
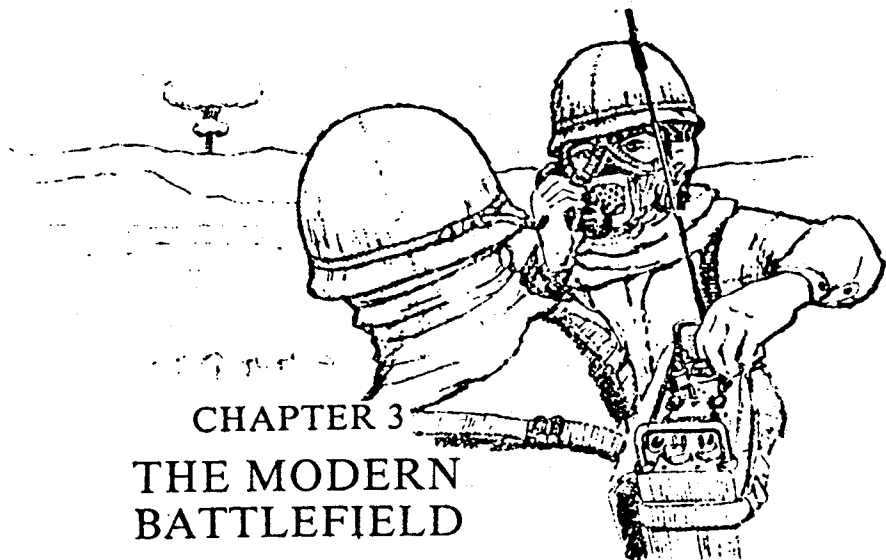


Figure 3. Concept for employment of nuclear special ammunition and ordnance companies. (Supporting two US corps and one non-US corps.)



CHAPTER 3 THE MODERN BATTLEFIELD

GENERAL

More and more nations are becoming capable of nuclear, chemical, and/or biological (NBC) warfare. For this reason, the future combat environment may include a mix of nuclear and/or chemical weapons with conventional weapons and forces. Military personnel at all levels must think in terms of an integrated battlefield when planning combat operations. An integrated battlefield may be defined as a combat zone where either or both sides have used, are using, or have the capability to use conventional, nuclear, or chemical weapons singularly or in any combination to achieve a military objective.

The ability to survive and accomplish the mission during combat will depend to a large extent upon an understanding of the integrated battlefield and the fundamentals of NBC warfare.

US NATIONAL POLICY

Nuclear Warfare. The United States retains the right of first use in the employment of nuclear weapons. The basic goal is to deter the use of nuclear weapons on the battlefield. If deterrence fails, the goal is to end the conflict at the lowest possible level of intensity on terms acceptable to the United States and its allies. The decision to use nuclear weapons will be a political one made by the national command authority (NCA). If the NCA authorizes the use of nuclear weapons, military operations would be conducted to show the enemy that potential losses will outweigh expected gains if conflict continues or escalates.

MUST THINK IN TERMS OF AN INTEGRATED BATTLEFIELD

WILL BE A POLITICAL DECISION

Chemical Warfare. The United States renounced the right of first use of lethal and incapacitating chemical agents but retains the right to develop and maintain a chemical warfare capability in order to retaliate against an enemy who uses chemical weapons first on the battlefield. The basic goal is to deter the use of chemical weapons on the battlefield. If deterrence fails, the goal is to stop the conflict at the lowest level of intensity possible, while showing the enemy that they cannot achieve their goals without suffering unacceptable losses.

Biological Warfare. The United States renounced the use of biological weapons and agreed not to develop, produce, stockpile, acquire, or retain biological agents or toxins that cannot be justified for peaceful purposes. Military programs are restricted to defensive protective equipment and disease prevention.

THE THREAT

The Soviet Union is credited with having an army that is well organized, equipped, and trained to effectively engage in NBC warfare operations. This capability is extended to the armies of the Warsaw Pact countries since their organization, equipment, and training are patterned after the Soviet Union.

The Soviets view nuclear weapons as a powerful and effective means of tactical combat. Although the initial use of nuclear weapons is controlled by the minister of defense, once nuclear weapons have been used, tactical nuclear weapons and their delivery systems are under the control of the Army front commander.

Soviet doctrine stresses the coordinated use of nuclear, chemical, and conventional forces to achieve surprise, shock, and rapid exploitation of the mass destructive effects of nuclear/chemical attacks. Because of long range nuclear and chemical capabilities, there will be no safe areas. Logistics units and facilities are prime targets for attacks by large yield nuclear weapons or persistent chemical agents.

EFFECTS OF NUCLEAR WEAPONS

Nuclear weapons are area weapons of mass destruction which cause casualties and materiel damage. The primary effects are nuclear radiation, thermal radiation, and blast. The degree of hazard from each of these effects depends on the type of weapon, the height of burst, the distance from the detonation, the hardness of the target, and the explosive yield of the weapon.

Nuclear radiation produces serious casualties among unprotected personnel. Symptoms range from a simple degradation of performance to total incapacitation or death. Thermal radiation can cause skin burns and may cause temporary or permanent blindness. Thermal radiation damages materiel by starting fires. Blast causes both injury to personnel and damage to equipment as a result of crushing overpressure and flying debris.

The electromagnetic pulse (EMP) is another effect of nuclear weapons that is as significant as nuclear radiation, thermal radiation, and blast. EMP is a strong pulse of electromagnetic radiation - a radio signal - produced by a nuclear detonation. The EMP causes temporary disruption or permanent damage to electronics or electrical systems.

EFFECTS OF CHEMICAL WEAPONS

Chemical munitions are area weapons used primarily to injure, incapacitate, or kill. The effects produced by chemical agents are generally dose-dependent; that is, as the dose increases so does the severity of the effects. The physiological effects in casualties vary according to the type of agent employed. Chemical agents do not usually damage equipment, supplies, or real estate; however, they can penetrate armored vehicles, fortified positions, and structures which are not protected by suitable air filtering systems.

Chemical agents are more difficult to protect against than conventional weapons or nuclear fires. The ability of personnel to work in a chemical environment is directly related to the degree of protection provided by protective equipment available and the level of acclimation achieved in wearing that equipment. Indirect effects are created by the prolonged wear of protective clothing and equipment. Heat stress, poor performance, morale, and psychological depressions, as well as interference with normal military requirements and natural body functions, greatly reduce the combat effectiveness of personnel. In addition, chemical contamination of personnel and/or equipment requires time-consuming decontamination.

OPERATIONS

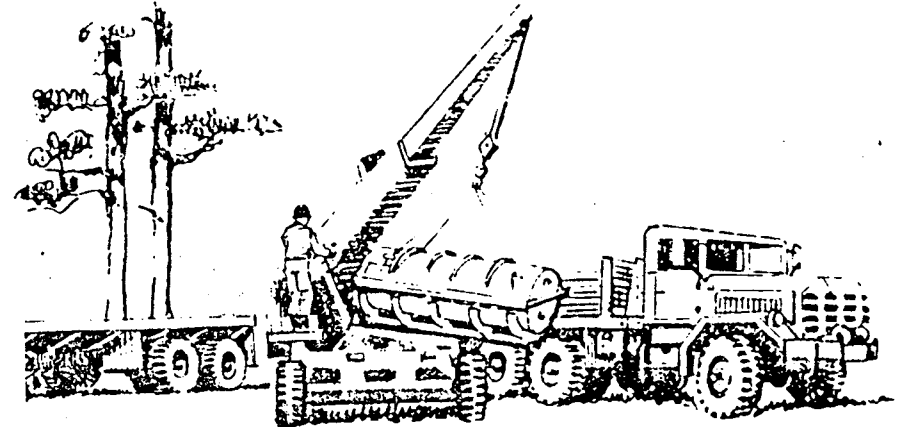
Logistics operations on the integrated battlefield will be severely degraded by the enemy's ability to attack targets throughout the depth of the battlefield. Units must be prepared to survive and operate in a modern combat environment. Personnel must be familiar with characteristics of the integrated battlefield and with measures to reduce individual, unit, and equipment vulnerability to nuclear or chemical attack.

When planning or conducting SASP operations, the enemy's conventional, nuclear, and chemical capabilities must be considered. Standing operating procedures should include passive defense and protective measures. The commander must weigh the effects of conventional, nuclear, and chemical weapons to balance protective measures with the ability to complete the mission. NBC defense procedures are fully explained in FM 21-40, NBC Defense.

ARE DOSE-DEPENDENT

**STRESS COORDINATED
USE OF NUCLEAR,
CHEMICAL, AND
CONVENTIONAL
FORCES**

**ARE AREA WEAPONS
OF MASS
DESTRUCTION**



CHAPTER 4

NUCLEAR SPECIAL AMMUNITION SUPPLY

SECTION I. REQUIREMENTS AND STOCKAGE LEVELS

GENERAL

Requirements and stockage levels for special ammunition are not determined by using the basic load and day of supply distribution system that is used for conventional ammunition. Theater stockage requirements for special ammunition are established by decision of the NCA. The stockage levels are expressed in terms of a system of special ammunition allocations, stockages, and loads. When referring to nuclear weapons only, stockage levels are expressed in terms of nuclear special ammunition allocation, PNL, and prescribed nuclear stockage (PNS).

Nuclear Special Ammunition Allocation. A nuclear special ammunition allocation is the designation, for planning purposes, of specific numbers and types of nuclear special ammunition a commander may expend for a stated period when the use of such ammunition is authorized. An allocation does not necessarily mean the commander has physical custody or possession of the ammunition. The allocation to a commander may include special ammunition for delivery by units not under his command, such as supporting air force or corps artillery. Additional authority is required for the actual dispersal or expenditure of allocated ammunition.

**THEATER
STOCKAGE
REQUIREMENTS**

NOT AUTOMATIC

Prescribed Nuclear Load. The PNL is the specific quantity of nuclear special ammunition to be carried by a firing unit. The PNL may vary among similar firing units. It depends on the mission, tactical and logistical situation, and the ability of the firing unit to transport and fire the load. Establishment and resupply of the PNL is not automatic but is based on command decisions.

Prescribed Nuclear Stockage. The PNS is the specific quantity of various nuclear special ammunition items to be stocked in a nuclear special ammunition service support unit or installation. The PNS may vary among similar ordnance units. It will depend on the mission, the tactical and logistical situation, and the ability of the unit concerned to receive, store, maintain, and issue the ammunition. The establishment and replenishment of the PNS is not automatic but is based on command decisions at the appropriate level.

REQUIREMENTS

The theater commander is responsible for stating theater operational requirements for war reserve nuclear weapons to the Joint Chiefs of Staff (JCS). These operational requirements are based on such factors as threat analysis, tactical contingencies, identified priority targets, defeat criteria, and the number of delivery units available.

ALLOCATION AND CONTROL

The NCA exercises command and control of nuclear special ammunition through the JCS. The JCS allocates nuclear special ammunition to overseas theater commanders on the basis of mission, operations requirements, availability of items, assignment of delivery units, and other considerations identified in AR 700-65 and FM 101-10-3. Requisitions are not submitted for initial deployment of war reserve major assemblies and nuclear components. The Department of the Army (DA), Deputy Chief of Staff for Logistics (DCSLOG), supervises the distribution of nuclear weapons and nuclear components to the Army components of unified or specified commands. Within the theater, nuclear special ammunition is allocated through tactical command channels to corps and division commanders.

The JCS prescribes special measures for the control of nuclear special ammunition. These control measures include the authentication of certain nuclear control orders and special devices which provide positive control of weapon detonation. Certain nuclear control orders must be authenticated by the use of sealed authentication systems (SAS), while less critical nuclear control orders may be authenticated using nonsealed systems. Commanders of the unified and specified commands and commanders of US Army forces assigned to unified commands have established emergency action procedures (EAP). These EAP are designed to insure that nuclear units and intermediate commands are prepared to receive, transmit, authenticate, act on, and safeguard nuclear control orders as required. Positive control of nuclear weapon detonation is

provided by permissive action link (PAL) devices. These PAL devices prevent unauthorized or accidental detonation. Policy and procedures concerning PAL and SAS are in JCS Pub 13.

STOCKAGE LEVELS

Stockage levels for nuclear special ammunition within the theater are established by command decisions based on allocation to commanders at the various tactical levels. Commanders prescribe the distribution of available items within their command to include stockage levels at using units and at nuclear special ammunition support units. These stockage levels are a function of the PNL of the delivery (supported) units and the distribution of corps and theater reserve stocks among the supporting ordnance units.

The actual location of stocks depends on:

- Present and anticipated missions.
- Weapons availability.
- Firing unit carrying capacity.
- The lift, storage, and maintenance capability of nuclear special ammunition companies.
- Dispersion.
- Types of munitions.

AR 700-65, Nuclear Weapons and Nuclear Materiel, governs:

- Allowances of nuclear ordnance test, handling, and training equipment.
- Establishment of a test, handling, and training equipment maintenance float.
- Repair parts stockage.
- Requirements for special design test and handling equipment.

**PREVENT
UNAUTHORIZED OR
ACCIDENTAL
DETONATION**

SECTION II. SUPPLY OPERATIONS GENERAL

A COMMAND DECISION IS REQUIRED

All nuclear special ammunition supply or resupply actions require a command decision. Nuclear special ammunition service in the field is based on the nuclear special ammunition allocation system described in section I. Commanders prescribe the distribution of available weapons by type, yield, and quantities. The policy for the quantity and range of repair parts (class IX items) authorized for storage is in AR 700-65. The supply flow of nuclear special ammunition is shown in figure 4. Missile peculiar items, including repair parts, will be supplied through missile support units. A nuclear special ammunition company, located in the corps area, provides DS and GS supply and maintenance support to firing organizations as required. When dispersed with attached missile supply teams, the unit will provide complete round direct and general supply support for nuclear weapons. Each company is capable of deploying two SASPs and one FSL which secure, transport, store, maintain, and issue corps reserve stocks and support divisional PNL. The SASP may receive resupply from its own supporting FSL, the COMMZ FSL, or theater airhead. The corps FSL may receive resupply from the COMMZ FSL or theater airhead.

An additional nuclear special ammunition company is located in the COMMZ to provide rear support to the theater and corps. This unit does not deploy SASPs but is capable of deploying two FSLs and operating an airhead. The COMMZ FSLs provide DS and GS supply and maintenance support to COMMZ firing units as required. They provide security, transportation, storage, resupply, and maintenance of theater reserve stocks. Either or both of the COMMZ FSLs will furnish the assets to operate the airhead on an as needed basis. The airhead will be used for incoming shipments from CONUS or evacuation of stocks to CONUS.

Wartime resupply of nuclear special ammunition requires a command decision at the level (corps or higher) controlling the reserve weapons. When corps reserves are involved, the corps NWLE will direct issue from the SASP to the requesting unit, or will direct movement from the corps FSL to the SASP. For theater reserves, the special ammunition brigade LOC issues a movement directive and specifies transportation arrangements. The LOC directs resupply through the materiel offices of subordinate battalions.

PLANNING

When a movement directive, shipping instructions, or other authority directing a shipment is received, the SASP or FSL should plan the mechanics of the specific shipment.

Important factors to be considered are:

- Verification of the availability of items for a complete round on the shipment. Quantities not available should be immediately reported to the source that issues the shipping order or shipping instructions.

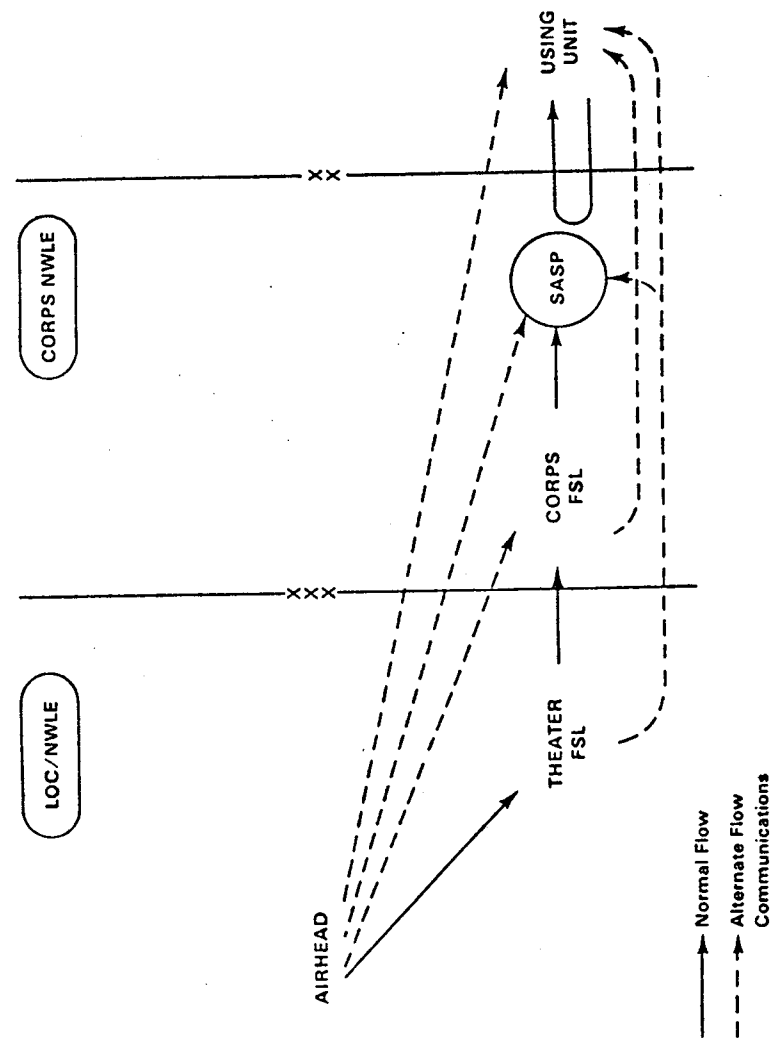


Figure 4. Supply flow of nuclear special ammunition.

- Selection of the lots and/or serially numbered items and storage location from which specific quantities are to be shipped.
- Availability of labor for transloading of motor vehicles at the storage area or at the transfer point if the shipment is made by rail, air, or water.
- Selection of supervisory personnel required to oversee loading, checking, inspection, and accounting functions for the movement.
- Coordination of additional transportation requirements, if needed.
- Amount and types of materials handling equipment (MHE) required to effectively load and move packages and containers.
- Safety equipment, tools, materials, and supplies required to brace, store, palletize, transport, and secure items of the shipment during transit.
- Security and communications required during loading, transporting, and movement of the shipment.
- Preparation of necessary documentation for the shipment.
- Estimation of the downtime needed to load, brace, inspect, account, document, and secure, based upon assets available to perform these functions.

NOTE: Downtime is the time interval between the arrival of empty (or loaded) transport vehicles at a class V storage installation and the departure of these transport vehicles, loaded or empty. It begins with the reporting of the convoy commander at the SASP/FSI operations office and ends when the last vehicle of a convoy clears the assembly area checkpoint.

RECEIPT

Planning for Receipts. Nuclear special ammunition companies normally will receive notice of incoming shipments by message from the NWLE, advance Report of Shipment (REPSHIP) IAW AR 55-203, or by an advance information copy of DD Form 1348-1 (DOD Single Line Item Release/Receipt Document). Information will include time and date of arrival, type and quantity of materiel in the shipment, and type of transport used. Upon receipt of this advance notice, the operations officer will immediately alert key operating, security, and communications personnel. A storage location will be designated. Nuclear ammunition materiel received by air will require security personnel, handlers, and MHE at the air head/landing zone. Transfer of materiel will be made to motor vehicles for movement to the SASP/FSI, or fixed storage facility.

Receipt by the Storage Unit. Upon arrival at the receiving unit, a designated recipient must be identified by the courier from information given by the shipper. The designated recipient will then release the courier from responsibility for the shipment by signing the courier receipt. The designated recipient must check all serial

**ALERT KEY
PERSONNEL**

numbers before receiving items from the courier if serial numbers are listed on the courier receipt. After checking serial numbers and signing the courier receipt, the materiel is placed in the predetermined storage locations. The storage location data is recorded on the work copy of the shipping documents which are then delivered to the operations section. The operations section posts receipt information to the control records, sends a report of arrival to the NWLE, and reports the transaction on the next operational change report (OCR). A verification inspection will be made by the receiving unit as soon as practicable. The verification inspection must be done before the accountable officer signs the DD Form 1348-1 and returns it to the consignor (shipper), and before entering the items on the accountable stock records. A signed copy of each DD 1348-1 must be returned to the consignor. Upon receipt of nuclear components, a qualified person should visually inspect the nuclear component containers to see if the materiel has been damaged or improperly handled in transit. Damaged or improper shipments will be reported to the NWLE. During peacetime, reports of arrival and reports of damaged or improper shipments will be made as specified in AR 55-203.

Receiving Materiel from Supported Units. Certain materiel will be returned by supported units. Most returned materiel during peacetime or periods of prolonged nonnuclear combat will be items for repair or further evacuation. During nuclear combat, returned materiel will also include salvage and residue from expended weapons. Nuclear weapons and nuclear components will be returned using DD Form 1348-1 if accountability is transferred. Otherwise, a DD Form 1150 (Request for Issue or Turn-In) will be used. Other materiel will be turned-in to the technical supply section using DA Form 2765-1 (Request for Issue or Turn-In). Residue from expended weapons should be tagged with a DA Form 2402 (Exchange Tag).

Other items received from supported units may include:

- **Materiel Being Repositioned.** Directives state items of nuclear special ammunition may be returned for direct exchange (DX), stockpile reliability testing, storage, or reissue.
- **Captured Enemy Ammunition Items.** Captured ammunition may be turned in to any ammunition unit which normally issues ammunition. Military intelligence personnel should be advised of the arrival of all captured items.

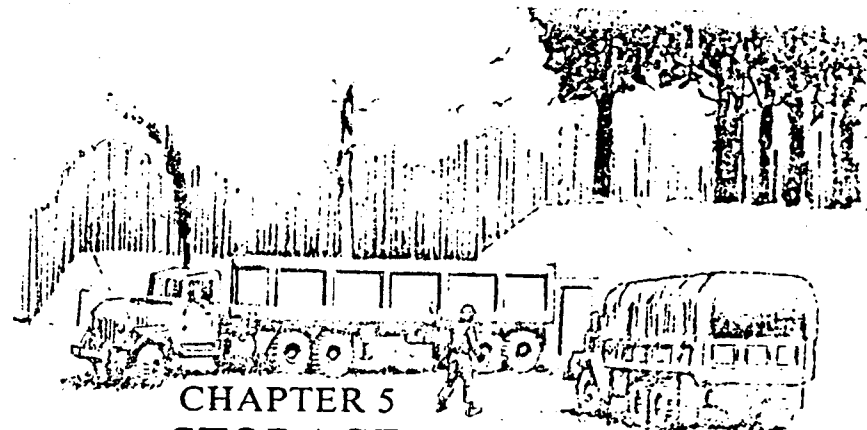
SHIPMENT/ISSUE

Nuclear special ammunition will be shipped as outlined in chapter 7. Issue of nuclear special ammunition from field locations during wartime is discussed in chapter 5, section 11, of this manual. Procedures for movement in combat can be found in FM 100-50. In either case, a movement directive or other order authorizing shipment/issue is required. The operations section will select the items and storage locations from which specific items are to be shipped/issued. The courier will be properly identified, safety and security procedures will be followed, and mission vehicles will be

VISUALLY INSPECT

**WILL BE FOR
REPAIR OR FURTHER
EVACUATION**

inspected prior to loading. Supply documents should be prepared by the operations section before the courier arrives. A suspense copy of the DD Form 1348-1 (for transfer of accountability) or DD Form 1150 (for transfer of custody) and a signed copy of the courier receipt will be retained by the operations section. A report of shipment/issue will be forwarded IAW local procedures. When the signed DD Form 1348-1 or DD Form 1150 is returned by the receiving unit, the accountable officer will use this document to post accountable records in accordance with chapter 9.



CHAPTER 5 STORAGE

SECTION I. FIXED FACILITIES

GENERAL

Information in this chapter is intended as a guide. For more information on the storage of nuclear weapons, see TMs 39-20-7, 9-1100-series, and 9-1300-206.

The term "nuclear weapon(s)" means any of the following:

- Nuclear projectiles for use in all types of artillery.
- Nuclear demolition devices.
- Nuclear warheads for use in missiles.

FIXED FACILITIES

The primary function of fixed sites or facilities is the storage and maintenance of nuclear special ammunition. The criteria and standards in this text are not intended to fully cover the storage and handling of special ammunition items that are an integral part of established weapon systems. Weapon system design should include consideration of all criteria about the particular weapon involved. Criteria and standards for storage structures and administration/service buildings are governed by current Department of Defense (DOD) instructions and by construction standards developed by the military departments.

Some storage sites may require buildings or structures of special design for the assembly and maintenance of nuclear special ammunition.

**ARE PRIMARILY FOR
STORAGE AND
MAINTENANCE**

SAFETY

Important safety features that must be considered in the planning, construction, and operation of a permanent storage site are listed below:

- Quantity/distance (QD) safety requirements published by DA (TM 9-1300-206) apply to the high explosives and equivalent propellants in nuclear weapons.
- Plutonium safety requirements for the storage, handling, and transportation of weapons are discussed in Department of Energy (DOE)/Defense Nuclear Agency (DNA) TMs on transportation and storage safety for nuclear weapons and components (TM 39-20-7 and TM 39-45-51).
- Minimum spacing requirements for weapons and for nuclear components are set to avoid excessive interaction of radioactive materials in adjacent arrays of weapons or components. These requirements are discussed in DOE-DNA TMs on transportation and storage safety for nuclear weapons and components (TM 39-20-7 and TM 39-45-51).

SECURITY

Security at nuclear special ammunition storage sites should be designed to protect and safeguard nuclear weapons rather than the area in which the weapons are stored or handled. Physical security standards and criteria for fixed installations which store, handle, or have custody of nuclear weapons are in AR 50-5-1.

It is not possible to arbitrarily set the minimum requirements in manpower and equipment, intrusion detection systems, etc., at nuclear special ammunition storage and maintenance facilities. However, the objectives of the security measures should be to:

- Prevent unauthorized access to classified materiel.
- Prevent unauthorized detonation.
- Prevent theft or damage.

The degree of security actually attained at an installation depends on many factors that must be considered in developing the security plan. Consider the following:

- Communications system.
- Strength of the security guard system.
- Control of access.
- Physical barriers.
- Intrusion detection systems and devices.
- Security lighting.

SITE LAYOUT

Nuclear special ammunition items are stored in restricted areas because of their classification, sensitivity, nature, and importance. Normally, earth-covered magazines or igloos are used for the storage of nuclear special ammunition. QD and compatibility limits for conventional explosives and propellants apply to special ammunition. In addition, special limits must be observed. These limits are in the following:

- TM 9-1300-206.
- TM 39-20-7.
- Applicable regulations on storage criteria for special ammunition.
- System peculiar publications.

The exact layout of any site will depend on the terrain, size of the area, and the mission. In general, there will be a number of storage structures, a maintenance and assembly building, and a few administrative structures. The physical layout of the storage area should allow security forces to control access into the area. Details are in AR 50-5-1. The layout of some typical sites are shown in figures 5, 6, and 7.

CONTROL ACCESS INTO SITE LAYOUT

**SHOULD SAFEGUARD
NUCLEAR WEAPONS
RATHER THAN
THE AREA**

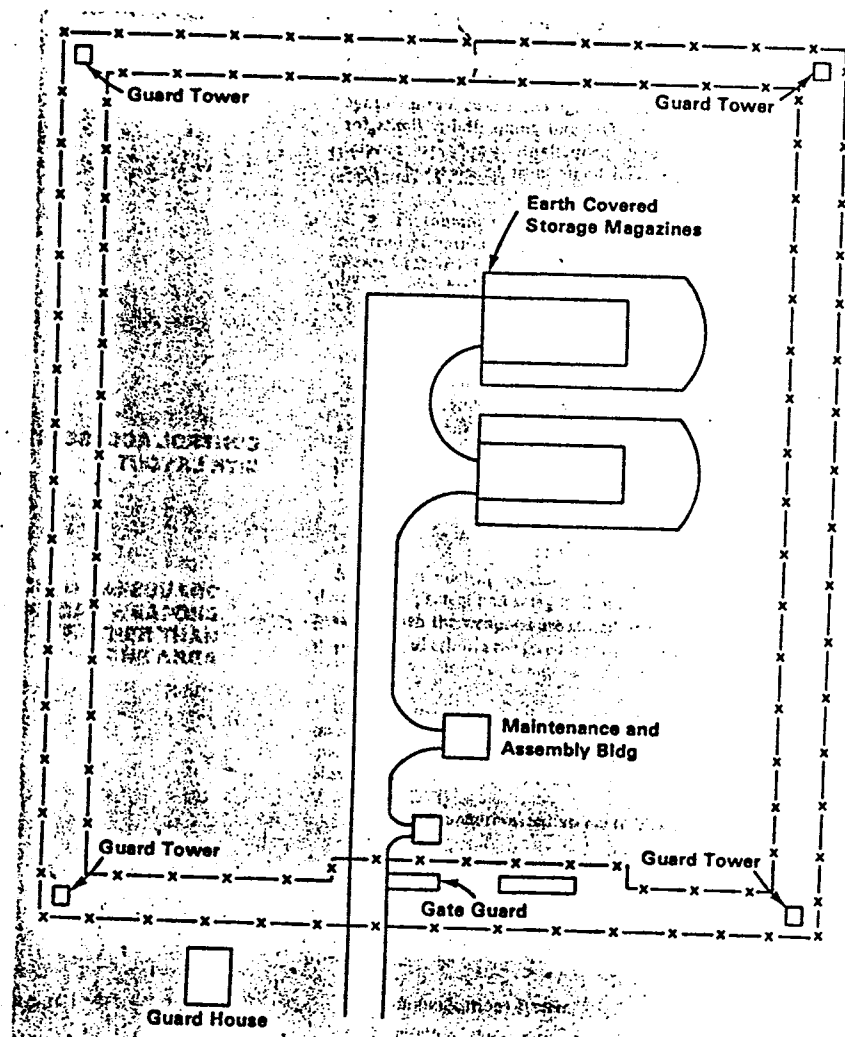


Figure 5. Example of a small, fixed storage site.

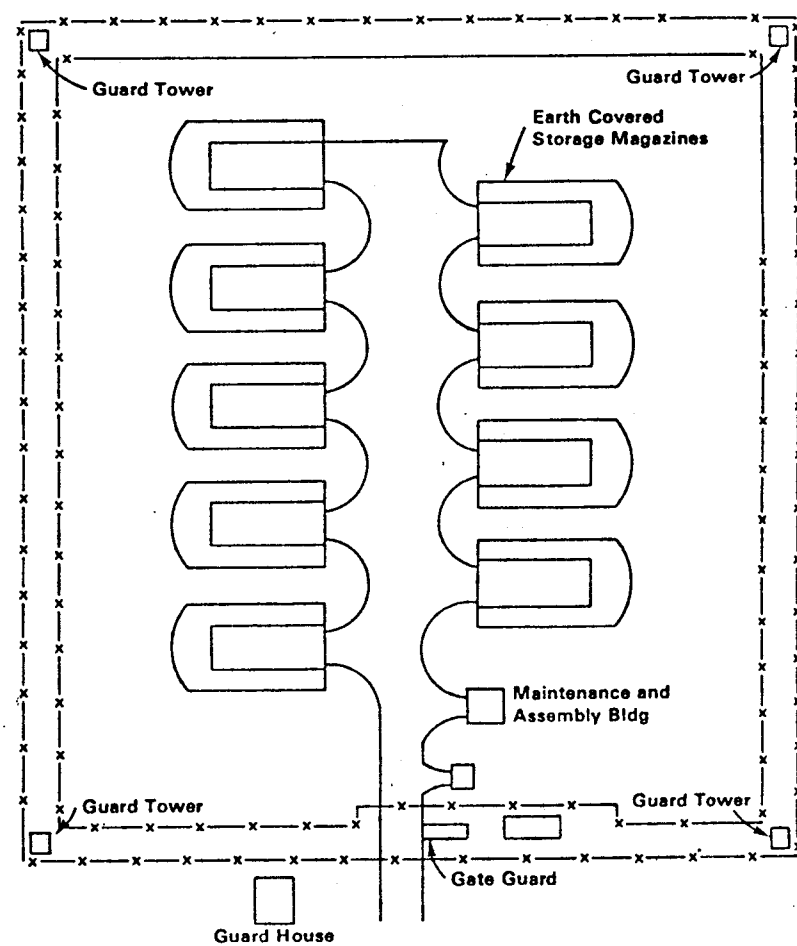


Figure 6. Example of a medium, fixed storage site.

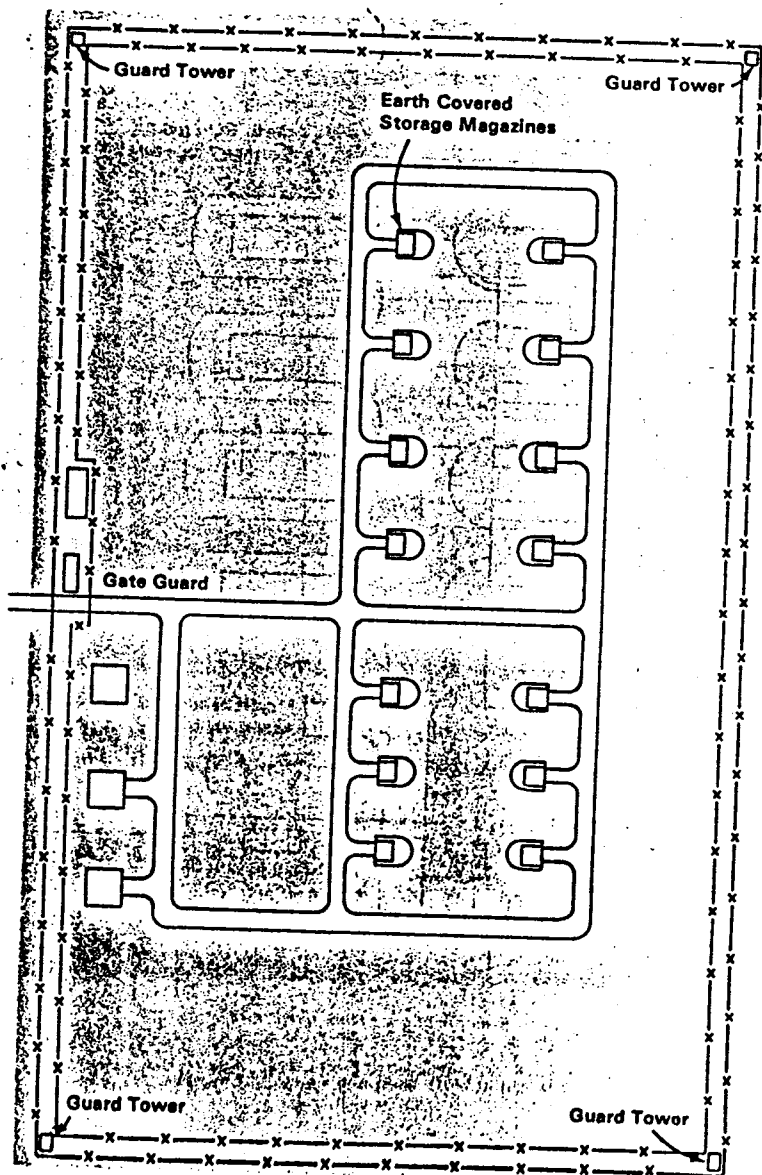


Figure 7. Example of large, fixed storage site.

SECTION II. FIELD STORAGE GENERAL

The change from peace to war will require the nuclear special ammunition ordnance company to move from fixed installations to tactical field locations. Upon deployment, the company will set up one or more SASPs and/or one or more FSLs. Nuclear stocks will be moved from permanent storage facilities to mobile field storage areas. A diagram of the concept for deployment of SASPs and FSLs is shown in figure 8. This section contains general procedures and information for establishing and operating a field storage area. Although the term SASP is used throughout the section, the concepts also apply to the FSL.

This information supplements the procedures and guidance provided in FM 100-50, Operations for Nuclear-Capable Units.

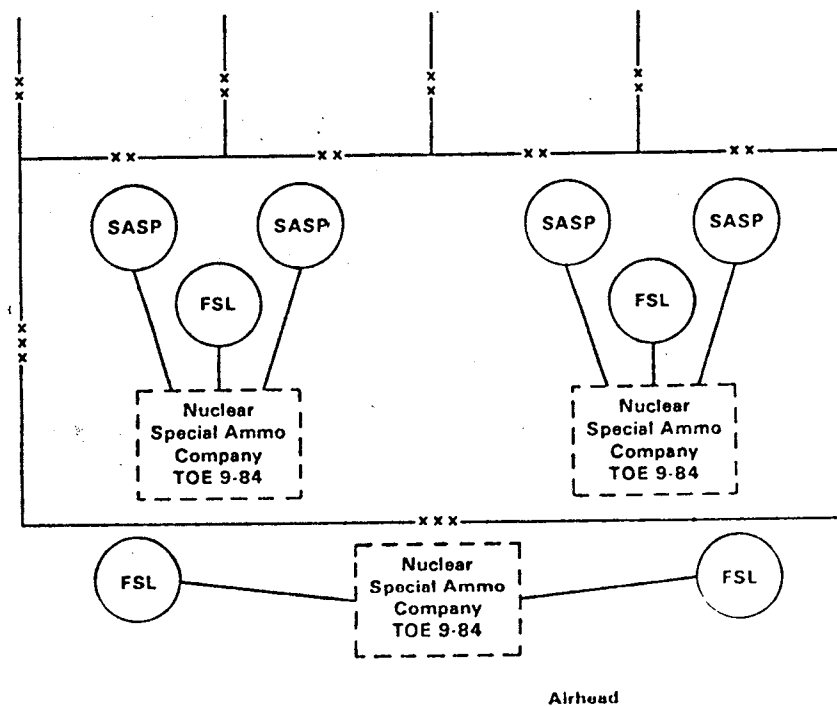


Figure 8. Concept for deployment of SASPs and FSLs.

**IS ESSENTIAL TO
SUCCESSFUL
MOVEMENT**

**SELECTED PERSONNEL
WILL DEVELOP LOAD
PLANS**

**SHOULD BE FAMILIAR
WITH SASP
COMPOSITION LISTS**

PLANNING

The initial move from fixed facilities to field combat locations is critical. The precise time or the specific reason for movement of war reserve nuclear weapons cannot be predicted. The move may take place during increased alert or during combat. Planning by nuclear special ammunition units is essential to successful movement. These plans must be developed with attached security forces and coordinated with:

- Supported units and commands
- Higher headquarters
- Adjacent units.
- Commanders responsible for rear area protection (RAP) and combat service support activities.

The plans should be tested during unit training and field training exercises (FTX) to insure that they can be used with precision under combat conditions. Based on the results of such training exercises, unit deployment plans will be evaluated and changed as necessary.

Important aspects of these plans include selection of primary and alternate initial deployment locations, and route and load planning. A comprehensive peacetime storage plan will aid in planning and conducting the initial outload and deployment of nuclear stocks. As much as possible, nuclear stocks should be stored in igloos in reverse order to the loading sequence. That is, items to be loaded first should be nearest the door. This will eliminate the need to move one item to get to another to be loaded and will reduce the time required for unloading.

Selected unit personnel, usually the operations section, will develop and publish nuclear special ammunition load plans. These plans will show the number of items, type of items, storage location of the items, and material needed for loading and tie-down for each vehicle. Load plans must be completed in detail to insure that all items are included and that a complete round is available for issue to supported units when needed. Load plans should be tested during FTX and local unit training operations using training items or containers to simulate actual nuclear weapons.

During planning, the unit will develop SASP composition lists based on guidance from higher headquarters. These lists will indicate specific personnel and equipment to be moved to each field location. A list should be published for each SASP and/or FSL and tested during training to insure accuracy. All unit personnel should be familiar with these lists to prevent confusion at the time of actual combat deployment.

Certain operations conducted by nuclear special ammunition units can, themselves, indicate the presence of nuclear weapons. Such actions can be detected and analyzed by audio, visual, photographic, and satellite observation methods. Because of this "signature effect," units must make maximum use of operations security (OPSEC) techniques in planning and executing movements and operations. Every effort should be made to make the nuclear



special ammunition unit look like any other combat service support unit in the combat environment.

Some examples of OPSEC procedures and techniques that may be used during combat operations and movement are:

- Remove all explosive placards, markings, and flags.
- Remove all unit identification markings from vehicles.
- Remove indications of a special security force such as MP arm bands and blue lights on security vehicles.

SITE SELECTION

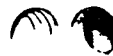
A new SASP usually begins with the receipt of a warning order or movement order from the NWLE or battalion headquarters. The warning/movement order will prescribe the general location for the SASP from a listing of possible locations which have been preselected by the company commander or a designated representative and approved by higher headquarters. The criteria for the selection of sites for special ammunition storage facilities is not significantly different from the criteria used for the selection of sites for conventional ammunition storage facilities. Special considerations for SASPs are outlined in the following paragraphs.

The commander will select several possible areas to be considered for the SASP location based on map reconnaissance and the current situation. Combat conditions and other tactical considerations may interfere with the technical requirements of an ideal site location. The unit security officer and the commander of the security force must be consulted during site selection and planning to insure that all security aspects are fully considered. The SASP can be located in a wooded area, an industrial complex, or a town or village; but large cities should be avoided if possible.

General guidelines for selecting the site are:

- The SASP should be located close to supported units in order to provide responsive support.
- A good road network should exist into and within the site to insure access by vehicles expected to enter the area. Roads should be passable under all weather conditions and require only a minimum amount of maintenance.
- Ideally, the site should offer protection from both observation and enemy fire through natural terrain features. The area should be relatively level with good drainage. Level terrain with natural barriers will help to meet QD requirements. Water for fire fighting should be available.
- The area selected should possess features that make it easy to defend against enemy ground attack, with a minimum expenditure of manpower and material.
- The area should be large enough to disperse stocks for protection against aerial and/or artillery attack.
- The SASP must be away from built-up areas such as hospitals, major headquarters, docks, troop concentrations, etc. Such a concentration would offer a very good target to an enemy

**SECURITY MUST BE
CONSIDERED**



force. The downwind distance to these built-up areas should also be considered. In final site selection, tactical requirements may control SASP location.

RECONNAISSANCE

Nuclear weapons are not moved without a reconnaissance. A map reconnaissance is not enough. During peacetime operations, the unit will make a physical reconnaissance of possible areas for initial deployment. Through complete area reconnaissance and on-the-ground site layout planning, primary and alternate initial deployment areas will be selected and approved by higher headquarters. Whenever possible, the company commander will make a personal reconnaissance of both the route and the site for initial deployment. When it is necessary to move the SASP to a new location, the SASP commander will make the reconnaissance. Primary and alternate routes, as well as primary and alternate sites, will be selected and overlays prepared. The reconnaissance party is normally composed of the SASP commander, the security officer, an individual aware of storage requirements and security.

**WILL MAKE THE
RECONNAISSANCE**

ADVANCE PARTY

The advance party precedes the main body to the new SASP location and is responsible for reconnoitering and marking the route, as required, and preparing the new site for occupancy.

The advance party will do the following tasks as necessary:

- Check the route for likely ambush locations, critical intersections, bottlenecks, etc., and mark route to SASP.
- Sweep SASP area and secure.
- Identify each area of the SASP.
- Begin construction of security barriers.
- Set up SASP internal road net.
- Set up SASP entry control point (ECP).
- Set up communications and lay wire.
- Make hasty fortifications and positions for crew-served weapons.
- Receive main body and direct vehicles to their respective areas as they arrive.
- Do other essential tasks designated by the commander.

The advance party will be made up of personnel from all unit sections plus enough security personnel to secure the new site. When possible, the advance party should include some mess personnel and equipment so the main body can be fed a hot meal upon arrival at the new site.

MAIN BODY

After the main body is in the new area, the SASP commander will immediately inform the NWLE and battalion headquarters and confirm the location. As soon as possible, the commander will

contact the battalion headquarters to be briefed on the situation in the new area, the units to be supported, and any specific requirements relating to the unit support mission.

Other tasks to be done on arrival in the new area are:

- Complete the perimeter defense.
- Make preparations for technical operations and, at the same time, contact supported units. During contact with supported units, liaison is established, working relationships are outlined, and peculiar problems and requirements are determined. The company will revise its support plans or make new ones to meet any new requirements.
- Complete facilities for unit personnel.
- Make final coordination of defenses with adjacent units.

SASP ORGANIZATION

Several important areas must be established within the SASP to insure a safe and secure environment for nuclear special ammunition items and to meet operational requirements. In addition, certain command control points must be established.

Exclusion Area. The most important area that must be established at the SASP location is the weapons storage area, commonly called the exclusion area (X-area). This X-area is used to store the nuclear weapons and is secured by members of the attached security force. The perimeter of the X-area will normally be designated by the commander.

The ECP will be manned by two guards, both of whom must be in the personnel reliability program (PRP) and the nuclear duty position roster (NDPR). Minimum security requirements are listed in FM 100-50.

The X-area will be guarded continuously, and the two-man rule will be strictly observed within the area.

The actual layout of the X-area and number of guards required will depend on terrain, number of vehicles in the X-area, weather, and other factors.

NOTE: TWO-MAN RULE

A MINIMUM OF TWO AUTHORIZED PERSONS--each capable of detecting incorrect or unauthorized procedures with respect to the task being performed and each familiar with applicable safety and security requirements--MUST BE PRESENT during any operation which affords access to material requiring protection under the two-man rule.

The two-man rule **PROHIBITS ACCESS TO PROTECTED MATERIAL BY A LONE INDIVIDUAL** in order to preclude either inadvertent or intentional damage to, or unauthorized firing or launching of, a weapon. Application of the rule will be enforced by the persons doing the assigned task or operation.

It will be applied **AS REQUIRED** by nuclear weapons safety rules, applicable surety and security regulations, operations directives, and SOPs.

**IS THE MOST
IMPORTANT AREA**

**WILL BE GUARDED
CONTINUOUSLY**

AIR CONVOY IS USED

Administrative Area. The administrative area of the SASP will contain the operations element (records, reports, and operational control of the nuclear weapons items), ordnance and security force elements for administrative control (food, supplies, personnel, reports, etc.), and command elements from both units. Communications facilities are normally collocated with the operations element in the administrative area. If possible, a separate communications area may be desirable because of the signature produced by the communications equipment.

Landing Zone. The SASP commander must plan for the receipt of nuclear weapons by air convoy in the combat zone. Located within a reasonable distance from the X-area, a landing zone (LZ) will be selected and prepared. This area could be manmade by the use of organic equipment (bulldozers, chain saws, or axes), or could be an open field. The grid coordinates of the LZ will be verified and then passed to higher headquarters. This information will be used by supported combat units, higher headquarters, and supporting units.

Control Points and Other Areas. Control points and other areas must be planned and established to insure efficient operation of the SASP. These include:

- HE storage area - Unit basic load of conventional ammunition, surplus ED materials, etc.
- Missile storage area - Lance missile main assemblies and other class V missile items.
- Inert storage/salvage area - Containers, pallets, nonexplosive salvage, etc.
- Vehicle holding area - Overnight parking for vehicles loaded with conventional explosives.
- Convoy holding area - Parking for incoming vehicles that ARE NOT loaded with explosives.
- Vehicle assembly area - Area for assembling convoy vehicles before their departure from the SASP.
- Traffic control points - Control of entry into the area and to insure the proper flow of traffic within the SASP area.

SASP OPERATIONS

The purpose of the SASP is to provide quick support to delivery units and enhance the survivability of nuclear special ammunition. SASP personnel perform the functions of receipt, storage, maintenance, and issue of nuclear special ammunition in a tactical field environment. These functions must be performed while maintaining 100 percent mobility. SASP operations and procedures must fully integrate all aspects of OPSEC.

Receipt. The SASP will receive nuclear special ammunition items from its supporting FSL, the theater FSL, or theater airhead. The SASP will receive message notification of the incoming shipment from the NWLE.

If the shipment is arriving by aircraft, SASP personnel will meet the convoy at the LZ. After properly identifying the authorized recipient to the courier, SASP personnel will transfer the shipment from the aircraft to unit vehicles using approved loading and tie-down procedures. During this operation, the authorized recipient will verify the items received and sign for custody of the weapons. The items will then be moved to the X-area for storage.

If the shipment is arriving by ground convoy, a representative from the SASP will meet the convoy at a rendezvous point and lead the convoy to the SASP.

When the transaction is completed, the receipt will be reported to the NWLE. The transaction will be reported on the next OCR submitted, and accountable records will be posted as stated in Chapter 9, Accountability.

Storage. All nuclear special ammunition in the SASP will be stored in the X-area. Class V missile items will be stored in the missile storage area. All items will remain loaded on vehicles during storage. A detailed storage plan will be developed and maintained. This plan (diagram) will show exactly what items are stored on each vehicle in the X-area to include weapon type, serial number, yield, and bumper number of the vehicle. Camouflage the weapons being stored as much as possible.

Maintenance. Maintenance operations at the SASP during combat operations will be severely reduced. Repairers should work from mobile maintenance vans. The SASP will also provide maintenance support teams (MST) to delivery units when requested.

Technical supply also works from a mobile van; however, availability of parts through supply channels will also be severely reduced. The supply van should be close to the maintenance vans.

Missile maintenance will be done by a missile support company using MSTs. If necessary, missile peculiar items will be evacuated to the missile support DS/GS company.

Issue. Nuclear weapons may be issued to emplacement teams, delivery units, custodial units, other SASPs, or ordnance units. When the issue of a nuclear weapon to a unit is approved, the receiving unit is notified to pick up the weapon from the SASP. At the same time, the SASP receives a message from the NWLE directing the issue of nuclear weapons to the supported unit. This message, called a supply mission directive (SMD), will contain the information needed by the SASP to complete the issue. It is authority for the SASP to issue the nuclear special ammunition specified in the SMD message. When possible, all issues should be made at night using rendezvous techniques.

When the receiving unit convoy arrives at the SASP, the courier will be properly identified as an authorized recipient. SASP personnel will transfer the nuclear weapons to receiving unit vehicles using approved loading and tie-down procedures. The courier will verify the items issued and sign for them. DA Form 581 (Request for Issue and Turn-In of Ammunition), is used for the nonnuclear components (prop charges, spotting rounds, ED materials, etc.), and

**CAMOUFLAGE
AS MUCH AS POSSIBLE****SUPPLY VAN SHOULD
BE CLOSE TO
MAINTENANCE VANS****MAINTAIN 100
PERCENT MOBILITY**

DD Form 1911 (Materiel Courier Receipt), is used for nuclear weapons and supply documents (DD Form 1150 or 1348-1). When nuclear weapons are issued to a delivery unit, emplacement team, or custodial detachment, DD Form 1150 is used to transfer custody to the receiving unit. Accountability remains with the ordnance company. If nuclear weapons are issued or shipped to another ordnance company, DD Form 1348-1 is used to transfer accountability to the receiving unit.

After the issue is completed, the SASP operations office will immediately notify the NWLE of SMD completion. A change of location for the weapons issued will be reported on the next OCR. The signed supply document (DD Form 1150 or 1348-1) will be used to update accountability records. See Chapter 9, Accountability.

SECURITY AND DEFENSE

Movement Security. During initial deployment and other movements, measures must be taken to totally secure the convoy from any type of security threat. These security threats may include such things as espionage, sabotage, attack from air/ground forces, and even attack by guerilla forces working within the area. To make sure that security during movement is total, security personnel must be trained to fight as infantry. Supervisors must insure that every individual soldier is aware, equipped, and trained in all areas of individual security procedures. Both ordnance unit personnel and security force personnel should be used to secure all elements of the movement. The movement from a fixed site to the initial deployment area will be large scale. Convoy serials could be as large as 30 to 40 vehicles of different types. If called upon, maneuver commanders must be sensitive to the critical need for nuclear weapons and must be ready to give all possible help (including more security) to prevent weapon loss or damage.

Operations Security (OPSEC). The primary purpose of OPSEC is to prevent detection of the SASP. If detected, OPSEC should mask the capabilities and mission of the SASP. OPSEC includes physical security, signal security, information control, and the use of camouflage, blackout, deception, decoy operations and dummy positions. The SASP should not be known by its size, location, type of activity, or special measures. Resupply operations should be conducted at night, if possible, using rendezvous techniques.

Relocation is another way to reduce the chance of enemy detection and acquisition. Although the SASP should be prepared to move to a new location at any time, no specific time interval should be established for relocation of the SASP. The advantages of moving to a new location must be weighed against the increased danger of a convoy move. The decision to move the SASP should be based on the current tactical situation, intelligence reports, enemy activity in the area, or when there is reason to believe the present location has been found. After the decision to move has been made, the movement should be made at night, if possible.

**MUST BE TRAINED TO
FIGHT AS INFANTRY**

**MOVEMENT OF SASP
SHOULD BE MADE AT
NIGHT**

SASP Security/Defense. Although the MP security company has primary responsibility for providing SASP security, ordnance unit personnel are a key asset that must be considered in SASP security/defense plans. The SASP must be prepared to provide for its own security on the battlefield. Security/defense plans should use all available assets.

The security-in-depth principle should be used in the following:

- **Security Area.** This is an area outside the perimeter where MP patrols, listening posts (LP), observation posts (OP), early warning devices, and obstacles and barriers are used to provide early detection of the enemy.
- **Perimeter.** Military police will normally occupy the perimeter. Dug-in fighting positions on the most dangerous, likely avenues of approach are prepared first. Subsequent positions on the perimeter will be prepared as time and resources permit. Alternate and supplemental positions should also be prepared.
- **Reserve Area.** This area will be located between the perimeter and the X-area. The backup response force will be positioned in this area so that it can move quickly to reinforce the perimeter.
- **Exclusion Area.** The X-area is the most critical area of the SASP. It should be located within the reserve area to provide maximum security.
- **Administrative Area.** This area is normally located away from the X-area to reduce the signature of the SASP. Ordnance personnel and MP administrative and support personnel will normally provide security for this area.

Communications Security (COMSEC). During movement, the use of secure FM communications equipment will be important to all key personnel. All personnel using communications equipment must be well trained and must know their jobs before movement. The equipment must be kept operational. Because of the sensitivity of the SASP mission, every effort must be made to make sure that COMSEC is observed. Along with secure voice, unsecure voice will be used throughout the movement and with higher headquarters. Because of the unsecure mode of communication, convoy commanders, courier officers, and security team leaders must monitor and control the use of unsecure voice communications. Some of the measures that can be used by key leaders are the proper use of operational codes, call signs, frequency control, radio listening silence, and transmission security. Communications and COMSEC are also critical to SASP field operations. The FM communication that is used constantly during the ground movement phase is only used for emergencies in the field location. FM communications control is important both to the SASP commander and the security officer because FM communications can reveal the location of the SASP. The noise produced by the generators used by the radio teletype equipment must be considered when locating this equipment. The radio teletype equipment must be close to the operations and command elements, but not close enough to give all positions away because of the noise.

**MUST BE KEPT
OPERATIONAL**

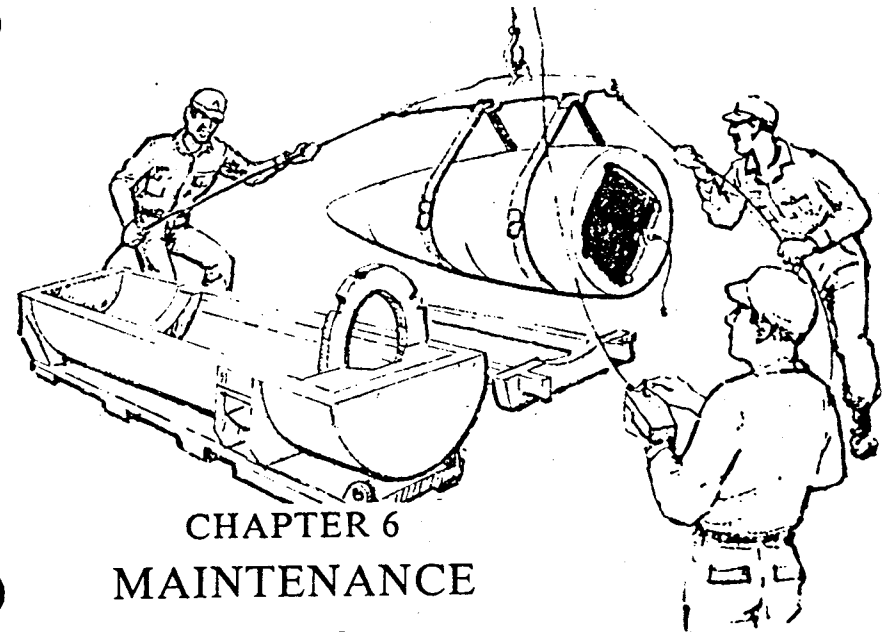
**EMERGENCY
PROCEDURE PLANS
MUST BE DEVELOPED**

EMERGENCY PROCEDURES

The SASP commander must make sure that plans are developed for emergency procedures during wartime. These procedures must be detailed and must be practiced during peacetime training. All SASP personnel must thoroughly know emergency procedures since they will have to be used during periods of great stress and confusion.

Plans should include:

- Fire fighting procedures IAW TB 385-2.
- NAIC procedures IAW FM 100-50, AR 50-5, and FM 3-15.
- AR 50-5.
- FM 3-15.
- ED procedures IAW FM 100-50, TM 39-50-8, and the -20 technical manual for each system.



**CHAPTER 6
MAINTENANCE**

GENERAL

Maintenance of nuclear special ammunition consists of those actions taken to keep items in a serviceable, ready-to-use condition or to restore an unserviceable item to a serviceable condition. The levels (or categories) of maintenance are organizational, DS, GS, and depot. Normal maintenance functions may include inspection, test, repair, replacement, renovation, modification, retrofit, modernization, and storage monitoring activities. All maintenance operations involving nuclear special ammunition will be monitored by quality assurance/quality control (QA/QC) personnel.

**WILL BE MONITORED
BY QA/QC**

MAINTENANCE OBJECTIVE

The objective of the nuclear special ammunition maintenance program is to keep materiel in a serviceable condition or restore it to a serviceable condition through use of the following:

- A continuous, aggressive program to include testing, servicing, repairing, rebuilding, reclamation, inspection, and classification as to serviceability.
- Providing the supply and maintenance action required to keep supported units at their required state of readiness.
- Performing maintenance at the lowest level able to do the task.

RESPONSIBILITIES

EVERYONE PERFORMS MAINTENANCE

Maintenance is a command responsibility. Every person within the Army structure performs maintenance of some form. However, to maintain all equipment and stocks correctly requires a dedicated effort along with command emphasis at all levels.

DA publications provide policies, standards, and technical information. Tables of organization and equipment (TOE) contain descriptions of missions, capabilities, equipment authorized, and special instructions for each type of unit. The TOE will determine the category of maintenance a unit is authorized to perform. (In addition, a mission statement is normally furnished each unit by a higher headquarters defining the maintenance the unit is authorized to perform.) Commanders are responsible for all maintenance plans, policies, and directives within their capability.

Within a theater of operations, the LSM for special ammunition has staff responsibility for DA standards of serviceability for all nuclear special ammunition within the theater. The LSM makes plans and policies for the preservation, maintenance, and modification of special ammunition materiel IAW with DA policies. The LSM monitors the QA program for special ammunition within the theater. Special ammunition maintenance plans, policies, and procedures within the theater are received and directed through command channels.

Nuclear special ammunition and guided missile maintenance organizations are responsible for the maintenance of special ammunition materiel in the theater.

Nuclear special ammunition companies (TOE 9-84) have the skills, tools, and equipment to perform DS/GS maintenance. Companies perform maintenance on nuclear special ammunition projectiles, nuclear warhead sections, atomic demolition munitions, test equipment, and special weapon peculiar handling equipment required to support these items, including calibration. They also provide for the surveillance, inspection, and maintenance of explosive components of missile bodies and large rockets with help from missile support units.

Guided missile maintenance elements maintain all nonexplosive (class VII and IX) components of guided missile systems to include ground control equipment. They also assist special and conventional ammunition units in the removal and replacement of warhead sections and explosive components of missile bodies and large rockets.

The maintenance and evacuation flow of nuclear special ammunition items is shown in figure 9. Missile peculiar items will be evacuated through missile maintenance channels.

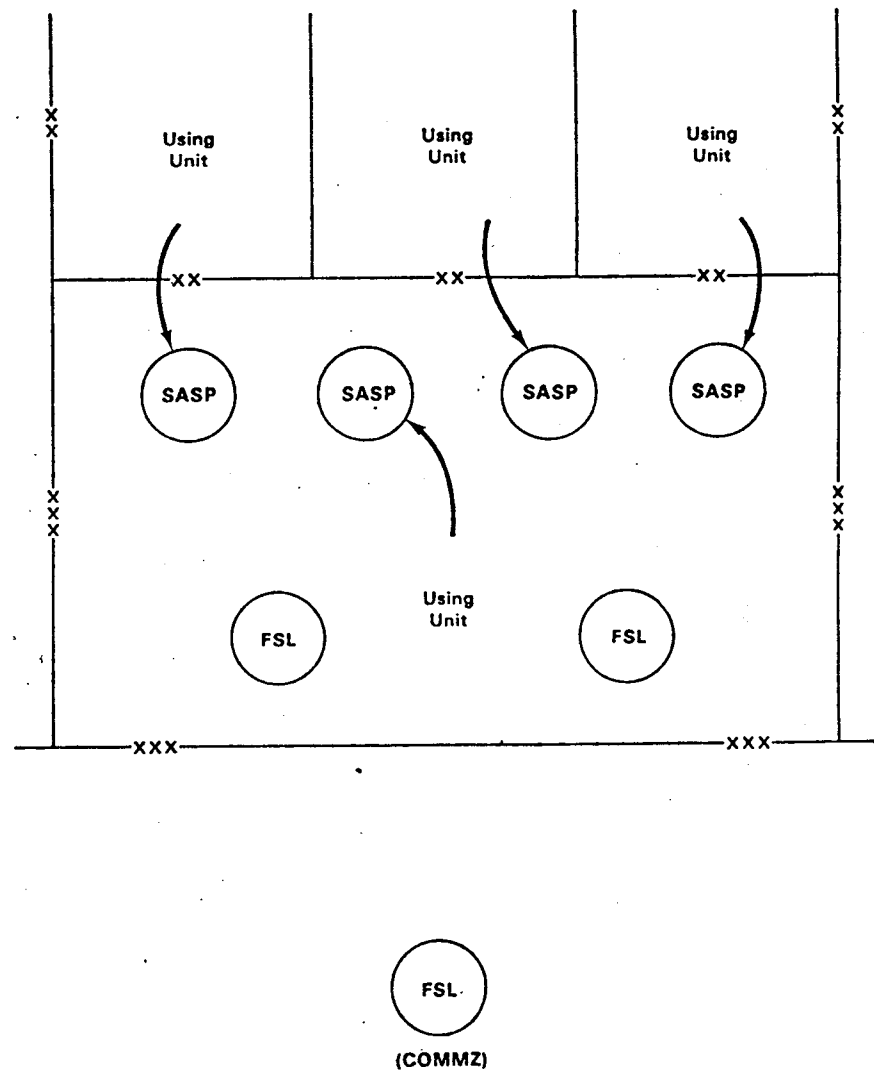


Figure 9. Maintenance and evacuation flow of nuclear special ammunition.

MAINTENANCE OPERATIONS

The operation of special ammunition support units includes several very distinct but interrelated activities. The relative importance of each of these activities will vary between like units and will depend on the support mission.

The major maintenance related activities performed within a nuclear special ammunition support unit are:

- Storage, handling, and transportation.
- Technical inspections.
- Repair parts and materiel management.
- Shop operations.
- Evacuation.
- Operations section.
- Maintenance and operations records.
- Technical assistance service.
- Maintenance support team service.
- Maintenance float.

Storage, Handling, and Transportation. The requirement for storage, handling, and transportation is continuous. All issues, receipts, shop operations, and some types of inspections use one or more of these activities.

Personnel who store, handle, and transport nuclear special ammunition must be as highly qualified in their specialty as maintenance technicians are. System peculiar technical manuals, field manuals, and ordnance corps drawings will specify storage data, special handling instructions, and loading procedures for all current modes of transportation to include aircraft and helicopters.

Operators and organization maintenance personnel are required to keep all equipment in an operating condition. Vehicles, MHE, and handling gear will be inspected continuously to make sure they are safe. A DD Form 626 (Motor Vehicle Inspection) will be filled out for every commercial vehicle transporting any explosives. All handling equipment (slings, hoists, beams, forklifts, wreckers, etc.) will be inspected before use and must be periodically load tested or proof tested IAW applicable TBs.

Technical Inspections. Nuclear special ammunition requires strict control and a highly technical system of inspections. Inspections are used by commanders as part of their QA program to insure reliability. Most inspections on stocks are performed periodically. These inspections should be scheduled so that, when possible, one or more scheduled inspections is performed on an item at the same time.

Technical inspections for nuclear special ammunition are:

- **Initial receipt inspection.** Performed one time only on materiel received from the vendor to certify acceptance of the material into the stockpile. It is normally performed by a CONUS depot.

**THE REQUIREMENT
IS CONTINUOUS**

- **Receipt inspection.** Performed on materiel received from a supporting unit for any purpose except repair or rebuild, from any source other than the vendor. Its purpose is to determine, after shipment, the suitability of materiel for retention in the stockpile.

- **Storage monitoring.** Performed regularly on materiel in storage to observe the effects of environment and certify if the materiel is suitable for retention in the stockpile or if it is to be rejected for a more detailed inspection.

- **Periodic inspection.** Performed on materiel that is scheduled for recertification. It is done at time intervals stated in system peculiar TMs. Its purpose is to determine the suitability of the materiel for return to or retention in the stockpile.

- **Preissue inspection.** Performed as required by the system peculiar TMs.

- **Stockpile reliability inspection.** Performed to find the condition of a sample at the time it is selected and removed from the stockpile to be tested by the Army Nuclear Weapons Stockpile Reliability Test Program.

- **Verification inspection.** Performed on materiel received by the last consignee before signing the DD Form 1348-1 for return to the consignor, and before listing the item(s) on accountable records. It is to determine that the item is as described by the shipping document, on the container, on the item, and on the inspection record card, inspection date card, or equipment maintenance log, as applicable. The last consignee for this purpose is the accountable officer at the final destination.

Repair Parts and Materiel Requirements (Technical Supply). Maintenance operations depend on repair parts and materiel being available. Repair part stock records procedures and controls must closely follow AR 710-2 and local instructions. Requirements for parts are generated by using units and shop operations.

Many maintenance problems can be eased by support units if maintenance personnel are authorized bench stock. Shop supply must also be able to project and get repair parts and materiel which they expect to use with scheduled maintenance operations or inspections. Based upon the maintenance team's expected requirements, the support units can make their needs known to the material management center (MMC) so that repair parts and materiel are available at the time the scheduled maintenance or inspection is performed. This practice eases the problem of having large quantities of items awaiting parts in the support maintenance shops.

Maintenance Shop Operations. Maintenance shop is an all inclusive term used to describe all of the facilities of the unit that are directly involved in maintenance and production control.

The activities found in a maintenance shop include shop office, maintenance areas or bays, shop supply, inspection section, production control, tool room, and paint bay. The management of these activities is the responsibility of the shop officer.

**PERFORME
REGULARLY**

**UNSERVICEABLE
ITEMS ARE ALWAYS
EVACUATED**

QA/QC personnel will also be present in the maintenance shop to monitor operations. These QA/QC personnel are directly responsible to the commanding officer.

Evacuation. Due to the critical nature of nuclear special ammunition, unserviceable items are always evacuated through special ammunition channels. Nuclear special ammunition ordnance companies (DS/GS) will receive unserviceable rounds or components from using units and will issue a serviceable like item to the using unit in exchange for the unserviceable round or component. The nuclear special ammunition unit will inspect the unserviceable item to determine the extent of repairs required. When possible, the unit will repair the item and return it to stock. If repair is impossible, the unit will evacuate the unserviceable item.

Operations section. Each nuclear special ammunition company will have an operations section. This section is responsible for the following:

- Planning and scheduling maintenance shop activities.
- Storage and handling operations.
- Stock status records.
- Status reports as required.
- Repair parts and materiel requirements.
- Inspection of stocks on hand.
- Maintenance float management.
- ED Plans.
- NAIC plans and procedures.
- Coordinate the usage and composition of the technical assistance and maintenance contact teams. QA/QC operational requirements are normally coordinated with the maintenance shop.
- Operation of a classified documents section.
- Operates a common communications section containing the unit cryptographic equipment.

Maintenance and Operational Records. Maintenance records and operational records will be prepared, maintained, and submitted as outlined in TB 9-1100-803-15, TM 39-35-7, and system peculiar TMs. Additional status reports and/or records may be required by local commanders. For nuclear weapons, TB 9-1100-803-15 supercedes all of TM 38-750. Information in addition to that required by TB 9-1100-803-15 may be recorded on all reports retained by using organizations.

Records and reports most commonly used in nuclear special ammunition maintenance operations include:

- **DD Form 314, Preventive Maintenance Schedule and Record.** This form is used to record scheduled and preventive maintenance services or load tests. DD Form 314 is not required when access to ADP facilities is available or services are scheduled

using DA Form 3746-R (Item Data Card). See TB 9-1100-803-15 for instructions.

- **DA Form 2402, Exchange Tag.** This form is used as an identification tag for unserviceable parts, components, or assemblies throughout the exchange/repair process. It is also used as a receipt for TMDE being calibrated. DA Form 2402 will identify items being held for equipment improvement recommendation (EIR) exhibits and all unserviceable components for which disposition instructions have been requested. See TB 9-1100-803-15 for details.

- **DA Form 2404, Equipment Inspection and Maintenance Worksheet.** This form is multi-purpose. It is used for routine inspections and services not requiring a DA Form 2407/2407-1 (Work Request), using locally developed procedures, and to temporarily record all defects (faults) observed during routine operations. Whenever any defects/failures are found, a DA Form 2407 (Work Request) will be filled out and the defects/failures from the DA Form 2404 will be written on the DA Form 2407. Nonreportable defects recorded on the DA Form 2404 need not be entered on the DA Form 2407. As these defects are corrected, the entry on the DA Form 2404 will be initialed. All uncorrected defects/failures deferred to a later date will be taken from the DA Form 2404 and entered on a DA Form 2408-14 (Uncorrected Fault Record). Use TB 9-1100-803-15 for filling out a DA Form 2404.

- **DA Form 2405, Maintenance Request Register.** This form provides a consolidated record of maintenance requests (DA Form 2407) that are generated, received, and processed. The DA Form 2407 will be filled out using TB 9-1100-803-15. It is an internal shop management record.

- **DA Form 2407, Maintenance Request.** This form is prepared using TB 9-1100-803-15 as a guide. DA Form 2407 is a work request for inspections, services, and/or maintenance and for all operations requiring entries on historical records. It is used to submit an EIR to the national maintenance point (NMP), and to record accomplishment and notify the NMP of:

Modification work order (MWO), alteration, or retrofit.

Component replacement, to include limited life component (LLC) exchange.

Defects/failures found during the performance of the work request.

The need for materiel disposition or supplemental instructions.

Special Department of Energy (DOE) inspections/monitoring IAW the operating manuals.

Preissue inspections IAW system TMs.

Initial receipt inspection of items specified in TB 9-1100-803-15.

**USED AS AN
IDENTIFICATION TAG**

**PROVIDES A
CONSOLIDATED
RECORD
OF MAINTENANCE
REQUESTS**

- **DA Form 2408-14, Uncorrected Fault Record.** After each maintenance operation, all uncorrected faults and/or shortages which were listed on the DA Form 2404 will be entered on this form except those defects scheduled on a work request. The DA Form 2408-14 will be filled out as stated in TB 9-1100-803-15 and the completed form will be placed with the equipment maintenance log (EML) of the item.

- **DA Form 2409, Equipment Maintenance Log (Consolidated).** This form will be kept as an inspection and maintenance log for Army developed nuclear special ammunition materiel as specified in TB 9-1100-803-15. Maintaining an EML on other items is optional.

- **DA Form 3746-R, Item Data Card.** This form is designed to standardize the office records for nuclear weapons regardless of the location of the item. It contains historical data on each serial numbered item specified in TB 9-1100-803-15.

- **Special ammunition status reports.** Changes in condition of nuclear weapons and guided missiles/large rockets are reported as specified in JCS Pub 6, Vol II and AR 750-40, respectively. Upon change to unserviceable status, reports will contain a brief description of the deficiency, the probable cause, and a listing of the defective or missing major components. Reports should also indicate any action taken to restore the items to a serviceable condition.

- **SF Form 5700-IRA, Inspection Record Card (IRC).** The purpose, use, preparation, and submission of the IRC is contained in TM 39-35-7.

- **SC Form 5700-A, Pressure Test Record (PTR).** The purpose, use, preparation, and submission of the PTR is contained in TM 39-35-7.

- **DA Form 2028, Recommended Changes to Publications and Blank Forms.** This form is used to report errors and omissions, request clarification, and make recommendations for improving all nuclear special ammunition publications and forms. The form will be prepared according to TB 9-1100-803-15 and will be classified according to content.

Technical Assistance. Technical assistance is the service of providing instruction and technical guidance to supported units to help them do their missions better. This service includes both maintenance and supply functions. Its goal is the correct interpretation and uniform application of procedures to improve conditions and save materiel.

Good technical assistance services should yield:

- Better relationships between supported and supporting units.
- Improved operational readiness of materiel.
- Increased operational efficiency of the supporting and supported units.
- Decreased maintenance demands on the supporting unit.
- Reduced demand for repair parts and replacement items.

**INCLUDES BOTH
MAINTENANCE AND
SUPPLY**

- **Uniform interpretation and use of publications and directives.**

Technical assistance services are done by liaison parties, work parties, or a combination of the two.

The liaison party is the normal method of contact between the supported and supporting units. The purpose of the liaison party is to help supported units with supply and arrange work party visits.

The work party implements arrangements made by the liaison party and conducts the necessary services for resolving any problem areas uncovered. Services are usually rendered on site according to prearranged schedules.

Maintenance Support Team (MST) Services. MST service is on site maintenance rendered by the supporting unit to a supported unit. These services will involve inspection/repair operations and may be done with technical assistance services.

AR 750-1 states that repairs will be done on site whenever feasible. Advantages of on-site maintenance are:

- Time savings resulting from not having to transport large and bulky items.
- Elimination of wear and tear on items.
- Transportation hazards are reduced.
- Security requirements and risks are reduced.

Maintenance Float. Maintenance float items consist of end items and certain components authorized by DA in appropriate TMs. Maintenance float items will be positioned for issue at maintenance activities as appropriate.

Issue of maintenance float items will be controlled by the maintenance activity. Issue will be governed by:

- The operational requirements of the supported units.
- The complexity of repairs required.
- Availability of parts and assemblies required to do the repairs.

MAINTENANCE MANAGEMENT

Maintenance management is using resources in the best possible way to maintain all supported materiel in a combat-ready condition. Maintenance management includes:

- Development and modification of operational procedures as necessary.
- Providing a flow of timely and complete information to enable continuous assessment of status, requirements, and problem areas.
- Realignment of missions as necessary.
- Supervision of operations.
- Exchange of information with higher headquarters, supported units, and supporting units.

**SERVICES ARE
RENDERED ON
SITE**

**EMPHASIS IS ON
MATERIEL IN
"CRITICAL" OR
"CONTROLLED"
CATEGORY**

Functions.

Maintenance management at higher levels of command is normally done on a "by exception" basis. This consists, in general, of monitoring the status of maintenance required and done by subordinate elements. Particular emphasis is put on special ammunition and class VII and IX materiel placed in the "critical" or "controlled" category by higher headquarters.

The special ammunition brigade more directly manages maintenance activities to include assigning and reassigning missions to subordinate units; standardizing policies, procedures, and controls; disseminating instructions and guidance to brigade elements; and coordinating with other commands. Management functions are exercised by personal observation of activities, through the use of reports (either written or oral), and by the review of special ammunition maintenance data received. Management actions include the establishment of programs and priorities, conducting technical inspections, recommending command action by higher headquarters when reports show maintenance supply problems, and reporting through tactical commanders when maintenance workloads are aggravated by user abuse of equipment or lack of organizational maintenance.

Maintenance is managed directly by the special ammunition battalion. Staff responsibility for maintenance and control is vested in the materiel officer. The materiel officer coordinates QA/QC activities of the battalion. Persons who are specialized in the technical aspects of special ammunition maintenance and maintenance supply assist the materiel officer.

The battalion materiel officer must evaluate all aspects of the special ammunition maintenance program in order to use available resources effectively. In so doing, strengths and weaknesses must be weighed and problem areas isolated. When a problem area is found, factors responsible for it, or contributing to it, must be found and a correct course of action taken. The most valuable management data is obtained by personal contact and observation. Other valuable data is available from inspection reports and maintenance records. In the case of supported units, most of these records and reports are submitted through command channels. Arrangements are usually made for the supporting maintenance unit to be provided copies of extracts so that corrective action may be taken.

Information regarding problem areas can be classified as internal and external. Internal refers to the information obtained and analyzed by the materiel section. This information stems from staff visits and inspections made by the materiel section. External sources include higher headquarters, supported and supporting units, and battalion units. From external sources, the materiel officer receives information on problem areas that already exist or symptoms indicating potential problems. Proper use and analysis of information received routinely or on an "as required" basis will lessen complaints from supported units. The materiel section must be able to identify problem areas and react swiftly when reports or records indicate trouble.

**DATA IS OBTAINED
BY PERSONAL
CONTACT
AND OBSERVATION**

**WILL LESSEN
COMPLAINTS**

Collection and control of maintenance data. The preceding paragraphs discussed data used to identify maintenance requirements and determine the scope and status of the ammunition maintenance effort. That information can be used to properly schedule, conduct, and control the maintenance required. However, the time spent in collection takes from the time available to manage. For this reason, every effort should be made to centralize the collection effort and to disseminate usable data rapidly within each command and between all levels of command.

**EFFORT SHOULD BE
MADE TO CENTRALIZE**

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

QA/QC relates to all activities of the operational mission. In order to provide the user with quality items, nuclear special ammunition units must use QA/QC in each activity to insure exact compliance with regulations and technical procedures. The purpose of the QA/QC section is to assure desired performance on the target with each nuclear projectile or warhead.

QA/QC personnel are directly responsible to the unit commander. The commander must insure that QA/QC personnel are allowed to evaluate and determine independently, without coercion, whether or not quality standards are being met throughout the unit. For operational purposes only, QA/QC personnel may be controlled by the operations section; however, this does not change the relationship between QA/QC personnel and the commander. Personnel assigned to QA/QC positions must be of the highest integrity and professional competence.

The QA/QC section insures that prescribed procedures and publications are used to do mission functions. QA/QC responsibilities include:

- All procedures, methods, inspections, and tests required during receipt, maintenance, and issue of nuclear special ammunition and related components.
- Required reports to higher headquarters.
- Storage, loading, handling, and transporting nuclear special ammunition and related materiel.
- Plans, SOPs, and contingency training to include:
 - Emergency destruction
 - Emergency evacuation
 - Fire fighting
- Security procedures to include:
 - Physical security of nuclear special ammunition and related components.
 - Classified documents security/safeguarding.
- Safety.
- Unit and individual mission training.

**QA/QC PERSONNEL
WILL BE PRESENT**

QA/QC personnel will be present during any operation involving nuclear special ammunition. The operational concept of QA/QC follows:

- The operations section is notified when QA/QC personnel are needed.
- QA/QC personnel will monitor all transportation, test, repair, and maintenance of nuclear special ammunition and certify the condition of the materiel when the operation is complete. All other QA/QC evaluations will be performed as personnel are available.
- All deviations from prescribed procedures are pointed out to the supervisor of the task being performed for immediate correction.
- A report of deviation from prescribed procedures is provided to the commander.

EMERGENCY REPORTS

Any unsafe condition, known or suspected, which could result in fatal or serious injury to personnel, extensive damage or destruction of valuable property, or which could have serious adverse effects on reliability or operational capability will be reported as stated in TB 9-1100-803-15. Emergency reports must be submitted by electrical means and a completed DA Form 2407/2407-1 follow-up is required to support the emergency report.

NUCLEAR SURETY INSPECTIONS (NSI)

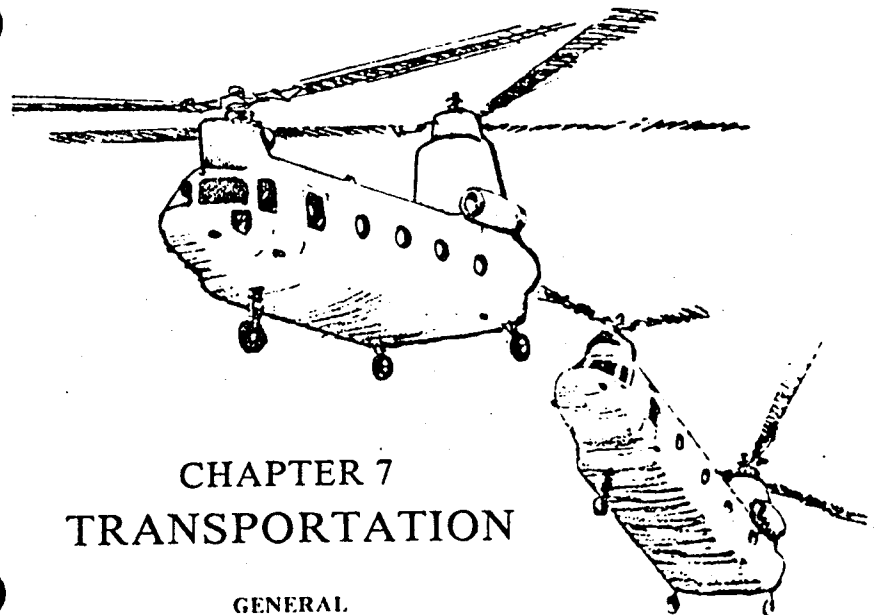
NSI are periodic special training inspections conducted by the inspector general, DA or designated major commands at intervals not to exceed 18 months. The inspections are made to determine if personnel of special ammunition and delivery units can do their jobs. These inspections will cover such techniques or procedures as receipt, storage, maintenance (to include surveillance where required), assembly and disassembly, issue, transport, security, or prefiring operations connected with delivery of special ammunition. NSIs also apply to administration, maintenance and supply support to other units, coordination between units, and all procedures and actions required of the respective units in the stockpile-to-target sequence (AR 50-5 and AR 20-1).

Similar inspections, called Defense Nuclear Surety Inspections (DNSI), are periodically conducted by the Inspections Directorate, Field Command, Defense Nuclear Agency (DNA).

**ANY UNSAFE
CONDITION
WILL BE REPORTED**

**DETERMINE IF
PERSONNEL CAN DO
THEIR JOBS**

WILL REPORT
CONDITION

**CHAPTER 7
TRANSPORTATION****GENERAL**

Nuclear weapons and components are moved by the safest means and over the safest routes practicable. Avoid, if possible, heavily populated areas and those where civil disturbances might occur. Movement of nuclear weapons must be kept to a minimum consistent with operational requirements.

Nuclear weapons, nuclear components, and related classified non-nuclear material can be moved only after responsible staff elements have completed extensive planning and coordination. Consider the following factors in planning the movement of nuclear weapons:

- Known and potential hazards.
- Current intelligence estimates of the general and local threat relating to the point of origin, routes, enroute stops, and destination (see FM 100-50, AR 50-5 and AR 50-5-1).
- Type and means of equipment.
- Security requirements.
- Source and availability of security resources.
- Emergency procedures and the source and availability of emergency assistance.
- Communications systems.
- Liaison with outside civilian law enforcement agencies or host nations.

**MUST BE KEPT TO A
MINIMUM**

**PLAN AND
COORDINATE
BEFORE MOVING**

**U S CUSTODY WILL BE
MAINTAINED**

Military airlift is the preferred mode of transport for the logistical movement of nuclear weapons. Surface movements within CONUS must be approved by the DA (DALO-TSP). Surface movements in overseas areas must be approved by the commander of the unified or specified command. Regardless of the mode of transport, US custody will be maintained at all times and the use of weapon systems safety rules (AR 50-100 series) is mandatory during logistical movements.

Logistical movements of nuclear training devices, including DOE designated training items, will be conducted in the same manner established for nuclear weapons or devices. However, only those physical security requirements in line with the classification of the trainer are required. During training exercises and inspections when trainers are simulated to be nuclear weapons, the same safeguards and procedures will be applied to trainers as to nuclear weapons. Any differences between the trainer and a nuclear weapon will be identified and simulations may be required as appropriate.

Additional policies and procedures for the logistical movement of nuclear weapons are contained in FM 100-50, AR 50-5, AR 55-203, and AR 55-228. Detailed information about the transportation of nuclear special ammunition is in TM 39-45-51.

RESPONSIBILITIES

The consignor (shipping unit) will:

- Ship in accordance with supply directives and shipping instructions.
- Plan nuclear movements and obtain routing and release information.
- Arrange for qualified technical and security escort personnel as required.
- Make sure that the courier and his personnel have proper identification and authority.
- Initially brief all personnel involved in the logistical movement (e.g., courier officer, guards, aircrew members, or vehicle drivers) on the following (as appropriate):

Mission.

Authorized consignee.

Chain of command.

Two-man rule.

Identification, classification, quantity, and hazards of the cargo, including QD parking requirements.

Instructions on control of access to the mode of transportation. Include procedures on how to maintain constant surveillance during stops enroute and how to get additional security support, if required.

Procedures for communication within the movement and for communication with external agencies.

Routing and traffic control procedures, including safety matters.

Additional cargo or passenger restrictions.

Hostile threat.

Actions to be taken in the event of enroute emergency.

Other special instructions.

- Make sure that weapons are properly prepared for shipment, as described in the TM 9-1100-series publications that apply.

- Conduct a verification inspection, if the receiving unit does not have the capability (see AR 700-65).

- Insure that adequate and properly certified handling/support equipment is available.

- Insure that adequate and properly inspected transportation equipment is available.

- Load, block, and brace material as stated in approved publications.

- Prepare necessary paperwork, including DD Form 1911 (Materiel Courier Receipt), and transmit REPSHIP messages IAW AR 55-203 or theater directives.

- Maintain security of the shipment until it is released to the courier.

- Retain property accountability through the courier until properly signed accountability documents (DD Form 1348-1) are received from the consignee.

- Provide the courier of overseas shipments with the necessary means to effect ED of nuclear special ammunition to prevent capture.

- Deliver the shipment, together with the appropriate documents, to the courier.

The consignee (receiving unit) will:

- Provide designated agencies with a current list of authorized recipients for nuclear special ammunition materiel. Insure authorized recipients are available to receive the shipment.

- Establish the identity of the authorized recipient to the satisfaction of the courier.

- Provide security during and after the unloading of the materiel.

- Insure that adequate and properly certified handling/support equipment is available at the destination.

- Inspect and unload transportation equipment, if required.

- Submit report of arrival messages IAW AR 55-203 or theater directives.

**PREPARE NECESSARY
PAPERWORK**

INSPECT AND UNLOAD

- Arrange for billeting, messing, and return transportation of escort personnel and equipment to their unit or permanent duty station.

- Conduct a verification inspection before signing the DD Form 1348-1 and returning it to the consignor. The consignor will conduct the verification inspection if the consignee does not have the capability (see AR 700-65).

- Report damaged or improper shipment IAW existing regulations.

The courier officer will:

- Provide for the receipt, custody, security, safety, and delivery of the nuclear weapon to an authorized recipient.

- Assume custody of the shipment from the time it is signed for (DD Form 1911) until it is released to the authorized recipient.

The courier should never sign a receipt for materiel over which custody cannot be maintained.

On extended trips with overnight stops, couriers are authorized to transfer custody of nuclear weapons to an appropriate commander who has a nuclear weapons X-area.

- Regardless of rank, command all security escorts during the movement and appoint a chain of command to carry out the courier duties in the event of the courier's incapacitation.

- Prior to departure, insure that security personnel are trained and properly equipped, have received and understood their special orders, have appropriate security clearances, and have been issued travel orders when required.

- Insure that all escort personnel are familiar with the following:

Duties and conduct while enroute, including rules of engagement.

Actions to be taken in an emergency.

The hazardous nature of the mission and its importance to national defense.

The security classification of the materiel and details of the movement.

- Insure that nuclear weapons are guarded continuously by at least two security escorts and maintained under two-man control at all times.

- At the destination, insure that the authorized recipient is properly identified. In case of doubt, the courier should contact the consignor, the commander of the consignee unit, or the movement monitor for further instructions.

- Maintain a communications link with the designated movement monitor to report the progress of the movement and to request assistance.

**COMMAND ALL
SECURITY
ESCORTS**

**MAINTAIN A
COMMUNICATIONS
LINK**

Convoy Commander. Convoy commander is a term used for the person who has operational control over a means of transportation, e.g., the pilot of an aircraft, the master of a ship, or the person in charge of a convoy of motor vehicles. The convoy commander is responsible for the proper operation of the transport vehicles, the course traveled, fueling, and other tasks such as feeding and billeting of convoy personnel when necessary. The courier officer may serve as the convoy commander when necessary.

Responsibilities of other agencies and individuals are contained in FM 100-50, AR 50-5, and AR 55-203.

ESCORT OF NUCLEAR SPECIAL AMMUNITION

Each shipment of nuclear special ammunition will be escorted by an armed military courier and armed security personnel (guards). The number of couriers and guards and the quantity and type of escort vehicles will be determined by the commander responsible for security of the shipment. Security requirements for each shipment depend upon the size of the shipment, the mode of transportation, travel time, hazards involved, and current intelligence estimates. Minimum security requirements are contained in AR 50-5 and 50-5-1 for peacetime movements and FM 100-50 for wartime movements.

The courier will be appointed on orders, or otherwise designated in writing, and must be a commissioned or warrant officer. Couriers must have a final security clearance equal to, or greater than, the highest security classification of the materiel in the shipment. Couriers must meet the personnel reliability standards specified in AR 50-5 for controlled nuclear duty positions. Couriers must be familiar with the use of security equipment and with procedures for the transportation, security, and safety of nuclear special ammunition, including fire fighting and ED procedures (where applicable).

Security personnel are assigned to escort each shipment of nuclear special ammunition in order to provide intransit security. Security personnel (guards) will be armed and equipped as stated in AR 50-5 and AR 50-5-1. Guards must be trained and have security clearances appropriate to their duties and the materiel being shipped. They must be familiar with pertinent safety rules and security requirements and must thoroughly understand their detailed special orders, including rules of engagement.

TRANSPORTATION BY AIRCRAFT

Movement of nuclear special ammunition by Army aircraft is authorized within CONUS and within overseas areas. The use of Military Airlift Command (MAC) aircraft is authorized within CONUS, within overseas areas, and between CONUS and overseas areas. Only US military aircraft and aircrews will be used for nuclear weapon logistical air movements. Single engine fixed/rotary wing aircraft will not be used for the movement of nuclear weapons or nuclear components under instrument flight rules (IFR) conditions.

**EACH SHIPMENT WILL
BE ESCORTED BY
GUARDS**

**ONLY U S MILITARY
AIRCRAFT AND
AIRCREWS WILL BE
USED**

Prior to movement, DD Form 1387-2 (Special Handling Data/Certificate) will be prepared by the shipping unit as prescribed in TM 39-45-51C and AR 95-27. The pilot in command and the aircrew will be briefed by the consignor on the fire fighting provisions of TB 385-2 and TM 39-20-11.

Aircraft carrying explosives will be loaded, unloaded, and/or parked in designated explosives parking areas. Instructions are in TM 9-1300-206.

- Aircraft loaded with explosives (other than fire extinguisher cartridges and signaling pyrotechnics) are classified as unbarricaded above-ground magazines to find the QD requirement.
- To determine the explosive content of nuclear special ammunition, see TM 39-20-7 and TM 39-20-11.
- QD will be computed on the largest amount of explosives in any one aircraft (net explosives weight).
- Aircraft in an explosives parking area should be separated by intermagazine distance, if possible.
- If magazine distances are not maintained between aircraft, QD will be based on the cumulative quantity of explosives contained in all aircraft in the parking area.

The pilot in command will supervise loading and unloading operations. The crew chief will direct the loading, unloading, and tie-down operations under the pilot's supervision. Shipments using Army aircraft will be loaded and tied-down IAW FM 55-series and TM 55-series air transport manuals. Loading and tie-down procedures specified in appropriate USAF technical orders will be used for shipments using US Air Force aircraft.

TRANSPORTATION BY MOTOR VEHICLE

The logistical movement of nuclear special ammunition by motor vehicle is authorized within CONUS and within overseas areas when this mode of transport is determined to be safer or more practical than by military aircraft. Appropriate "Explosives A" placards will be displayed on the front, rear, and each side of load-carrying vehicles during peacetime only. When movement is by other than closed vehicles or trailers, shipping and storage containers will be covered.

All load-carrying vehicles must meet the maintenance and serviceability standards prescribed in pertinent TMs. Before loading nuclear special ammunition, all vehicles will be inspected using TM 9-1300-206 as a guide. Results of this inspection will be recorded IAW TM 38-750 for US military vehicles and on DD Form 626 (Motor Vehicle Inspection) for commercial and non-US vehicles. All unsatisfactory conditions affecting the safety or operation of the vehicle will be corrected before the vehicle is loaded.

Before movement, DD Form 836 (Special Instructions for Motor Vehicle Drivers) will be completed as specified by TM 9-1300-206.

**WILL SUPERVISE
LOADING AND
UNLOADING**

**PLACARDS WILL BE
DISPLAYED**

Military drivers will be briefed on the fire fighting provisions of TB 385-2. Each load-carrying vehicle will have at least one full, serviceable fire extinguisher. It must be 10-BC rated, carbon dioxide or dry chemical.

Loading, tie-down, and unloading procedures are specified in the appropriate TM 9-1100-series operator's and maintenance manuals.

EMERGENCY PROCEDURES

If a malfunction occurs during loading or unloading, stop the operation immediately. Report the malfunction to the individual responsible for the custody of the nuclear special ammunition. Do not resume the operation until the malfunction has been corrected and the custodian or courier has approved resumption of the operation.

If a hazardous or unsafe condition is observed during any phase of the operation, personnel must see that corrective action is taken and that the condition is reported to the custodian or courier.

If a nuclear weapon is damaged (other than superficial damage to the container) during handling, loading, and unloading, the following actions will be taken:

- Stop the operation.
- Evacuate nonessential personnel to a safe area.
- Implement local NAIC procedures.
- If the weapon is in a fire, use procedures in TB 385-2 to put it out with available equipment.

EOD teams are responsible for conducting render safe and disposal operations.

**EOD TEAMS ARE
RESPONSIBLE**

CHAPTER 8 CALIBRATION AND LOAD TESTING

SECTION I. CALIBRATION

GENERAL

The information here is based on the DA improved test, measurement, and diagnostic equipment (TMDE) calibration and repair support program. This program is being phased-in on a geographic area basis. Publications cited in this chapter apply only to those areas where the program is in effect. In areas where the program is not in effect, users should see AR 750-25, TB 750-25, TB 750-26, and TB 43-180 for calibration information.

DEFINITIONS

In addition to the definitions in AR 310-25, AR 750-25-1, and TB 750-25-1, the following apply:

Calibration. The comparison of an instrument of unverified accuracy to an instrument of known and greater accuracy to detect and correct any discrepancy in the accuracy of the unverified instrument.

Calibration Support Levels.

"P" Level Calibration. Calibration that is the responsibility of, and is performed by, the US Army Standards Laboratory (ASL).

"S" Level Calibration. Calibration that is the responsibility of, and is performed by, an area calibration laboratory (ACL), assigned to a TMDE calibration and repair center (CRC).

"T" Level Calibration. Calibration that is the responsibility of, and is performed by, an area TMDE support team (ATST).

"F" Level Calibration. Calibration of special purpose TMDE that is the responsibility of, and is performed by, a D5 GS unit.

**DETECT AND CORRECT
DISCREPANCY**

ARMY CALIBRATION PROGRAM

The Army TMDE calibration and repair support program is designed to insure the accuracy of TMDE used in research and development, industry, and the field. This standardization, performed by Army calibration activities, assures uniformity of measurements through the design, engineering, production, and maintenance support stages of all Army equipment. To sustain this basic philosophy, standardization of measurement must be continued down to the unit where the equipment is used. This is done through calibration and to a certain extent, by load or proof testing.

A single DA TMDE calibration and repair support program has been established to assure that measurements are traceable from the user's TMDE, through the Army system, to the National Bureau of Standards (NBS). In order to assure this transfer of measurement accuracies to the user's TMDE, the US Army Metrology and Calibration Center (AMCC) located at Redstone Arsenal, Alabama, is charged with providing Army-wide technical direction and assistance, logistic and engineering support, monitoring, and evaluating the total US Army calibration system. To insure that adequate calibration service is available, the single ASL is located at Redstone Arsenal, Alabama, and ACLs, ATSTs, and Army internal calibration laboratories (refer to TB 750-25-1) are established at strategic locations Army-wide. These activities provide calibration service for items listed in TB 43-180-1 (Calibration Requirements) as requiring other than "F" level calibration at the intervals specified in the TB.

The transfer of measurement accuracies from the NBS to field activities is as follows:

- The NBS uses national standards to provide calibration service for the primary reference standards maintained and used by the ASL.
- The ASL, using primary reference standards, provides "P" level calibration service for secondary reference standards that are maintained and used by ACLs and internal calibration laboratories, and for TMDE that is beyond the capability of the ACL, internal calibration laboratory, and/or ATST.
- The ACLs use secondary reference standards to provide "S" level calibration service for secondary transfer standards that are maintained and used by ATSTs; also for TMDE (within their assigned geographic area) that cannot be calibrated by the ATST.
- The ATSTs use secondary transfer standards to provide "T" level calibration service for TMDE that is designated in TB 43-180-1 (Calibration Requirements) as requiring ATST calibration. These teams are usually based at an ACL and, using mobile vans to transport their standards, they provide calibration and repair service for field units within an assigned geographic area (refer to TB 750-25-1).

NOTE: The structure and operation of the Army TMDE Calibration and Repair Support Company includes an ACL and ATST (refer to FM 29-27).

**STANDARDIZATION
ASSURES UNIFORMITY**

**TEAMS USE MOBILE
VANS**

• The DS/GS maintenance units use their calibrated TMDE to provide "F" level calibration and repair service for TMDE-SP listed in TB 43-180-1 (Calibration Requirements) as requiring "F" level calibration. This calibration is done for their own TMDE and the TMDE of other units for which they provide maintenance support and for which they have calibration responsibility.

OPERATIONAL GUIDELINES

The accuracies required by advanced technology dictate the need for close control over TMDE that is used for maintenance and testing of Army materiel. The TMDE users are responsible for establishing local controls that will insure their TMDE is operating within tolerances. To do so, they must decide if their TMDE requires calibration and if the user or a supporting calibration facility provides the calibration service. TMDE users must make sure cyclic calibration of their TMDE is done. In order to do this task, Army-wide policy and guidance have been published in the form of ARs, TBs, and major Army command regulations. These publications must be followed when establishing local controls. A summary of the guidance contained in those publications follows.

Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Repair Support Program, AR 750-25-1. This AR assigns responsibilities for the following: establishment, maintenance, supervision, and control of the Army TMDE calibration and repair support program; the provisioning of measurement standards; the publication of calibration procedures; the development and publication of operational and procedural doctrine; and the provision of appropriate Army calibration facilities and personnel (military and civilian). Commanders subordinate to DA will supplement AR 750-25-1 to cover operation within their area.

Calibration and Repair Requirements for the Maintenance of Army Materiel, TB 43-180-1. This TB must be used by all users of TMDE to determine their need for calibration service and to identify TMDE that requires calibration. It specifies: the level at which calibration shall be done; the interval between cyclic calibrations; the calibration procedure that is to be used when an item is calibrated; and additional related information. The TMDE user must review TB 43-180-1 for information about equipment inventory.

TBs 43-181 series and 43-182 series, have been published to help using units identify authorized TMDE that requires calibration support.

TB 43-181 series is published in TOE sequence and includes a section on sets, kits, and outfits which identifies component TMDE requiring calibration.

TB 43-182 series is published in unit identification code (UIC) sequence and identifies TMDE requiring calibration which is authorized for specific Army organizations.

The TMDE user will determine:

- If each TMDE requires calibration.
- If the user or a supporting calibration facility provides the service (level of calibration).

**INSURE OPERATION
WITHIN TOLERANCES**

- The calibration interval.

The TMDE user will then use TB 750-25-1 to document the calibration requirements of the TMDE inventory as one of the controls to make sure TMDE is accurate.

PROVIDES GUIDANCE

Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Repair Support Program, TB 750-25-1. This TB provides procedural guidance and outlines responsibilities for obtaining, providing, and receiving calibration service. It outlines the preparation, use, and disposition of forms and labels that are used in the Army calibration system. TB 750-25-1 also outlines the keypunching and editing instructions for DA Form 2416 (Calibration Data Card). DA Form 2416 is used to identify and schedule TMDE that requires calibration, and to record and report calibration actions. DA Form 2417 (US Army Calibration System Rejected Instrument Tag) identifies TMDE that requires repair that is beyond the responsibility of the calibrating technician. It can also identify the item as limited use and state the limitations. DA Label 80 (US Army Calibrated Instrument), or other service equivalent, identifies an item that calibrated to the required accuracies, the date calibrated, the date calibration is next due, and the activity that did the calibration.

Calibration and Repair Service in the Theater of Operations, FM 29-27. This FM describes the mission, organization, capabilities, employment responsibilities, and functions of the Army TMDE Calibration and Repair Support Company, TOE 29-229.

CALIBRATION AFTER LOCAL REPAIR

US Army DARCOM Area Calibration and Repair Centers (ACRC) will provide calibration and general purpose TMDE (TMDE-GP) and selected special purpose TMDE (TMDE-SP) repair support for depot, DS, GS, aviation intermediate maintenance (AVIM), and using units. TMDE-SP will normally be repaired by system trained personnel assigned to DS/GS/AVIM units responsible for maintaining the associated system or end item. TMDE-SP is designated in TB 43-180-1 as requiring DS/GS/AVIM unit or ACRC calibration and repair support. The unit repairing TMDE-SP will insure that necessary calibration is performed after repair is completed. This procedure should be included in the local SOP. DS/GS units will not attempt to calibrate any TMDE identified as requiring a higher calibration support level.

CALIBRATION IN STORAGE

TMDE that is in storage, DX stock, operational readiness floats, or equipment pools does not require periodic (cycle) calibration IAW calibration intervals specified in TB 43-180-1. These items are designated as "calibrate before use" and will be tagged with a DA Label 80 which has been over stamped "CBU." Before use, the item must be calibrated and the CBU label voided or removed.

SECTION II. LOAD TESTING

GENERAL

Load testing is usually considered a part of safety. It is discussed in the same chapter with calibration because it is essentially testing and certifying that certain items can be used as intended. Load testing is not a function of calibration service. This manual does not require ATST calibration unit personnel to load test. When hoisting equipment is load tested after major structural repair or replacement of one or more components which support the load, the process is called proof testing. Requirements and procedures for load testing and proof testing are specified in TB 9-1100-801-15, TB 43-01-42, and system technical publications.

Some missile systems use special lifting equipment (lifting devices for missiles and other special items) that must be aligned as well as load tested. Load testing for these items of hoisting equipment is in two steps. Step one verifies the structural strength of the equipment. Step two determines if any part of the equipment has been distorted as a result of the load test. Step two usually requires an alignment fixture built specially for the piece of equipment being load tested.

Accessories normally used as attachments to hoisting equipment should be load tested with the hoisting equipment. Accessory hoisting equipment not assigned to a particular piece of hoisting equipment should be inspected before each use. Refer to technical publications for more load or proof testing instructions.

Before each day's operation, a visual inspection should be made of the hoisting equipment to find any bad parts. All hoist cables should be inspected completely for kinking, broken wires, corrosion, socket separation, etc. Do this often enough to make sure the hoisting equipment is safe.

DD Form 314 (Preventive Maintenance Schedule and Record) will be used to schedule load testing of all hoisting devices and accessory hoisting equipment.

DEFINITIONS

Load Testing. The use of a known weight, or load, to be imposed on hoisting equipment to verify the structural strength of the equipment in relation to the designed capacity of the equipment.

Proof Testing. The lifting of a specified, known weight (or load) to verify the structural soundness of certain items of test and handling equipment after major structural repair or replacement of one or more components which support the load.

Hoisting Equipment. All devices and equipment used to hoist and handle materiel, such as cranes, booms, tripods, A-frames, etc.

Accessory Hoisting Equipment. Equipment not permanently attached to hoisting devices, such as slings, lifting beams, spreader bars, etc.

Rated Capacity. The load that can be safely imposed on a load bearing device without reducing the designed structural strength of the device. It is the maximum safe working load.

LOAD TESTING IS A PART OF SAFETY

A VISUAL INSPECTION SHOULD BE MADE

**DETERMINE IF
EQUIPMENT IS SAFE
FOR FIELD USE**

PURPOSE

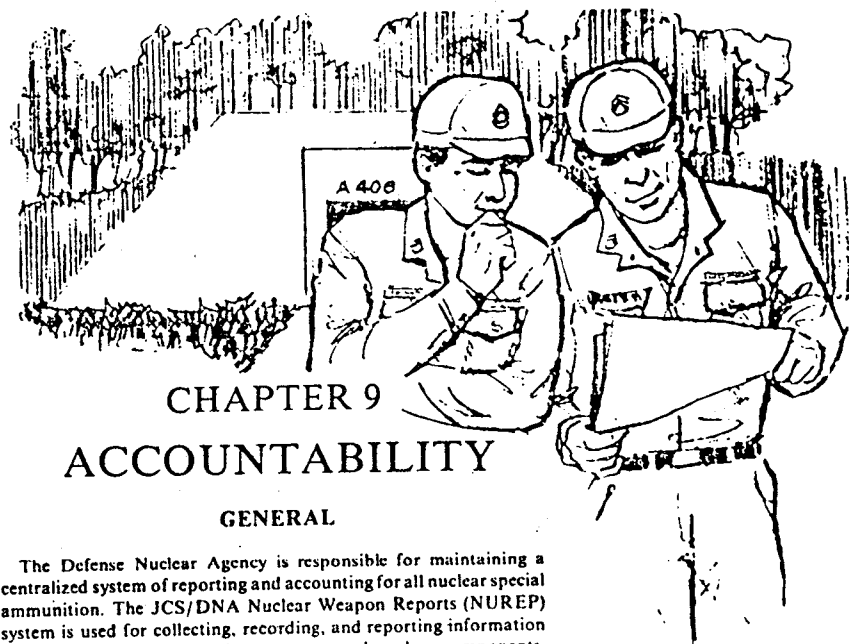
Load testing or proof testing consists of following prescribed procedures for conducting tests to determine if the equipment is structurally sound, in some cases properly aligned, and satisfactory for safe field use.

OPERATION

Ordnance units provide load testing/proof testing service to supported units based on local directives and TB requirements. Using units should coordinate their load test/proof test requirements with their supporting ordnance unit. (Load testing is not performed by ATST calibration personnel.)

Each piece of hoisting equipment requiring ordnance support will be:

- Load/proof tested using a properly filled out DA Form 2407 (Maintenance Request) submitted by the using unit.
- Load tested at intervals prescribed in the equipment TMs or when equipment is modified or repaired in any manner that might affect its strength or lifting capability.



**CHAPTER 9
ACCOUNTABILITY**

GENERAL

The Defense Nuclear Agency is responsible for maintaining a centralized system of reporting and accounting for all nuclear special ammunition. The JCS/DNA Nuclear Weapon Reports (NUREP) system is used for collecting, recording, and reporting information on the status of all US nuclear weapons and nuclear components. The NUREP system will be described in more detail later in this chapter. Procedures for submitting reports are contained in JCS Pub 6, Vol II, Part 4. Hereafter, all references to JCS Pub 6, Vol II, Part 4, will be shortened to JCS Pub 6 and are intended to reference Vol II, Part 4.

All commands responsible for storage and physical security of nuclear weapons, nuclear components, and limited life components (L.L.C.) will maintain accountability for these items according to AR 700-65, AR 710-2, and TM 39-100-4. Use AR 710-2 to account for other nuclear weapons materiel. Classified portions of the accountable records will be maintained as separate sections or annexes and must be safeguarded according to appropriate security regulations.

During wartime, accountability remains with the ordnance unit and custody only is transferred to the using units. In peacetime, accountability will be established at each Army activity which stores nuclear weapons, nuclear components, and L.L.C.s. The term "activity" includes depots, battalions, companies, and/or batteries (or equal organization level). The appropriate commander will appoint an accountable officer, in writing, at each activity. If the accountable officer also performs custodial duties, the appointment orders will so state.

**ALL COMMANDS WILL
MAINTAIN
ACCOUNTABILITY**

- **Date-time group.** Date and time of transaction.
- **Voucher number.** Identification of document causing transaction. If voucher number is not available (such as in destroyed ammunition), enter the OCR (operational change report) number reporting the transaction or the number of the appropriate entry in the activity's daily staff journal.
- **Initial stockage.** Number of items an activity had in its physical possession at the start of a particular operation or at activation of the particular site. This figure will remain constant for the operation or until otherwise directed by higher headquarters.
- **Due-in.** Items scheduled to arrive in an activity. This is not a cumulative number, but will reflect the number of items due in at the time of the entry.
- **Received.** Items that are received in an activity. This number will be cumulative.
- **Turned-in Serviceable.** An entry in this column will add to the serviceable column. This number will be cumulative.
- **Due-out.** Items scheduled for issue or transfer to another activity. Items are removed from this status when placed in transit. This is not a cumulative number, but will reflect the number of items due out at the time of the entry.
- **Lost.** Items lost due to enemy action or accidentally or intentionally destroyed. This number is cumulative.
- **Expended.** Number of rounds fired. This column is included on the card so that it may be adopted for use by firing units or be used in a theater where there is a requirement for expenditures to be reported by the supporting SASP for the firing unit. This number is cumulative.
- **Issued.** Number of items issued by a supply installation. This number will be cumulative.
- **Evacuated unserviceable.** An entry in this column will subtract from the unserviceable column. This number will be cumulative.

• **Unserviceable.** Number of items that are in an unserviceable condition. This is not a cumulative number, but will reflect the number of items unserviceable at the time of the entry. The turn-in or evacuation of an unserviceable item poses special problems in keeping the status cards accurate. Accordingly the following rules apply:

Turn-in. Enter the item as a received item and as an unserviceable item.

Evacuation. Enter the item as evacuated unserviceable and subtract it from the unserviceable column.

Repair. Enter this item in the serviceable column and delete it from the unserviceable column.

• **Serviceable.** The number of items that are in a serviceable condition. This is not a cumulative number, but will show the number of items serviceable at the time of the entry.

POSES SPECIAL PROBLEMS

• **Total on hand.** This column shows the total number of items for which a unit is responsible. The number will vary as items are received, issued, or lost.

On the right-hand side of the card, columns have been provided so that allocation data may be maintained. The columns should be labeled to show the allocations of each control headquarters that the supply installation supports.

When completed, the stock status card will be appropriately classified.

To help verify the accuracy of the status cards, the following rules will apply:

- **Initial Stockage + received + turned in serviceable - lost - issued - evacuated unserviceable = total on hand.**
- **Unserviceable + serviceable = total on hand.**
- **The sum of the allocation columns = total on hand.**

STOCK STATUS BOARD

A stock status board is a chart that may be used as an aid to maintain the stock status of nuclear special ammunition for reporting and control purposes. A stock status board may also be used to brief commanders and staffs on the status of nuclear weapons. A sample stock status board is shown in figure 13. Status board should be modified to meet the needs of the particular unit preparing the board. When filled in, the stock status board will be appropriately classified. The data used in posting the stock status board is taken from the stock status cards. The terms used to prepare stock status cards also apply to status boards. Stock status boards and stock status cards are generally not maintained during peacetime.

MAINTAIN FOR REPORTING AND CONTROL PURPOSES

		CLASSIFICATION																									
		STOCK STATUS AS OF _____																									
ITEM	CODE	SASD 900					SASP 901					SASP 902					SASP 903										
		INITIAL STOCKAGE	ON HAND	SVC	UN SVC	LOST	ISSUED	INITIAL STOCKAGE	ON HAND	SVC	UN SVC	LOST	ISSUED	INITIAL STOCKAGE	ON HAND	SVC	UN SVC	LOST	ISSUED	INITIAL STOCKAGE	ON HAND	SVC	UN SVC	LOST	ISSUED		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
* UNITS SHOULD BE CHANGED ACCORDING TO SUPPORT REQUIREMENTS. METHOD FOR BALANCING THIS STATUS BOARD IS AS FOLLOWS: A+B=C+D+E+F G+H=I+J+K+L M+N=O+P+Q+R S+T=U+V+W+X																											
		CLASSIFICATION																									

Figure 13. Sample Stock Status Board.

**SYSTEM IS FOR DATA
COLLECTIONS AND
REPORTING**

**IS FOR A 24-HOUR
PERIOD**

NUCLEAR WEAPON REPORTS (NUREP)

The JCS NUREP System is for multipurpose data collection and reporting. The system is maintained by Field Command, Defense Nuclear Agency (FC DNA). It supplies data for agencies responsible for research and development, production, maintenance, supply, and tactical command and control. The NUREP system collects information for and reports from two separate accounting systems or data files. The stockpile management accounting and reporting system (SMARS) data file is used to collect detailed data on each separate weapon and component, primarily for peacetime logistic support. The nuclear capability reports system (NUCARS) provides a summary of weapons during all defense readiness conditions (DEFCONs), primarily for command operations centers. Only NUCARS reports are submitted during DEFCONs 3, 2, and 1. The NUREP System consists of the OCR, semiannual inventory report (SIR), wartime/exercise/emergency reporting (OCR-EMERG), and stockpile emergency verification (SEV) procedures. Details concerning these reports and instructions for preparing and submitting them are contained in JCS Pub 6. Each report will be classified according to JCS Pub 6, appropriate ARs and TB 9-1100-811-40.

Operational Change Report (OCR). The OCR provides timely logistical and operational data regarding reportable items. An OCR is submitted once each day if one or more reportable changes have taken place during DEFCONs 4 and 5. It is prepared for a 24-hour period and includes all reportable changes occurring during the previous 24-hour period at the reporting location. The OCR is used to report weapon and component changes by serial number. There are three possible ways that an OCR may be prepared and submitted:

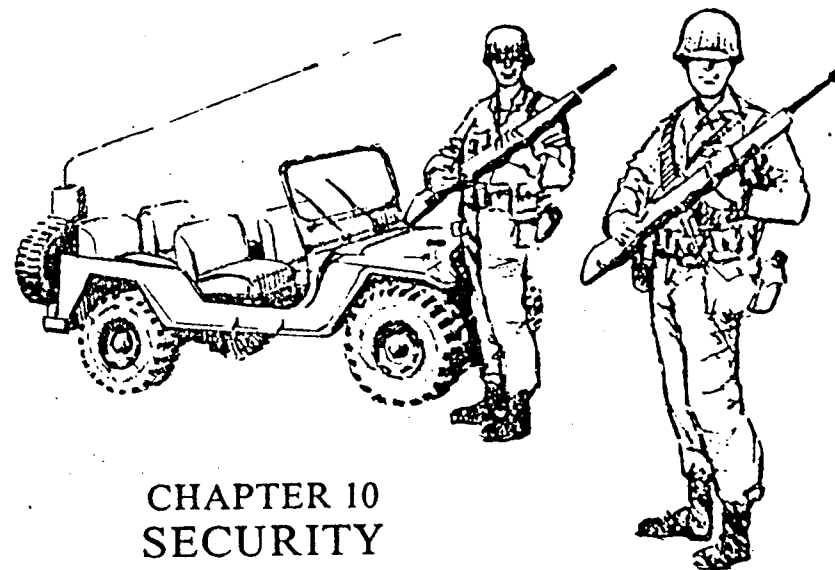
- Units having access to secure automatic digital network (AUTODIN) should use card input.
- If card punch equipment is not available, the unit should submit a formatted teletype message on DD Form 173 (Joint Messageform).
- If secure communications facilities are not available, the unit should submit a narrative OCR using DD Form 173. This type of message must be encrypted before transmission.

Semiannual Inventory Report (SIR). The SIR is used to reconcile FC DNA, DOD, Army, unified/specified command, and reporting unit records based on a physical inventory at each reporting location. The SIR includes an inventory of the same items reported on the OCR and provides a record copy of the inventory. All DOD reporting units having custody of war reserve (WR) nuclear weapons or military service special design items (MSSDI) are required to conduct a complete physical inventory and submit a SIR even if no change has occurred since the previous SIR. The semiannual inventory will be conducted as directed. The SIR will be submitted by AUTODIN using punch cards, courier, or registered airmail.

Wartime/Exercise/Emergency Reporting (OCR-EMERG). During DEFCON 3, 2, 1, the OCR-EMERG report is submitted twice daily when a reportable change occurs during the 12-hour reporting period. The OCR-EMERG contains only summary data. Peacetime reportable weapon or component changes by serial number will be accumulated at the reporting location for submission upon return to DEFCON 4 or 5. OCR-EMERG will be submitted using the same communication channels used for peacetime reporting. In the event of nonavailability of AUTODIN, teletypewriters, or secure voice circuits during DEFCON 2 or 1, transmission of OCR-EMERG via insecure voice circuits to an intermediate command for further relay is permitted as specified in JCS Pub 6. Exercise OCR-EMERG reporting is used to simulate and test OCR-EMERG procedures. During an exercise, the requirement for peacetime reporting continues, and units will submit a peacetime OCR as reportable changes occur.

Stockpile Emergency Verification (SEV). The SEV procedure is used by the JCS to find the validity of a suspected loss or theft of nuclear special ammunition components. An SEV is conducted only when directed by JCS under JCS Pub 6.

**IS SUBMITTED TWICE
DAILY**



CHAPTER 10 SECURITY

GENERAL

Positive security measures must be taken at every level to deny the enemy information about nuclear special ammunition. A security program should be planned and followed so that all security measures complement and supplement each other. The security program must consider the mission; the importance and vulnerability of materiel, information, and personnel; the integration of security with operating, maintenance, and other requirements; the environment (physical, political, and legal); and the security risks or threat. After the security program is set up, it must be continually analyzed to insure effective and adequate security.

A sound security program must cover physical security, personnel security and security clearances, OPSEC, signal security, and information control. Security measures, including organization and use of security forces, must be completely integrated with overall unit defense plans. The security program will be jointly developed by the commander of the security forces, the commander of the ordnance company, and the security manager.

Security must be applied to all phases of requisition, receipt, issue, storage, maintenance, and shipment of nuclear special ammunition. These measures should include: rigid and correct accounting and control for all classified information and materiel, a positive system of checking security clearances of personnel, and aggressively using the Army policy of granting access to classified information or materiel only on a strict "need-to-know" basis.

**MUST BE
CONTINUALLY
ANALYZED**

**EMPLOY MUTUALLY
SUPPORTING
ELEMENTS**

**SHOULD NOT MAKE
SITES OBVIOUS**

Security regulations for the safeguarding of classified materiel and documents are in ARs 380-5, 380-15, 380-20, and 380-150. High security classifications and restricted data controls apply to many of the special ammunition items and related literature. Standards, requirements, and guidance for installation physical security are contained in AR 50-5-1, AR 190-13, FM 19-30, and FM 100-50.

PHYSICAL SECURITY

Physical security of fixed installations must be organized in depth and employ mutually supporting elements. Examples of mutually supporting physical security measures include:

- Perimeter barriers.
- Clear zones.
- Protective lighting.
- Entry control facilities.
- Intrusion detection devices.
- Warning systems.
- Perimeter defensive positions (if appropriate).

During field operations, security measures for administrative areas, storage areas, and lines of communication are essential for uninterrupted logistical support. Maximum use of passive security measures should be a matter of policy for special ammunition units. Local security features should not make ammunition sites obvious. Overall security plans should be made in early planning so that security measures work well with operational requirements.

SECURITY CLEARANCES

Special care will be taken at all levels in selecting personnel for assignment to nuclear special ammunition units. Close attention will be paid to their loyalty, integrity, and trustworthiness. As a general guide, security clearances will be equal to the classification of the materiel concerned. They will be obtained by following the procedures in AR 604-5.

All units with a nuclear special ammunition mission must meet the requirements set forth in AR 50-5 for selection, retention, and clearance of personnel in nuclear duty positions, or in command/control positions, as applicable.

All nuclear special ammunition unit officers must have at least a SECRET security clearance (TOP SECRET is recommended). All courier officers who accompany shipments of nuclear special ammunition must have a security clearance equal to or higher than the classification of the materiel being escorted.

PERSONNEL SECURITY

A positive personnel movement control system must be set up and maintained to prevent unauthorized entry and to aid authorized entry at personnel control points. This system should include the following:

- Access lists.
- Personal recognition.
- Security identification cards/badges.
- Badge exchange procedures.
- Personnel escorts.
- Two-man rule.
- Visitor procedures.

Security plans established by the commander should contain at least the following:

- Access to security areas based upon possession of the required security clearance and need-to-know.
- Nuclear duty positions identified, designated as critical or controlled, and listed on a nuclear duty position roster (NDPR) according to AR 50-5. The commander may waive this procedure during combat.

All personnel assigned to nuclear duty positions must have the security clearances shown in AR 50-5 and be accepted in the personnel reliability program (PRP).

Installation commanders will appoint security officers who must review records of new personnel and visitors. Security clearances of visitors and new personnel will be verified IAW AR 604-5 and local directives. Visitors will be positively identified. Personnel who do not have a prior clearance or who lack clearance of an adequate degree will be processed for security clearance according to AR 604-5 and local directives.

SECURITY INSPECTIONS

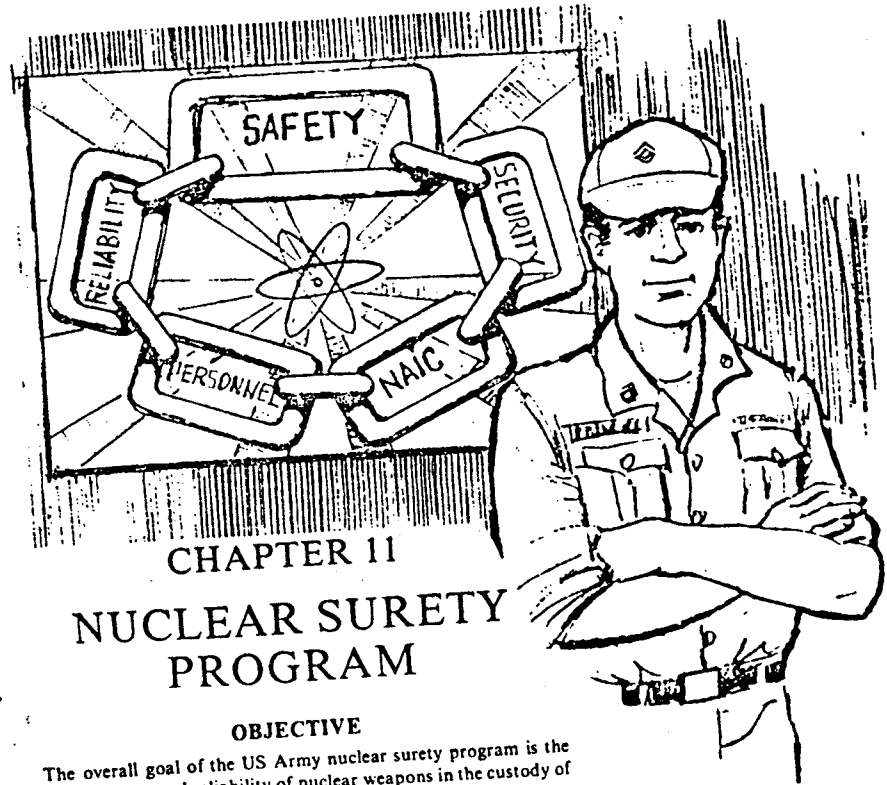
Responsible commanders will conduct physical security inspections of installations to insure that security measures and procedures are adequate and are being followed. These inspections will include thorough reconnaissance, study, and analysis of the installation and its operation so that all security hazards or deficiencies may be noted and corrected. Inspections should be conducted as often as required by established security regulations and procedures.

MILITARY INTELLIGENCE (MI) LIAISON

An active program of liaison and cooperation with local MI units is essential to an effective security program. The MI units can warn the company commander of the presence of known or suspected enemy agents in the area. It can also identify local activities or businesses that are used, or suspected of being used, as a cover for enemy agents. Additionally, the MI units can assist the company

**ALL PERSONNEL MUST
HAVE SECURITY
CLEARANCES**

commander by pointing out weaknesses in the local security program, expediting security clearance investigations, orienting personnel on security hazards, and conducting investigations of security violations. All personnel must be trained to report any attempt by unauthorized personnel to obtain information having intelligence value.



CHAPTER 11 NUCLEAR SURETY PROGRAM

OBJECTIVE

The overall goal of the US Army nuclear surety program is the safety, security, and reliability of nuclear weapons in the custody of the US Army. The program is designed to assure:

- That nuclear weapons are maintained in a safe, secure environment.
- That no inadvertent or deliberate acts occur to degrade weapon performance at the target.

The policies and procedures for the US Army nuclear surety program are published in AR 50-5 and AR 50-5-1.

CONCEPTS

Meeting surety objectives requires a wide variety of Army functions and activities working together. This must be done within existing command and staff structures and must meet operational requirements. Further essentials include command emphasis to avoid complacency, coordination across functional and command lines, and a clear line of communication to assure prompt and effective action.

**REQUIRES WORKING
TOGETHER**

**MUST BE PART OF
DAILY OPERATIONS**

The nuclear surety program includes:

- Close command supervision and coordination from weapon design to weapon expenditure or retirement.
- Nuclear and explosive safety, including strict compliance with all approved safety rules; although in an emergency, a commander may deviate from specific rules.
- Physical security of nuclear weapons, equipment, and documents against unauthorized access.
- Personnel reliability and security clearances.
- Logistics, from the procurement stage through final disposal.
- Operating procedures related to safety, security, or reliability.
- Nuclear accident and incident control.

The nuclear surety program must be organized as an integral part of daily operations.

FM 100-50, along with procedures issued by DA and the appropriate US Army major command, states the requirements and procedures necessary in a tactical environment.

PERSONNEL RELIABILITY PROGRAM

The most important factors in providing a safe and secure environment for nuclear weapons are the reliability and qualification of the people who have custody of the weapons. Reliable personnel are those whose mental, emotional, and physical health; behavior; and duty performance indicate that they can perform in a consistent and predictable manner. Qualified personnel are those whose training, experience, technical proficiency, and security clearance are equal to the duties to be performed.

The personnel reliability program (PRP) is designed to make sure that only reliable and qualified personnel perform operations involving nuclear weapons. The PRP serves to identify nuclear duty positions and to assess the reliability of individuals before and during such assignment.

The PRP consists of these major elements:

- Screening and evaluation.
- Personnel security investigation (PSI).
- Nuclear duty training.

The immediate commander is ultimately responsible for administering the PRP. AR 50-5 specifies the policies and procedures for the PRP.

Units should be in the best possible PRP posture before hostilities occur. However, in certain combat situations, the PRP may prove to be impractical, although the principles will continue to apply. The commander may waive administrative procedures of the PRP

(including NDPR) in combat. Necessary action must be taken, consistent with good judgment, to fulfill mission responsibilities with available manpower resources.

**NUCLEAR ACCIDENT AND
INCIDENT CONTROL (NAIC)****Explanation of terms.**

• **Nuclear weapon accident and incident.** Any unplanned or unauthorized event involving a nuclear weapon. The event may result in an actual or potential hazard to life or property, or may result in adverse public reaction. (See AR 50-5 for a more complete explanation of nuclear accident, significant incident, and minor incident.)

• **On-scene commander.** A general officer, knowledgeable of nuclear weapons, who commands emergency forces and supervises all operations at the scene of a nuclear weapon accident.

• **Nuclear accident and incident control officer (NAICO).** An officer (preferably field grade) designated by the commander who is responsible for NAIC to represent him at the scene of a nuclear weapon accident or significant nuclear weapon incident. The NAICO will act as on-scene commander during the absence of the appointed on-scene commander.

• **Joint Nuclear Accident Coordination Center (JNACC).** The JNACC is a combined DNA and DOE central agency. It exchanges and maintains information on radiological assistance capabilities and coordinates assistance activities, when called upon, for accidents involving radioactive materials.

• **Objectives of NAIC** are, in the event of an accident or incident involving nuclear weapons, to:

- Minimize loss of life, personal injury, hazardous effects, and destruction of property.
- Secure classified materiel.
- Maintain public confidence in the ability of the Army to handle nuclear materiel and respond to an accident or incident if necessary.
- Insure the prompt submission of accurate reports regarding nuclear accidents and incidents using AR 385-40.

Responsibilities for nuclear accident and incident control are specified in AR 50-5. General guidelines for determining primary command NAIC responsibility are as follows:

• The service or agency (DOE) in physical possession of the nuclear weapon or component at the time of the accident/incident will have primary command NAIC responsibility at the scene.

• The Army assumes primary command NAIC responsibility for any accident which the President of the U.S. declares to be a disaster or emergency.

**EXCHANGES AND
MAINTAINS
INFORMATION**

- Overseas: Army component commanders have NAIC responsibility for accidents or incidents on foreign territory except when otherwise directed by the commander of the unified or specified command.

Program Elements. The damage and psychological impact caused by a nuclear accident or significant incident require that such events be brought under control as soon as possible. The essential elements needed to do this include:

- **Directives.** Major Army commands will develop directives to identify responsibilities.

- **Planning.** NAIC planning will provide for:

The qualifications and method of appointment of the on scene commander and NAICOs.

Technical, logistical, and administrative support for the on scene commander and NAICOs.

Emergency teams.

Transportation sources and priorities.

Procedures for alerting, reporting, and executing emergency measures.

Initial and refresher training of all persons involved.

- **NAIC SOP.** A command plan or SOP for nuclear accident/incident control must be prepared by organizations that are involved with nuclear weapons or NAIC emergency operations. This plan or SOP must provide plans for rehearsals and tests (AR 50-5). Major Army commanders will periodically monitor these rehearsals and tests.

NAIC procedures are in AR 50-5 and FM 3-15. Each nuclear unit must be prepared to use emergency measures in the event of a nuclear accident or incident and should include them in the unit SOP. Guidelines for NAIC in a combat environment are provided in FM 100-50.

Observers. Agreements with the DOE and the military services provide for a limited number of observers on a reciprocal basis at the scene of a nuclear accident. The objective of having observers is to take maximum advantage of any accident experience to prevent repetition of operational errors. Army component commanders outside CONUS will establish a policy for handling US and allied nation observers in accordance with guidance provided by the commander of the unified or specified command.

Release of information. Normally, the presence of nuclear weapons or nuclear components will be neither confirmed nor denied. In any accident or incident involving a nuclear weapon, however, official confirmation of the presence of the weapon may be made when it will have significant value in conjunction with public safety or will serve to reduce or prevent widespread public alarm.

Official confirmation and a statement of reassurance may be needed if the situation requires evacuation of personnel, or if it involves use of a radiation team or other unusual activity which may be seen by the general public.

The courier or NAICO will have available and may issue copies of news releases to quiet public alarm or to contribute to public safety. (Examples are in AR 360-5.) This policy may be modified to conform to the requirements of host nations in oversea areas.

Information released in foreign countries will be with the concurrence of the chief of the US diplomatic mission and will conform to any agreement between the US and the host nation.

Investigation. Army nuclear weapons accidents will be investigated by the US Army nuclear weapon accident investigation board (CONUS) or by a similar board appointed by the responsible major commander (overseas). The purpose of such investigations is to develop information and recommendations to prevent a like occurrence somewhere else.

**REASSURANCE MAY
BE NEEDED**

**MUST BE PREPARED TO
USE EMERGENCY
MEASURES**



CHAPTER 12 SAFETY

RESPONSIBILITY FOR SAFETY

The commander is ultimately responsible for safety. It is important that the same active and aggressive leadership be taken in safety as is exercised in other phases of command responsibility. The commander must make sure that adequate safety provisions are included in all plans and SOPs. The commander should appoint a safety officer and organize a safety council made up of the technical supervisory personnel of the unit. For additional information see AR 385-10, TM 9-1300-206, and TM 39-20 series manuals.

HAZARDS

The safety hazards associated with nuclear special ammunition include fire, explosion, and radiation. While nuclear weapons are also susceptible to electromagnetic radiation (EMR) and lightning, fire remains the principal hazard to stored nuclear special ammunition.

**FIRE REMAINS THE
PRINCIPAL HAZARD**

MISSILE PROPELLANT HAZARDS

Various liquids, gases, and solids used to propel long range rockets and missiles possess inherent fire, explosion, and toxic hazards. Such hazards, along with the increasing quantities being used, have made it necessary to set safety standards for propellant handling and storage. The physical and chemical properties of fuels and oxidizers give some indication of their hazards. Some are highly flammable liquids which burn intensely. Once a container is ruptured, the fire spreads rapidly. Under certain conditions, these liquids may give off large quantities of flammable or toxic gas or vapor which may become explosive and thus present special fire protection problems.

**FIRE SPREADS
RAPIDLY**

PRESENT SPECIAL PROBLEMS

Other propellants are compressed or liquefied gases, stored under pressure, which present special problems through release of large quantities of flammable or toxic gases. Still others may be considered an explosive. To provide reasonable safety in storage, QD limits have been set for various products. These standards, along with specific storage and handling procedures, can be found in the applicable system manuals.

FIRE FIGHTING

A complete, simple fire fighting SOP must be prepared for special ammunition supply installations. The SOP should be divided into two parts:

- The prevention of fire.
- The event of fire.

All personnel must be thoroughly familiar with their own fire stations and the proper way to give the alarm. They must be thoroughly trained in preventing, reporting, and extinguishing fires in accordance with the SOP and with approved methods of extinguishing ammunition fires of various types. TM 5-315 and TB 385-2 are guides for fire prevention and fire fighting involving nuclear weapons. Use TM 39-20-11 for information about fire fighting procedures for nuclear weapons and nuclear components.

EXPLOSIVE SAFETY

The high explosive (HE) contained in certain nuclear weapons creates a major hazard in a nuclear weapon accident. QD requirements in TM 9-1300-206 apply to the HE and propellants in nuclear special ammunition. These same requirements apply to the storage and handling of other related explosive material including propellant charges and emergency destruction materials.

NUCLEAR RADIATION

Nuclear weapons incorporate maximum safety features along with operational requirements. They are "one-point" safe, which means that if the HE is initiated at any one point, by any means, the detonation will not produce a significant nuclear yield. However, if a nuclear weapon is subject to a fire, HE explosion, or other accident/incident, it may result in a partial nuclear yield producing a radiation hazard. Plutonium safety requirements for nuclear weapons are in TM 39-20-7 (Nuclear Safety Criteria).

ELECTROMAGNETIC RADIATION (EMR)

EMR can degrade weapon reliability, cause site security systems to malfunction, and damage weapon circuitry and/or communications equipment. Responsibilities for the control of EMR hazards to nuclear weapons and ancillary systems are in AR 50-5. EMR safety requirements and control procedures are in TB 43-0202.

**THEY ARE
"ONE-POINT" SAFE**

SAFETY CLOTHING AND EQUIPMENT

Adequate protective clothing and equipment will be worn as specified by the commander. The use of required safety items will be enforced (AR 385-32, TM 10-277, FM 21-40).

SAFE HANDLING PRACTICES

Ammunition and explosives will be handled under the direct supervision of a competent person who thoroughly understands the hazards and risks involved. Ammunition can be rendered unserviceable and in many instances unsafe by rough treatment in handling. Ammunition containing electronic components can be easily damaged. Electronic components can be damaged so that a weapon or missile fails to check out electrically.

ELECTRICAL SAFETY

Electrical and electronic components are present in most guided missiles and nuclear weapons. Personnel dealing with these items must be completely familiar with electrical safety rules. Each individual is responsible for following electrical safety rules. Electrical safety considerations are in TB 385-4, TM 39-35-51, and applicable systems TMs.

**EACH INDIVIDUAL
IS RESPONSIBLE**

SAFE HANDLING OF HIGH-PRESSURE AIR/GAS

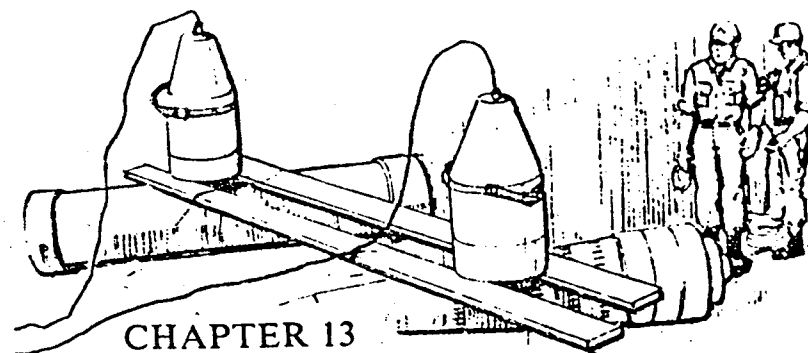
Many maintenance operations (pressurization and purging) involve high-pressure air/gas equipment. The company commander is responsible for the enforcement of safety rules related to high-pressure equipment. Each individual is responsible for observing pertinent safety rules and precautions. Specific procedures and requirements for the safe handling and use of high-pressure air/gas are prescribed in appropriate TMs, TBs and MILSIDs.

STANDING OPERATING PROCEDURES (SOP)

Before starting any operation involving conventional or special ammunition, an adequate SOP will be developed and approved by the commanding officer of the activity. This should include, as a minimum, such items as safety requirements, personnel, explosive limits, equipment designation, fire fighting, location of operations, and special instructions. No deviation from this SOP should be permitted without the approval of the commanding officer. Technical operations will be performed using procedures in the appropriate TM or TB.

ACCIDENT REPORTING

A critical element of any safety program is that accidents be reported at every level of command. Only through such reports can the causes and factors of accidents be identified and corrected. Prompt reporting of each accident is essential. For details on accident reporting, see AR 50-5, 485-40, and 385-14 and area NAIC plans.



CHAPTER 13 EMERGENCY DESTRUCTION

GENERAL

Emergency destruction (ED) of nuclear special ammunition may be required to prevent its capture and possible use by the enemy. Destruction of nuclear weapons is a command decision. During wartime, it will be ordered only when, in the judgment of the commander or senior individual concerned, such action is necessary in accordance with established policy or orders. During peacetime, destruction of nuclear weapons may only be ordered by the major commander.

The conditions under which nuclear special ammunition will be destroyed depend on many factors. These include the tactical situation; the security classification of the weapon; the quantity, type, and location of the weapons; destruction facilities, and time. ED is mandatory when:

- The unit or position is about to be overrun.
- The unit is unable to evacuate a part or all of its nuclear stocks during a withdrawal.
- The SASP/FSL is threatened by a major penetration, a vertical envelopment, or a major attack by guerilla or underground forces.

During wartime, ED may directed by higher headquarters or, based on the situation, may be executed at the discretion of the immediate commander or the senior survivor. Except in the most unusual circumstances, ED of larger stocks in rear areas will be done only on order from the major commander concerned. Any ED order originating outside of the unit having custody of the weapons or materiel to be destroyed will be authenticated according to emergency action procedures (EAP).

**IS A COMMAND
DECISION**

DESTROY QUICKLY**PLANNING**

Each commander must insure that adequate material and properly trained personnel are available to quickly destroy all nuclear special ammunition in the command. ED plans will be prepared in detail and included in the unit SOP.

The SOP will specify:

- The amount of ED material to be on hand at all times.
- How and where ED material will be carried during movement.
- How and where ED material will be stored with reference to the unit FSL, SASP, or major storage area.
- Who in the unit is authorized to order ED and how the order will be disseminated.
- Which unit personnel will execute the ED order.
- How ED will be coordinated with other emergency operations (e.g., local defense, withdrawal, evacuation, and destruction of other classified or major items of equipment).

REFERENCES

Emergency destruction of all nuclear weapons will be performed according to TM 39-50-8, (Emergency Destruction of Nuclear Weapons). Destruction procedures for each type of nuclear weapon are outlined in detail in the system peculiar 20-series TM, TM 9-1375-213-12, TM 9-1300-206, and FM 5-25 contain general information on ED materials.

**APPENDIX A
REFERENCES****ARMY REGULATIONS (AR)**

15-22	Nuclear Weapon Accident Investigation Board (CONUS)
20-1	Inspector General Activities and Procedures
50-5	Nuclear Surety
50-5-1	Nuclear Surety (Classified Volume to AR 50-5) (U)
55-203	Movement of Nuclear Weapons, Nuclear Components, and Related Classified Nonnuclear Materiel
55-228	Transportation by Water of Explosives and Hazardous Cargo
59-2	Special Air Mission Procedure
59-8	Military Airlift Command - Requirement Submissions, Space Assignments and Allocations and Priorities
75-14	Interservice Responsibilities for Explosive Ordnance Disposal
75-15	Responsibilities and Procedures for Explosive Ordnance Disposal
95-27	Operational Procedures for Aircraft Carrying Dangerous Materials
190-11	Physical Security of Weapons, Ammunition, and Explosives
190-13	The Army Physical Security Program
220-1	Unit Status Reporting
220-58	Organization and Training for Nuclear Biological and Chemical Defense
310-25	Dictionary of United States Army Terms
310-50	Catalog of Abbreviations and Brevity Codes
340-16	Safeguarding "For Official Use Only" Information
360-5	Public Information
360-80	Release of Information When More Than One Service is Involved in Accidents or Incidents
380-5	Department of the Army Information Security Program Regulation
380-15	Safeguarding Classified NATO Information (U)
380-20	Restricted Areas
380-150	Access to and Dissemination of Restricted Data
385-10	Army Safety Program
385-14	Accident/Incident Report - Shipments of Conventional Explosives and Dangerous Articles by Commercial Carriers
385-30	Safety Color Code Markings and Signs
385-32	Protective Clothing and Equipment
385-40	Accident Reporting and Records
385-64	Ammunition and Explosives Safety Standards
530-1	Operations Security (OPSEC)

530-2	Communications Security (U)
530-3	Electronic Security (U)
530-4	Control of Compromising Emanations (U)
604-5	Clearance of Personnel for Access to Classified Defense Information and Material
604-10	Military Personnel Security Program
700-4	Logistic Assistance Program
700-22	Worldwide Ammunition Reporting System (WARS)
700-65	Nuclear Weapons and Nuclear Weapons Materiel
702-11	Army Quality Program
710-2	Material Management for Using Units, Support Units, and Installations
740-32	Responsibilities for Technical Escort of Dangerous Materials
750-1	Army Materiel Maintenance Concepts and Policies
750-25	Army Metrology and Calibration System
750-25-1	Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Repair Support Program
750-40	Missile Materiel Readiness Report

FIELD MANUALS (FM)

3-15	Nuclear Accident Contamination Control
3-87 (HTF)	Nuclear, Biological, and Chemical (NBC) Reconnaissance and Decontamination Operations
5-15	Field Fortifications
5-20	Camouflage
5-25	Explosives and Demolitions
9-6	Ammunition Service in the Theater of Operations
9-59	Unit Operations for Support of Missiles and Air Defense Gun Systems
19-30	Physical Security
21-40	NBC (Nuclear, Biological, and Chemical) Defense
29-2	Organizational Maintenance Operations
29-20	Maintenance Management in Theaters of Operations
29-25	Direct Exchange, Shop Supply and Operational Readiness Float Procedures
29-27	Calibration and Repair Service in the Theater of Operations
32-6	SIGSEC Techniques
32-9	ELSEC Techniques (U)
100-5 (HTF)	Operations
100-20	Low Intensity Conflict
100-50	Operations for Nuclear-Capable Units
101-10-3	Staff Officers' Field Manual: Organizational, Technical and Logistical Data - Classified Data (U)

TECHNICAL MANUALS (TM)

5-315	Firefighting and Rescue Procedures in Theaters of Operations
9-1300-206	Ammunition and Explosives Standards
9-1375-213-12	Operator's and Organizational Maintenance Manual (Including Repair Parts and Special Tool Lists): Demolition Materials.
10-277	Chemical Toxicological and Missile Fuel Handlers Protective Clothing
38-750	The Army Maintenance Management System (TAMMS)
39-0-1A	Numerical Index to Joint Nuclear Weapons Publications (Army Supplement)
39-20-7	Nuclear Safety Criteria (U)
39-20-11	General Fire Fighting Guidance (U)
39-35-7	Inspection Records
39-35-51	General Instructions Applicable to Nuclear Weapons
39-45-51	Transportation of Nuclear Weapons Materiel
39-50-8	Emergency Destruction of Nuclear Weapons (U)
39-100-1	Supply Management of Nuclear Weapon Materiel
39-100-2	Supply Management of Limited Life Components (U)
39-100-4	Custody, Accountability, and Control of Nuclear Weapons and Nuclear Materiel

TECHNICAL BULLETIN (TB)

1G-5	Inspector General Technical Proficiency and Reactor Facility Inspection
9-1100-803-15	Army Nuclear Weapons Equipment Records and Reporting Procedures (U)
9-1100-804-15	Fabrication and Operation of Test Weights and Fixtures for Use with Nuclear Ordnance Handling Equipment
9-1100-811-40	Security Classification of Nuclear Weapons Information (U)
43-0142	Safety Inspection and Testing of Lifting Devices
43-0202	Electromagnetic Radiation (EMR) Hazard Control (U)
43-180	Calibration Requirements for the Maintenance of Army Materiel
43-180-1	Calibration and Repair Requirements for the Maintenance of Army Materiel
43-181 Series	Calibration Workload Requirements in Tables of Organization and Equipment (TOE) and Sets, Kits and Outfits
43-182 Series	Calibration Workload Requirements in Unit Identification Codes (UIC)
385-2	Nuclear Weapons Fire Fighting Procedures
385-4	Safety Precautions for Maintenance of Electrical/Electronic Equipment
742-94-1	Surveillance Inspection Procedures for Nuclear Weapons
750-25	Maintenance of Supplies and Equipment: Army Metrology and Calibration System
750-25-1	Maintenance of Supplies and Equipment: Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Repair Support Program
750-26	Calibration and Certification of Nuclear Weapons Test Measurement and Diagnostic Equipment

MISCELLANEOUS PUBLICATIONS

JCS Pub 6, Vol II Part 4	Nuclear Weapon Reports (NUREP) (U)
JCS Pub 13, Vol I	Policy and Procedures Governing the Authentication and Safeguarding of Nuclear Control Orders (U)
JCS Pub 13, Vol II	Policy and Procedures Governing the Permissive Action Link/Coded Switch Cipher System (U)
SB 742-1	Ammunition Surveillance Procedures
ARTEP 9-47	Special Ammunition Unit Operations
TC 21-5-7	Training Management in Battalions

FORMS

DA Form 581	Request for Issue and Turn-in of Ammunition
DA Form 1296	Stock Accounting Record
DA Form 1297	Title Insert (Formal Accountability)
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2402	Exchange Tag
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Form 2405	Maintenance Request Register
DA Form 2407	Maintenance Request
DA Form 2408-14	Uncorrected Fault Record
DA Form 2409	Equipment Maintenance Log
DA Form 2416	Calibration Data Card
DA Form 2417	US Army Calibration System Rejected Instrument
DA Form 2765-1	Request for Issue or Turn-in
DA Form 3649-R	Special Ammunition Stock Status Card
DA Form 3746-R	Item Data Card
DA Label 80	US Army Calibrated Instrument
DD Form 173	Joint Message Form
DD Form 314	Preventive Maintenance Schedule and Record
DD Form 626	Motor Vehicle Inspection
DD Form 836	Special Instructions for Motor Vehicle Drivers
DD Form 1150	Request for Issue or Turn-in
DD Form 1348-1	DOD Single Line Item Release/Receipt Document
DD Form 1387-2	Special Handling Data/Certification
DD Form 1911	Materiel Courier Receipt
SC 5700-A	Pressure Test Record*
SF 5700-IRA	Inspection Record Card*

*Refer to TM 39-35-7

APPENDIX B

DUTIES AND RESPONSIBILITIES OF KEY PERSONNEL

This appendix outlines the principal duties and responsibilities of key personnel of the nuclear special ammunition company as they affect the primary mission of the company. This list is intended to be all inclusive, and additional duties are specified by the company commander required.

COMPANY HEADQUARTERS

Company Commander. Responsible for the command, control, and technical direction of individuals and elements of the company. Directs company administration; establishes policies, and procedures; and supervises all activities required for the unit mission. Makes reconnaissance of proposed field sites for deployment and recommends SASP locations to higher headquarters.

Executive Officer. Serves as second in command of the company in the nondispersed mode. Responsible for insuring that the commander's policies are carried out and renders decisions on matters within the commander's stated policies. Serves as the commander of the ESI in the dispersed mode.

First Sergeant. Serves as the principal enlisted assistant to the company commander. Supervises personnel and administrative functions of the company to include the preparation of rosters, schedules, reports, correspondence, orders, and other military matters.

QA/QC SECTION

QA/QC Officer. Directly responsible to the company commander for the quality program. Supervises the planning, directing, executing, and reporting on inspection, surveillance, and QA activities required by the unit's supply and maintenance operations.

OPERATIONS SECTION

Operations Officer. Responsible to the company commander for the effective management of mission operations. Supervises and coordinates the mission elements of the company and monitors the stock control activities of the unit. Prepares and supervises the execution of required mission-related plans, programs, policies, and schedules. Operational control of the MP security company is normally delegated to the operations officer for day-to-day business.

Signal/COMSEC Officer. Coordinates and directs the communications and communications security activities of the unit. Advises the commander on communications and communications security techniques and procedures, and prepares signal operating instructions. Coordinates communications requirements with appropriate communication center(s) supporting unit operations.

Maintenance Management Officer. Responsible for maintaining, scheduling, posting, and being in control of accountable records and documents to include stock locator records, controlled serial number items, maintenance due dates, controlled limited life component expiration dates, retrofit and MV records, item data cards, operational change reports, and inventory reports. Coordinates MV movements, maintenance, technical assistance visits to supported units, and escort requirements.

MAINTENANCE AND SERVICE PLATOON

Platoon Leader. Provides the necessary command, control, and supervision over all sections of the platoon. Assigns and coordinates services and directs the organizational maintenance of organic unit equipment. Serves as the motor officer.

Automotive Maintenance Technician. Serves as the chief of the organizational maintenance section and assists the motor officer in the operation of the motor pool. Provides advice, expertise, and assistance relative to vehicle and MHE maintenance. Monitors the status of such maintenance and coordinates the preparation of required records and reports.

Service Section Chief. Supervises the operations of the service section. Coordinates with other unit elements to insure the timely provision of engineer equipment, pooled vehicles, specialized equipment, operators, drivers, metal workers, and welders necessary to support unit operations.

NUCLEAR WEAPONS MAINTENANCE PLATOON

Platoon Leader. Provides the necessary command, control, and supervision over all sections of the platoon. Directs the activities of the nuclear weapons maintenance and calibration sections, establishes policies and procedures, and coordinates as required with applicable internal and external elements. Coordinates the use of resources and monitors productivity.

Shop Officer. Implements established shop policies and procedures relative to DS/GS maintenance for nuclear special ammunition, associated test and handling equipment, and training weapons; to include calibration. Responsible for shop layout, repair techniques, and procedures to promote productivity while maintaining quality standards.

Nuclear Weapons Technicians (Nuclear Weapons Maintenance Section). Serve as team leaders of maintenance and technical assistance teams. The senior technician also serves as the chief of the nuclear weapons maintenance section in the nondispersed mode. Direct maintenance activities and prepare and submit required reports.

Nuclear Weapons Technician (Calibration Section). Serves as the chief of the calibration section. Supervises inspection, test, repair, and maintenance of electrical and electronic components, test equipment, electronic or electrical training equipment, and associated test and handling equipment. Supervises calibration of required items of equipment. Prepares and submits required reports.

STORAGE AND ISSUE PLATOONS

Platoon Leaders. Provide the necessary command, control, and supervision over the platoon. Direct the storage and issue activities and are responsible for policies and procedures relative to receipt, storage, issue, and vehicle loading of nuclear weapons and components. Coordinate the use of resources and monitor results. Serve as SASP commanders in the dispersed mode.

TECHNICAL SUPPLY SECTION

Technical Supply Officer. Serves as chief of the technical supply section. Responsible for technical direction of the section, which provides repair parts for shop stock and direct exchange services. Provides supply advice, expertise, and assistance to internal and external elements as required. Monitors supply operations and coordinates the preparation of required records and reports.

APPENDIX C ABBREVIATIONS AND ACRONYM

ACL	Area calibration laboratory
ACRC	Area calibration and repair center
AD	Air defense
ADP	Automatic data processing
AMCC	Army metrology and calibration center
ASL	Army standards laboratory
ATST	Area TMDE support team
AUTODIN	Automatic digital network
AVIM	Aviation intermediate maintenance
AR	Army regulation
CBU	Calibrate before use
COMMZ	Communications zone
COMSEC	Communications security
CONUS	Continental United States
COSCOM	Corps support command
CTOC	Corps tactical operations center
CRC	Calibration and repair center
DCSLOG	Deputy Chief of Staff for Logistics
DEFCON	Defense readiness condition
DNSI	Defense nuclear surety inspection
DODAC	Department of Defense ammunition code
DOE	Department of Energy
DS	Direct support
DX	Direct exchange
EAP	Emergency action procedures
ECP	Entry control point
ED	Emergency destruction
EIR	Equipment improvement recommendation
EMI	Equipment maintenance log
EMP	Electromagnetic pulse
EMR	Electromagnetic radiation
FA	Field artillery
FCDNA	Field Command, Defense Nuclear Agency
FM	Frequency modulation; field manual
FSL	Field storage location

Appendix C

FTX Field training exercise
 GS General support
 HE High explosive
 IFR Instrument flight rules
 IRC Inspection record card
 JCS Joint Chiefs of Staff
 JNACC Joint nuclear accident coordinating center
 LC Land combat
 LLC Limited life component
 LOC Logistics operations center
 LP Listening post
 LSM Logistics system manager
 LZ Landing zone
 MAC Military Airlift Command
 MHE Materials handling equipment
 MMC Materiel management center
 MP Military police
 MST Maintenance support team
 NAICO Nuclear accident and incident control
 NBC Nuclear, biological, chemical
 NBS National Bureau of Standards
 NCA National command authority
 NDPR Nuclear duty position roster
 NMP National maintenance point
 NSI Nuclear surety inspection
 NSN National stock number
 NUCARS Nuclear capability report system
 NUREP Nuclear weapon reports
 NWLE Nuclear weapon logistics element
 OCR Operational change report
 OCR-EMERG Operational change report - emergency
 OP Observation post
 OPSEC Operations security
 PAL Permissive action link
 PNL Prescribed nuclear load
 PNS Prescribed nuclear stockage
 POL Petroleum, oil, and lubricants
 PRP Personnel reliability program
 QA/QC Quality assurance/quality control

QD
 RATT
 REPSHIP
 SAS
 SASP
 SEV
 S & I
 SHORADS
 SIR
 SMARS
 SMD
 SOP
 TA
 TAACOM
 TB
 TM
 TMDE
 TMDE-GP
 TMDE-SP
 TOE
 UIC
 WR
 X-area

Quantity distance
 Radio teletypewriter
 Report of shipment
 Sealed authentication system
 Special ammunition supply point
 Stockpile emergency verification
 Storage and issue
 Short range air defense systems
 Semiannual inventory report
 Stockpile management accounting and reporting system
 Supply mission directive
 Standing operating procedures
 Theater Army
 Theater Army Area Command
 Technical bulletin
 Technical manual
 Test, measurement, and diagnostic equipment
 General purpose test, measurement, and diagnostic equipment
 Special purpose test, measurement, and diagnostic equipment
 Table(s) of organization and equipment
 Unit identification code
 War reserve
 Exclusion area