

CHAPTER 5

WAR / CONTINGENCY AMMUNITION STORAGE OPERATIONS

The guidelines provided in this chapter cover a variety of situations (METT-T dependent) within a theater of operations. They may be modified to meet safety requirements as well as the need to protect ammunition from environmental conditions (sand, sun, moisture, and so on) along with being able to perform the mission. This chapter provides general information on stacking ammunition for inside or outside storage. It also provides information on maintenance operations, to include maintenance concepts, categories, and SOPs. Ammunition surveillance activities, to include the observation, inspection, investigation, and classification of ammunition and missiles, are discussed. Storage operations associated with unserviceable ammunition, suspended ammunition, CEA, salvage and packaging materials, and chemical munitions are discussed. Finally, night operations and sling-out operations are discussed.

AMMUNITION STACKING

Ammunition may be stored inside or outside. It may be palletized or unpalletized. It may be stored on PLS SCs or on trailers. When stacking ammunition, the site location and the type of foundation upon which the stack will rest must be considered. The foundation may be a hardstand, the floor of a magazine or building, or on the ground in open-field storage. With any of these possibilities, the firmness and ability of the foundation to sustain the weight of a stack under all weather conditions, should be the prime consideration. Ammunition stacked on an inadequate or improper foundation may topple or sag. Inspectors should look for settling or shifting stacks so that corrections can be made before damage results. When applicable, the storage drawings prescribed by AMC Drawing 19-48 -75-5 should be used in approved magazines.

DUNNAGE

Dunnage used during WCTO is based on judgment and METT-T. The proper use of dunnage increases stack stability. Unpalletized ammunition stored inside is stacked on dunnage that is 2 inches by 4 inches to ensure stability and to allow air circulation around and under the stacks. Cleated ammunition boxes and crates, when stacked, allow air to circulate between the tiers. When cleated boxes are stacked, strips of lumber that are 1 inch by 2 inches are placed on every fourth layer of boxes. When uncleated boxes are stacked, strips of lumber that are 1 inch by 2 inches are placed on every layer. Refer to TM 9-1300-206 for more information.

Unpalletized ammunition stored outside is normally stacked on dunnage that is 4 inches by 4 inches and 6 inches by 6 inches to ensure proper air circulation. Stacks may have to be limited in height due to rough or unstable terrain. An overhead cover should

be provided, if possible. Eighteen inches of airspace should be maintained between the top and sides of the ammunition stack and the cover itself.

STACKS

Ammunition should be stacked so that the markings on each container can be read without moving boxes or climbing on the stacks. Normally, only one lot of ammunition is placed in the same row. However, if it is necessary to place more than one lot in the same row, a line of separation between the lots must be clearly indicated and each lot clearly marked. How to stack specific items of ammunition is given in TM 9-1300-206.

The height of a stack is determined by the size, weight, and height of the packages; available storage space; quantity-distance requirements; height of the barricade; and the MHE available. When stacking is done by hand, packages should be no higher than shoulder height. The type of foundation and the weight of the materiel to be stacked will also have a direct bearing on the height. For heavy materiel, care must be taken to ensure that the bottom row is not crushed and that there is enough dunnage to keep the bottom row off the ground.

PALLETS

Palletized ammunition reduces personnel requirements, simplifies sorting and accounting, and aids in storage and stacking. Therefore, the banding on pallets should not be broken as long as MHE is available to move the pallets. Artillery ammunition may go as far forward as the firing site before the pallet banding is broken. There should be enough space around stacks to accommodate MHE and transport vehicles.

LOT NUMBER SEGREGATION

Ammunition is stored by lot number. Segregating ammunition by lot number permits easy marking of suspended lots, aids in making accurate inventories, and speeds issue operations. Small lots should not be allowed to accumulate.

MAINTENANCE AND SURVEILLANCE OPERATIONS

MAINTENANCE OPERATIONS

Maintenance of Class V items includes those actions necessary to ensure that stocks are serviceable or that unserviceable stocks are restored to a serviceable condition. Maintenance responsibilities are assigned to ammunition units based on the unit's primary mission and the availability of personnel, skills, time, tools, equipment, and supplies.

For DS units, maintenance operations during WCTO are based on METT-T. The preservation, packaging, marking, and minor spot-painting of items is the norm, but judgment should be used if the situation calls for more than minor maintenance. The GS unit in the TAACOM may have time to perform maintenance that is above the minor level.

Ammunition maintenance planning must be aligned closely with the operational needs of the supported units. Maintenance planners must consider realistically the availability of supplies and maintenance resources. A decrease in ammunition maintenance increases the amount of ammunition taken from the supply system. Conversely, the inability of the supply system to replace unserviceable ammunition requires a greater maintenance effort. Proper maintenance, as well as proper storage and handling of ammunition, increases readiness, reduces supply requirements for replacements, and conserves resources for other purposes. The maintenance planner must recognize the interdependence of maintenance and Class V support. If an ASP is to perform care and preservation, Appendix D provides guidance on setting up a care and preservation line.

Maintenance Concepts

Combat units require serviceable ammunition. Maintenance of Class V stocks is a necessary, vital task that must be performed in WCTO in order to maintain a high state of readiness. Maintenance ranges from minor operations, such as cleaning and rust removal, to major operations, such as complete renovation. Provisions must be made to do as much maintenance as possible at the storage location. In some cases, ammunition will have to be evacuated for maintenance. However, since the movement of ammunition involves not only safety but also tremendous tonnages, it is not possible to adopt a maintenance program geared totally to evacuation.

When operating in the rear area during WCTO, DS and GS units assume a more active role in maintenance programs. Issue and receipt activities in hostile, forward locations will probably preoccupy a unit. Therefore, maintenance functions will be limited to packaging and preservation operations, such as replacing broken banding or minor pallet repair or replacement.

Maintenance Categories

Class V maintenance is divided into four categories: organizational, DS, GS, and depot. Organizational maintenance is performed by all activities that have ammunition on hand, including using units. Organizational maintenance in the using unit is usually performed with the technical assistance of ammunition units. DS maintenance is performed by ammunition companies in the theater of operations having DS capabilities under TOE 09483 L000, GS maintenance is performed by ammunition companies in the theater of operations having GS capabilities under TOE 09488L000. If items require depot maintenance (such as modification, explosive component replacement, or complete renovation), the ammunition is packaged and evacuated to a depot. Some depot-level conventional ammunition maintenance operations are conducted by contract labor.

All DS and GS companies with storage and issue missions must be equipped to perform maintenance functions. The tools, equipment, and supplies needed to support each category of maintenance are included in each unit's supply and equipment list. APE necessary for specific operations is listed in the appropriate depot maintenance work requirements (DMWRs).

Maintenance Standing Operating Procedures

All maintenance operations are performed according to an approved maintenance SOP. Guidelines for preparing maintenance SOPs are in TM 9-1300-250. Valuable guidance may also be available from a unit with similar missions and responsibilities, the DMWR, or experienced personnel. When local nationals are involved in maintenance operations, the SOP is written in their language as well as in English. Refer to Appendix E for guidance on safety measures to include in the SOP.

SURVEILLANCE OPERATIONS

Ammunition surveillance is the observation, inspection, and classification of ammunition and its components during movement, storage, and

maintenance operations. It also includes inspection equipment, facilities, and operations. Surveillance activities are conducted by all theater activities that store, maintain, dispose of, or ship ammunition and its components. Surveillance ends only when the ammunition is expended or destroyed.

HQ TA is responsible for general supervision of ammunition surveillance in the theater of operations. The CSB or CSG closely supervises this function in its command. In established theaters of operation, surveillance activities are under the control of DA civilian (DAC) quality assurance specialists (ammunition surveillance) (QASASs) who are assigned to major Army headquarters (AR 702-12). Within theater ammunition units, surveillance is performed by attached civilians and assigned military inspectors.

QASASs are civilian inspectors who received 18 months of technical training and then entered into an apprenticeship. Throughout their careers, they receive additional, updated school training. QASASs are supplemented by military inspectors (MOS 55B).

The commander of any ammunition battalion must administer a quality assurance, ammunition surveillance program that covers all ammunition operations assigned to that command. The QASAS in charge has the overall responsibility for this program and reports directly to the commander. Since their training is much more extensive than that of the military inspector, QASASs perform the more complicated inspections and most functional tests. QASASs certify the results of any inspections or tests performed by the military inspectors. In some commands, certain inspection results and functional test reports are signed only by QASASs.

Surveillance Functions

Ammunition inspectors perform the following duties:

- Inspect storage buildings, outdoor storage sites, and field storage sites to ensure that they comply with all storage standards.
- Inspect surrounding areas for fire hazards and other nonstandard conditions.
- Look for nonstandard conditions that could speed up the normal deterioration rate of the items in storage.
- Teach surveillance and ammunition safety.
- Prepare and maintain proper correspondence, records, and reports to cover all surveillance activities. Surveillance records and reports are listed in SB 742-1.

- Observe, inspect, and investigate to determine the current degree of serviceability of Class V ammunition and components.
- Monitor methods of storage, handling, and maintenance and recommend changes to increase safety and operational effectiveness,
- Recommend to the commander the controls needed to maintain approved standards of quality.
- Act as technical advisor to the commander on all ammunition surveillance matters.
- Inspect and investigate to determine the quality, safety, and deterioration of ammunition.
- Help investigate ammunition accidents.
- Help plan, coordinate, and administer the explosives safety program. This program includes review, evaluation, and inspection of all operations, procedures, equipment, and facilities used with ammunition and explosives operations to ensure application of and compliance with pertinent safety standards and criteria.
- Help plan the construction of storage facilities and/or field storage areas based on current quantity-distance requirements and storage criteria.
- Prepare and maintain accurate records of all observations, inspections, and investigations.
- Maintain files and indexes for all drawings and specifications covering ammunition and methods of packing and storing.
- Inspect all incoming and outgoing shipments of ammunition for sabotage devices; proper blocking, bracing, and loading; condition and serviceability; and compliance with existing instructions and regulations.
- Inspect dunnage used and methods of storage for compliance with specifications, drawings, and safety regulations.
- Furnish technical advice to the unit's operating elements regarding safety.
- Inspect for compliance with existing regulations all facilities and/or field storage areas and the methods used to store, handle, ship, assemble, load, preserve, maintain, salvage, and destroy ammunition.

AH surveillance functions are performed according to the procedures in SB 742-1, applicable technical manuals, and other applicable supply bulletins.

Surveillance Inspections

In accordance with SB 742-1, the following surveillance inspections are performed by QASASs and military inspectors:

- Receipt inspections, to include depot transfers, field returns, and CEA.
- Periodic inspections (cyclic).
- Storage monitoring inspections.
- Special inspections.
- Preissue inspections.
- Verification inspections.
- Ammunition condition code inspections,

Serviceability Standards. The object of an inspection is to find any deterioration and determine the degree of serviceability of the item inspected; that is, whether the item inspected is serviceable as it stands, requires maintenance, or must be rejected. Before inspecting an item, the inspector should be familiar with all available information about the item, including its components, packaging, and the characteristics of the weapon in which it is used. Serviceability standards references are in SB 742-1.

Inspection procedures include observation, physical tests (such as gauging or strength tests), and functional tests. Unserviceability can usually be detected by casual observation. As a general guide, Class V munitions must not have any defects that would alter their characteristics, make them unsafe, or make them perform in any way other than for what they were designed. The inspector must determine whether any defects found can be corrected.

Serviceability is not to be assumed from the fact that the ammunition can be fired safely in the weapon for which it was designed. In addition, it must function correctly, the velocity and pressure must be within prescribed limits, and any fuze or detonator present in the projectile must function correctly.

The prime enemies of ammunition are heat and moisture. They affect all ammunition components to a varying degree. Deterioration is faster when moisture is combined with a rise in temperature. Inspectors should be especially watchful for indications of moisture, rust, or corrosion on projectiles and fuzes; corrosion and cracks on cartridge cases; deterioration of propellants; loose closing caps; and moisture or dampness inside containers.

Physical Defect Standards. Evaluating the acceptability of materiel that shows deterioration or damage is a decision that depends upon the training, experience, and judgment of the inspector. The deterioration of materiel in storage is natural. It varies

according to the type of protective coating, packaging, and storage conditions. However, deterioration is progressive. It goes from being incidental to minor to major, and possibly to a critical nature if no maintenance is performed. These are the four stages of deterioration for inspection purposes. They may be used to establish a uniform system of examination for deterioration or damage when preparing the DA Form 2415.

Refer to SB 742-1, applicable technical manuals, and supply bulletins for further guidance on classifying metal, plastic, and rubber component deterioration; mixed ammunition; damaged packaging; and for placing defects into one of the four defect categories.

GUIDED MISSILE AND LARGE ROCKET INSPECTION

GMLR ammunition, components, propellants (liquid and solid), protective clothing, packaging, and packing materials are inspected and tested using applicable supply bulletins, technical manuals, drawings, and specifications.

Most midsized guided missiles are now certified as rounds and are maintained by the contractor at contractor facilities. Unit maintenance on guided missiles is essentially limited to spot-painting and replacement of wings, elevens, and the like. Inspectors must check with surveillance to determine those liquid propellants that should be removed before turn-in.

Missile items identified by lot number or serial number are inspected for serviceability as follows:

- Materiel identified by lot number is sampled and inspected by individual lots. Missiles are inspected using the inspection table in the appropriate technical manual or supply bulletin.
- Materiel identified by serial number is put into homogeneous groups. The grouping does not involve any permanent or physical grouping of the items—just a grouping on paper for inspection. The judgment of a QASAS or MOS 55B ammunition specialist is needed in forming these groups.

Defects found in the sample are classified using the applicable supply bulletin, technical manual, or other specification. Where defects are not classified in these publications, the inspector classifies them according to SB 742-1. The results of the sample inspection are used to make serviceability decisions about the lot or group.

SURVEILLANCE RECORDS AND REPORTS

A technical history of each lot, serial number, or group of Class V items is kept by surveillance personnel. This history includes a record of the results of all inspections, tests, investigations, and any unusual or changing conditions affecting the items. These records are used to evaluate the serviceability and reliability of ammunition items. Therefore, it is important that all information gathered from these inspections, tests, and investigations be accurate and concise. The type of information needed for recording and reporting purposes may vary depending upon the organizations supported by surveillance. The information needed to satisfy local and higher headquarters supply actions is determined by local procedures. The information needed for maintenance purposes is usually more detailed as to the extent of the defect and the work required to return the item to service. The following information is needed to evaluate the reliability of the stockpile:

- Condition of the materiel.
- Quantity.
- Data of manufacture.
- Type of storage.
- Type of defects.
- Cause of defects.
- Results of tests.

Surveillance personnel are also required to submit other types of reports on materiel received or in storage and to maintain certain records. The surveillance records and reports below are listed for the COOP. If for some reason these records are not available or are not used during WCTO, a facsimile-formatted document should be on file for use. SB 742-1 provides guidance for preparing these records and reports.

- DD Form 250 (*Material Inspection and Receiving Report*).
- DD Form 1575 (*Suspended Tag-Materiel*).
- DD Form 1575-1 (*Suspended Label-Materiel*).
- DD Form 1650 (*Ammunition Data Card*).
- DA Form 984 (*Munition Surveillance Report—Descriptive Data of Ammunition Represented by Sample*).
- DA Form 2415 (*Ammunition Condition Report*).
- DA Form 3023 (*Gage Record*).
- DA Form 3022-R (*Army Depot Surveillance Record [LRA]*).
- DA Form 4508 (*Ammunition Transfer Record*).

- SF 361 (*Transportation Discrepancy Report*),
- SF 364 (*Report of Discrepancy [ROD]*).
- Ammunition inspection and lot number reports.
- Ammunition suspension records, to include AMCCOM and MICOM suspension.
- Equipment logbooks and maintenance logs.
- Reports of explosions, chemical agent releases, serious accidents, and nuclear incidents.
- Small arms tracer reports.
- Storage monitoring records (local format).

DESTRUCTION PLAN

The destruction of ammunition during WCTO is based on the METT-T. However, a general plan for the destruction of unserviceable ammunition and CEA must be prepared for every storage activity. This plan includes priorities of materiel to be destroyed, methods of destruction, location of primary and alternate disposal sites, protective clothing requirements, and decontamination requirements. It should also list required equipment and explosive materials, with instructions for their placement and use.

A destruction site should be carefully selected so that explosive fragments, debris, and toxic vapors do not become a hazard to personnel, materiel, facilities, or operations. For further information on selecting a destruction site, refer to TM 9-1300-206, FM 5-250, and FM 9-13.

Ammunition personnel normally perform the routine destruction of ammunition determined to be unserviceable as a result of damage or deterioration. Badly damaged or deteriorated ammunition that constitutes an explosive hazard is disposed of by EOD personnel. EOD personnel may also be required to dispose of other ammunition when its destruction is beyond the capability of the storage activity. Dud ammunition is destroyed by EOD personnel only.

For information on the emergency destruction of storage sites, refer to FM 9-13 and the field SOP.

UNSERVICEABLE AMMUNITION STORAGE

Unserviceable ammunition items are either manufactured with defects or have been made unserviceable by improper storage, handling, packaging, or transportation. Shipments of ammunition received from other supply facilities should be inspected for

serviceability. When it is not possible to inspect the ammunition at the time of receipt, unit turn-ins should be stored in a segregated area for later inspection. Ammunition specialists should be familiar with indications of unserviceability and report them.

Unserviceable ammunition must be segregated from serviceable ammunition. Inspectors should segregate unserviceable ammunition for safety reasons and to reduce rehandling. The ammunition must be segregated by DODIC and lot number, followed by serviceability classification. Ammunition that cannot be positively identified by lot number is automatically classified as unserviceable. Exceptions may be made based on the type, quantity, and condition of the ammunition and METT-T. The same safety precautions and principles used for storage of serviceable ammunition are used for storage of unserviceable ammunition. Proper records must be kept on all unserviceable items stored at a supply facility.

Ammunition requiring maintenance should be segregated and marked to prevent issuing. Minor preservation and packaging is performed at field locations—TSAs, CSAs, or ASPs. Extensive maintenance is usually performed at a depot storage facility.

If ammunition requires only packaging and preservation, the unit performs this function. Refer to Appendix D. Time permitting, unserviceable ammunition that is repairable is retrograded for repair. Ammunition abandoned by using units is treated as unserviceable until it is inspected. The procedures that apply to unit turn-ins also apply to abandoned ammunition. Unserviceable ammunition is reported through proper channels for disposition instructions. Hazardous unserviceable ammunition is reported immediately through proper channels to EOD detachments for destruction. A demolition area is designated and cleared for the safe destruction of ammunition.

SUSPENDED AMMUNITION STORAGE

Specific lots of ammunition and components are withdrawn from issue when they are determined to be unsafe or otherwise defective. The problem may be the result of a manufacturing defect, a firing malfunction, or the deterioration of components. Storing ammunition by lot number enables the rapid withdrawal from issue those items that are unsafe, defective, or suspected of being defective.

The authority to suspend any lot of conventional ammunition is vested in the commander, AMCCOM. However, a local suspension may be placed on a suspected lot of ammunition by the installation or area

commander. A preliminary report and later a detailed report are forwarded through the supporting MMC to HQ TA. The ammunition remains in local suspension unless its status is changed by higher headquarters. Instructions for preparing suspension reports are in AR 75-1. Suspended lots of conventional ammunition and components are listed in TB 9-1300-385. Additional notices of suspensions or restrictions are by teletype messages as supplemental changes to TB 9-1300-385.

Ammunition lots that are stored and later placed under suspension need not be moved to a segregated area unless the suspension notice orders it. Stacks of suspended ammunition must be clearly marked on all sides using DD Form 1575 and DA Form 3782, or facsimile-formatted documents (taped to the materiel), to show that the items have been suspended or restricted from issue. When foreign nationals are employed, bilingual tags should be produced locally. Suspended or restricted-issue items returned by the firing units or items received from other supply facilities should be segregated upon receipt. These items should be marked using the forms mentioned earlier and stored in the segregation area. DA Form 3020-R or a facsimile-formatted document (taped to the materiel) should be posted showing the suspension date, the suspension number, and the authority.

CAPTURED ENEMY AMMUNITION STORAGE

AR 381-26 requires that one of three options be taken when ammunition is determined to be in excess for any reason on the battlefield. These options are use, destroy, or secure and retrograde. Except for use, enemy ammunition found is considered excess. As discussed in this section, CEA includes any type of munition.

In addition to the nonlinear AirLand Battle scenario making ammunition demand heavy and critical, commanders have one other factor to contend with: the traditional principle of enemy forces making the most use of all available supply resources. This affects not only US and allied forces' supplies but also any other sources of supply, such as CEA. Because of these factors, CEA becomes a troubling commodity and one that demands special attention.

When an enemy ammunition cache is found, the commander first assesses the combat situation. The commander must then decide whether to destroy the cache, maybe because of enemy threat in the area, or

to secure the cache and notify the G2 and EOD support in the area closest to the cache. If the G2 is notified, the commander provides grid coordinates or location, the estimated size and quantity of items in the cache, and an initial estimate of the kind(s) of ammunition in the cache.

If the G2 and EOD are both informed, they analyze and identify the cache to ensure that it is safe to transport or retrograde to a storage area in the rear. Civilian or military ammunition inspectors also inspect the cache for condition, type, and caliber. These inspectors should note any special characteristics that may be of interest to technical intelligence personnel. Noted items must be reported quickly through intelligence channels. Hazardous enemy ammunition should be segregated and disposed of.

If the cache is retrograded, ammunition managers in the corps are notified to provide QA/QC personnel and corps transportation assets to support the retrograde operation. These personnel go to the cache to load and transport it to the designated SSA. QA/QC personnel assist in segregating and loading the ammunition. The designated SSA places the cache into a designated secure area. CEA, whether thought to be serviceable or unserviceable, must not be stored with US ammunition.

CEA that has been certified or cleared by EOD, QASAS, or military inspector must be receipt inspected and accounted for the same way as US ammunition. This inspection must be done as soon as possible after receipt. Once CEA is identified as accurately as possible, it is put into the SAAS system for accounting and control. Reporting and disposition instructions for CEA are the same as for friendly Class V items. Close control of CEA is necessary, because it could be recaptured and be in enemy hands once again.

Positively identified CEA might be useable in compatible US or allied forces weapons systems. If so, this eases the burden on the ammunition supply system. CEA can also be used as a substitute for bulk explosives during demolition operations.

SALVAGE AND PACKAGING MATERIALS STORAGE

Salvage material includes such items as boxes, crates, and steel containers. Packaging material includes nose plugs, grommets, metal links, clips, cartridge cases, and brass.

Based on the METT-T, salvage material is normally collected at ASPs and shipped to designated points within the theater of operations for reuse or retrograde. However, if salvage material is turned in at the ATP, the ATP NCO in charge arranges to have it hauled to an ASP via available transportation. Some salvage material may be used at field facilities to repack serviceable ammunition and components. Salvage material is inspected to ensure that it is free of explosives. Salvage material is recorded on stock records and reported as directed by higher headquarters. Disposition and shipping instructions are furnished by the MMC. The storage facility receives disposition instructions on the basis of these reports.

When inert salvage material is shipped from any ammunition facility, the shipment must be certified to be free of explosives by the senior inspector. Empty chemical containers, boxes, and packaging material must be certified to be free of chemicals or chemical residue.

CHEMICAL MUNITIONS STORAGE

When unassembled BCMs are deployed to a theater of operations, their primary storage location is directed by the theater commander. In wartime, effective measures must be implemented to maintain strict control and safe handling of these BCMs. When deployed, the nonlethal-component canisters are stored separately until a release order is given. Separate storage of BCM components is imperative not only for the safety of personnel and facilities but also to prevent the possibility of a lethal accident or incident that the enemy could consider as first use. The enemy might, in turn, retaliate with chemical munitions.

BCMs must not be assembled until a properly authenticated release order has been given by higher headquarters. From the CSA, the BCMs are normally shipped forward unassembled to the ASPs. Once assembled at the ASP, they are uploaded for issue at the ASP or transported to the ATP for issue, depending on the tactical situation. The tactical situation may dictate that the munition be assembled at the CSA and shipped directly to the ATP. Also, unassembled BCMs may be issued directly to the firing unit under emergency conditions. Ideally, assembly of BCMs should occur as far forward as possible to minimize handling and exposure to possible leaks and contamination. Procedures for the storage, handling,

and security of BCMs follow. Additional guidance on chemical hazards and safety is contained in Appendix E.

In the event unitary munitions are handled (such as CEA), the conventional ammunition unit takes all necessary NBC precautions, especially if there has been an accident. These precautions include dressing in mission-oriented protective posture-4 (MOPP-4) gear and requesting EOD chemical unit help from corps headquarters. Refer to TC 9-20 for further guidance.

The same storage considerations for BCMs apply for both CSA and ASP operations. Commanders of conventional ammunition companies must be prepared to assume custody of unassembled BCMs. The CSA normally receives unassembled BCMs directly from the port. The ASP normally receives unassembled BCMs from the CSA. The commander must ensure that the nonlethal-component canisters are stored in separate storage structures within the same storage area or in separate locations at different storage areas. Storage of BCMs must be according to the quantity-distance requirements in DOD 5154.4-S and TM 9-1300-206. During convoy operations from the port to the CSA and from the CSA to the ASP, the components are shipped on separate vehicles within the same convoy.

Upon authorized release and in most cases, using units pick up their allocated BCMs from their supporting facility at the same time they resupply their conventional ammunition needs. If the tactical situation changes and uploaded or issued BCMs are no longer required, BCMs must be returned to the supporting facility and disassembled by ammunition specialists. The disassembled component parts must be placed in their original packages and returned to a secure storage location. Instructions must be requested from higher headquarters if there is any uncertainty as to the disposition of BCMs.

The fewest number of personnel necessary must be used to handle BCMs. Commanders must ensure that they establish unit SOPs that provide special handling procedures for BCMs. These procedures must emphasize safety and, as a minimum, must include the following:

- Required MOPP gear that must be worn.
- Required chemical detector kits and alarms.
- Emergency procedures and assistance for accidents and incidents.
- Monitoring and surveillance requirements.
- Inspection requirements for BCMs and related chemical operations.

- Disassembly procedures for assembled BCMs.
- Specific area for assembly and disassembly operations.

Generally, physical security principles that apply during peacetime also apply during wartime. Under emergency situations or intense combat conditions, however, some peacetime requirements may have to be waived. Regardless of the degree of combat, commanders must ensure that qualified personnel provide physical security whenever and wherever chemical munitions are handled. From the time BCMs enter the theater area, commanders are responsible for their security during handling, moving, and storing operations. Security personnel may include a combination of escort personnel, MPs, conventional ammunition personnel, and designated personnel from the combat user. Security personnel have the primary mission of preventing unauthorized or uncontrolled access to chemical munitions. Unit commanders must develop a detailed unit SOP that deals with the security of these munitions while they are in custody. As a minimum, these procedures should include the following:

- Personnel qualifications for those guarding and having access to chemical munitions.
- Identification of authorized personnel.
- Security during transport of munitions. Details for security planning for chemical munitions are given in AR 50-6, AR 190-11, AR 190-14, AR 190-59, AR 380-67, and FM 19-30.

REWAREHOUSING

Rewarehousing is the art of using available space efficiently to support receipt, storage, and issue of Class V items with a minimum amount of handling. One of the most important elements of rewarehousing is space layout planning. Consolidation is the key to good rewarehousing, location control, and conservation of storage space.

NIGHT OPERATIONS

During combat operations, ammunition units must be able to perform operations at night. With the added disadvantage of darkness, safety must be paramount in the completion of all issues, turn-ins, receipts, retrograde operations, and shipments. Some

of the factors and considerations that affect night operations include the following:

- Soldiers will work slower due to darkness. Thus, when planning night operations, allow additional time to complete the operation.
- A larger work force is necessary for each operation than would normally be required during daylight.
- Accountability emphasis increases. Ensure that soldiers serving as checkers are familiar with the area layout and the locations of the stocks.
- Safety must be stressed to all individuals involved, especially MHE operators. Ensure that additional ground guides are used for all operations.
- Based on the tactical situation, commanders must decide to what degree light discipline must be maintained. If feasible, hand-held flashlights or MHE headlights might be used to offset the disadvantage of darkness. In such cases, ensure that proper batteries and blackout filters are available.
- Night-vision goggles must be used as much as possible. Ensure that proper maintenance is performed to keep them operational.

SLING-OUT OPERATIONS

The use of aerial resupply continues to be an essential element of the ammunition distribution system for both emergency resupply and routine resupply of high-value Class V materiel. The ideal sling-out area should have as stable a surface as possible, based on METT-T. The surface must be able to support the weight of stocks and MHE. Consideration must also be given to the prevailing winds. The area should be downwind from inhabited buildings or working areas in case there is an accident involving chemical rounds. High-tension lines and other obstacles should not cross the chosen area or interfere with aircraft during sling-out operations. Appropriate fire-fighting and electrical grounding equipment must be maintained at all times. Provisions must be made for adequate security. The sling-out area should not be used for overnight storage of ammunition (that is, stockpiling for anticipated shipments). Only ammunition that is to be placed in cargo nets on-site should be located in the area. Cargo nets should be loaded and placed so that the aircraft can pick them up while hovering. All incoming shipments must be cleared from the area

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immediately. MHE must be kept out of the area while aircraft are hovering, landing, or taking off.

Helicopter loading sites (ammunition sling-out areas) at Class V storage facilities are run by that

facility, with technical assistance from the Army transportation service. Refer to FM 55-450-3, FM 55-450-4, FM 55-450-5, and TM 38-250 for additional information on sling-out operations.