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IN REPLY REFER TO:  
MCO P8020.10B  
SD  
17 May 04

MARINE CORPS ORDER P8020.10B

From: Commandant of the Marine Corps  
To: Distribution List

Subj: MARINE CORPS AMMUNITION MANAGEMENT AND EXPLOSIVES SAFETY  
POLICY MANUAL

Ref: (a) OPNAVINST 8020.14/MCO P8020.11  
(b) MCO P5102.1A  
(c) MCO 8025.1D  
(d) OPNAVINST 5102.1

Encl: (1) LOCATOR SHEET

- Purpose. To establish the Marine Corps ammunition management and safety policy; to define its objectives, and provide Marine Corps-specific procedural guidance for Class V materiel in accordance with reference (a).
- Cancellation. MCO 8020.10A.
- Action. Commanders at all levels shall ensure compliance with this Manual at all Marine Corps activities where DoD-titled Military Munitions (Munitions) are present. When DoD-titled Munitions are located in overseas areas, the provisions of this Manual shall apply except when compliance with more restrictive local standards is made mandatory by an appropriate, international agreement. Operations conducted at installations under the command of another Service shall be in accordance with the policy and regulations of the host service, with the exception of requesting munitions disposition instructions and malfunction and mishap reporting. All malfunctions and mishaps shall be reported in accordance with instructions contained in this Manual and those set forth in references (b) through (d). In case of conflicting policies or regulations, the most stringent policy/regulation shall apply. Report conflicting policies, by the most expeditious means possible, to the Commander, Marine Corps Systems Command (CG MARCORSYSCOM Code 204(PM AMMO)).

**DISTRIBUTION STATEMENT A:** Approved for public release; distribution is unlimited.

MCO P8020.10B  
07 May 2004

4. Summary of Revision. Significant revisions have been made to this Manual and it should be reviewed in its entirety.

5. Recommendations. Recommendations concerning the contents of the Marine Corps Ammunition Management and Explosives Safety Manual are invited. Such recommendations will be forwarded to CG MARCORSYSCOM Code 204 (PM AMMO) via the chain of command.

6. Reserve Applicability. This Order is applicable to the Marine Corps Reserve.

7. Certification. Reviewed and approved this date.

W.L. Nyland, General, USMC  
Assistant Commandant of  
The Marine Corps

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RECORD OF CHANGES

Log complete change action as indicated.

Change Number	Date of Change	Date Entered	Signature of Person Incorporating Change

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CHAPTER 1

GENERAL POLICIES AND RESPONSIBILITIES

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## CHAPTER 1

## GENERAL POLICIES AND RESPONSIBILITIES

1000. BACKGROUND. The Marine Corps continuously trains and deploys with military munitions (hereafter referred to as "Munitions"). The storage, handling, transportation and employment of these items are inherently hazardous. Therefore, it is imperative that a safety program designed to minimize the potential hazards associated with Munitions operations be aggressively pursued at all levels. The chapters within this Manual provide specific guidance to ensure that these hazards are addressed and minimized. Refer to Appendix A for a glossary of terms used in this Manual. Appendix B contains a listing of the abbreviations and acronyms used in this Manual. The following agencies have been established within the Department of Defense (DoD) and Department of the Navy (DON) to assist in this effort:

1. Department of Defense Explosives Safety Board (DDESB). The 70th Congress established the DDESB, formerly called the Armed Forces Explosives Safety Board, in 1928 after a major disaster occurred at the Naval Ammunition Depot, Lake Denmark, New Jersey in 1926. The accident virtually destroyed the depot, causing heavy damage to adjacent Picatinny Arsenal and the surrounding communities, killing 21 people, and seriously injuring 51 others. The monetary loss to the Navy alone was \$46 million. As a result of a full-scale congressional investigation, Congress directed the establishment of the Board to provide oversight of the development, manufacture, testing, maintenance, demilitarization, handling, transportation and storage of explosives, including chemical agents on DoD facilities worldwide. The DDESB mission is to provide objective advice to the Secretary of Defense (SECDEF) and Service Secretaries on matters concerning explosives safety and to prevent hazardous conditions to life and property on and off DoD installations from the explosives and environmental effects of DoD-titled munitions. The DDESB provides storage site approval for all DoD facilities.

2. Department of the Navy.

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a. Chief of Naval Operations (CNO). Per OPNAVINST 8020.14/MCO P8020.11, the CNO approves or disapproves requests for deviations from established safety standards, with the exception of the event waivers, for which approval authority is delegated to the Commanding General, Marine Corps Systems Command (CG MCSC), Program Manager for Ammunition (PM Ammo).

b. CG MCSC. As delegated by Commandant of the Marine Corps, Safety Division (CMC (SD)), CG MCSC is responsible for implementing and executing the USMC Explosives Safety Program. Included in this responsibility is issuance of amplifying instructions necessary to implement policy for the safe management and disposition of Class V (W), the non-operational use of Class V (A), and the Marine Corps qualification and certification program; providing initial review and approval for site approval requests, non-DoD storage requests, and waiver/exemption/Secretarial Certification requests to deviate from explosives safety criteria; provide approval/disapproval of event waivers; establish an explosives safety Technical Assistance Visit (TAV) program for USMC units; provide disposition instructions for USMC excess, obsolete, unserviceable, and waste Class V(W) munitions; establishing requirements and developing explosives safety training program for USMC Explosives Safety Officers (ESO); establishing a Qualification/Certification program for USMC ESO's.

c. Naval Ordnance Safety and Security Activity (NOSSA). The NOSSA, as delegated by CNO and Naval Sea Systems Command (NAVSEASYS COM), provides explosives safety support by conducting the Weapon System Explosives Safety Review Board (WSESRB), the Ammunition and Hazardous Materials (AMHAZ) Handling Review Board, and Explosives Safety Inspections (ESI). In addition, it provides technical assistance on Explosives Safety Program and Inventory Control Program matters to all DON components.

d. Naval Ordnance Safety and Security Activity Pacific and Atlantic Divisions. The NOSSA established the Explosives Safety Support Offices (ESSO), Pacific and Atlantic Divisions, to provide timely explosives safety support to Naval units by geographic area. These Divisions serve as the command location of the East and West Coast ESI teams and as intermediary review authorities for site approvals and deviations. These organizations also provide ESI technical assistance visits upon request.

e. Recognized DON Engineering Activities. Recognized DON engineering activities provide engineering support to the Marine Corps for the range certification and re-certification process. These activities are the Naval Facilities Engineering Command (NAVFACENCOM), Norfolk, VA, and the U.S. Army Corps of Engineers (Huntsville Division), Huntsville, AL. Both activities assist the Marine Corps Combat Development Command (MCCDC) (C465) in the certification process for all ranges, in the basic design and engineering of new ranges, and in the re-engineering of modified ranges.

f. Naval Safety Center (NAVSAFECEN). The NAVSAFECEN collects, evaluates, and disseminates information relative to both Class V (W) and Class V (A) malfunctions and mishaps. The NAVSAFECEN maintains and publishes statistical data based on Explosives Mishap Reports (EMR) and Conventional Ordnance Deficiency Reports (CODR) that can be used in the conduct of safety training programs. The NAVSAFECEN provides a mobile team that provides safety evaluations to DON activities upon request.

1001. MARINE CORPS POLICY FOR BASIC EXPLOSIVES SAFETY. The SECDEF has established basic explosives safety policies to be observed by DoD components in the performance of operations involving Munitions. It is the policy of the Secretary of the Navy (SECNAV) that the DON follows the instructions of SECDEF in these matters to the maximum practicable extent. It is the policy of the CMC that the Marine Corps follow the instructions of the CNO in these matters to the maximum extent possible, unless otherwise specified. This document serves as amplification to those pertinent Navy regulations and, in some cases, either establishes more stringent regulation, or exempts the Marine Corps, as specified. A listing of publications that address explosives safety and support a sound explosives safety program is contained in Appendix C. In the event established explosives safety standards cannot be strictly adhered to, several options are available to commanders to ensure the maximum allowable safety standards are maintained, within the confines of operational necessity. Detailed information regarding deviations from explosives safety criteria is contained in NAVSEA OP 5, Volume 1; OPNAVINST 8020.14/MCO 8020.11 and NAVFACINST 11010.44 series. All deviations from safety policies and procedures established therein must be

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approved in accordance with this Manual and NAVSEA OP 5.  
Options include the following:

1. Exemptions. An exemption is a deviation from mandatory explosives safety requirements approved for recurring readiness or operational requirements. Exemptions are generally issued for a maximum of 5 years, but will not be granted for a period in excess of that estimated for correction of the deficiency. All requests for exemptions will be submitted to the CNO via the chain of submission depicted in figure 1-1.

2. Waiver. A waiver is a deviation from mandatory explosives safety requirements approved for the purpose of temporary satisfaction of recurring readiness or operational requirements, issued pending the completion of corrective measures to eliminate the need for a waiver. Waivers are generally issued for a maximum of 2 years. All requests for waivers will be submitted to the CNO via the chain of submission depicted in figure 1-1.

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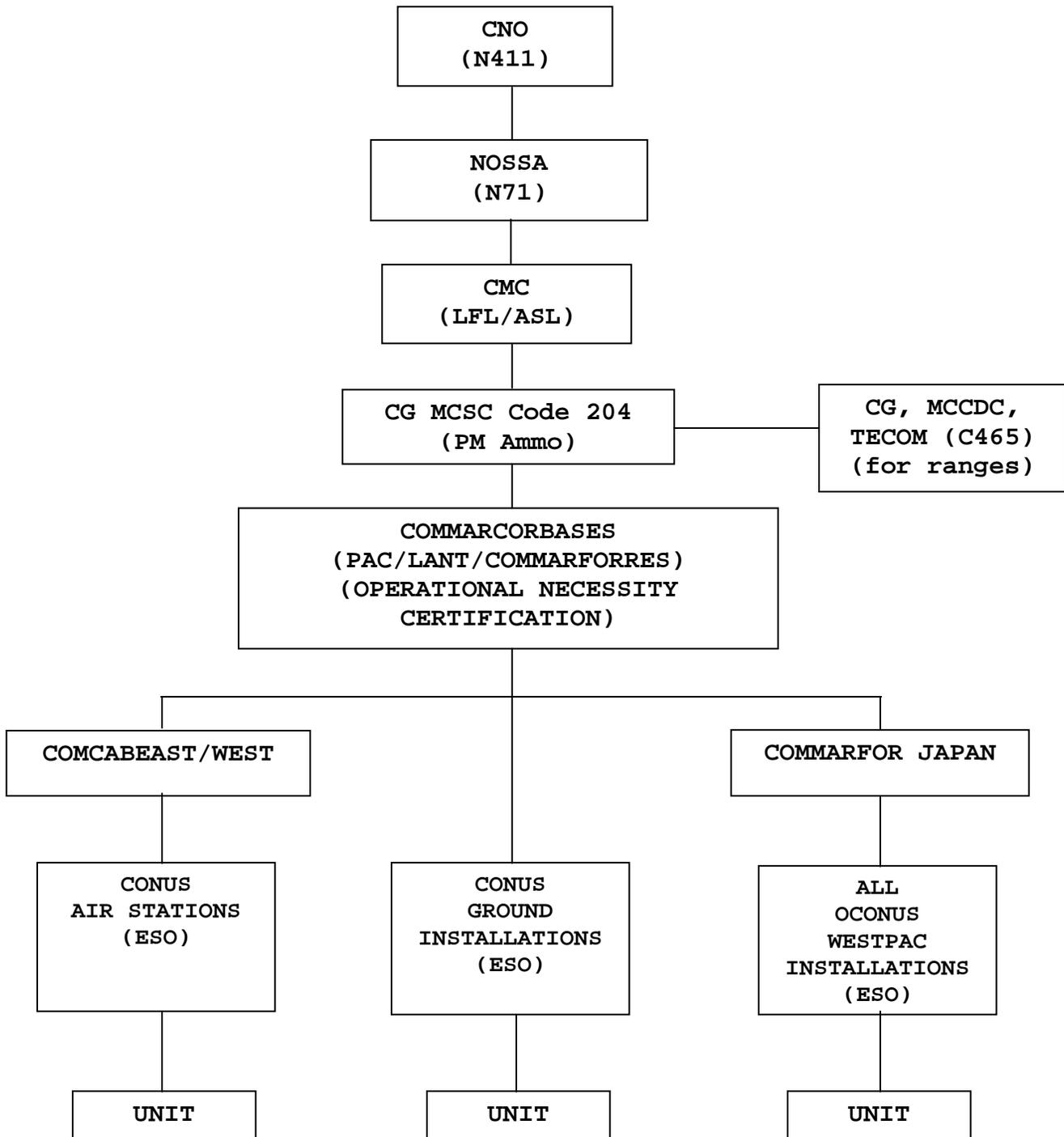


Figure 1-1 Exemption and Waiver Chain of Submission.

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3. Event Waiver. An event waiver is a deviation approved on a case-by-case basis for a particular evolution, issued for a limited period to meet a specific, recurring readiness or operational requirement which cannot otherwise be satisfied. The following policies apply to all requests for event waivers:

a. All requests for event waivers shall be submitted via the chain of submission depicted in figure 1-2 for the following events:

(1) Event waivers for exercises and operations occurring on Marine Corps installations shall be submitted to CG MCSC via the installation commander (COMMARFORRES for Marine Corps reserve commands), and the respective Commander Marine Corps installation (COMMARCORBASES LANT/PAC) for certification of operational necessity.

(2) Deployed units shall submit event waiver requests through the chain of command to the appropriate command level exercising operational control (OPCON) authority. This authority typically resides with the Unified Command, but is, at times, delegated to the Numbered Fleet Commander in Chief (CINC).

b. All requests for event waivers shall contain the following information and will include a statement of operational necessity from the appropriate Force Commander:

(1) General statement of waiver requirements.

(2) Specific reference of the explosives standards to be waived, including all pertinent Explosive Safety Quantity Distance (ESQD) information of facilities that may be impacted by the event waiver.

(3) Specific description of conditions creating the need for the waiver.

(4) Alternatives examined.

(5) Additional or compensatory safety precautions to be enforced during the waiver period.

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(6) Resources necessary to eliminate the need for further event waivers of this type including a plan of action, actions initiated, estimated completion date.

Requests for event waivers for deployed units shall be submitted via Standard Naval Message only. All other requests for event waivers may be submitted via Standard Naval Message or electronic mail. Electronic mail routing is the same as Standard Naval Message with information addressees provided an electronic courtesy copy. Electronic mail address is [EES@MCSC.USMC.MIL](mailto:EES@MCSC.USMC.MIL). Information addressees will include CNO (N41), CMC (ASL-30 for aviation ordnance and airfield operations, LPP for Maritime Prepositioning Force (MPF) operations, and LFL for all requests), and NOSSA (N7).

c. Marine activities assigned as tenant commands and activities on other Service bases shall comply with the requirements of that Service. CG MCSC Code 204 (PM Ammo) shall be included as an information addressee on all messages.

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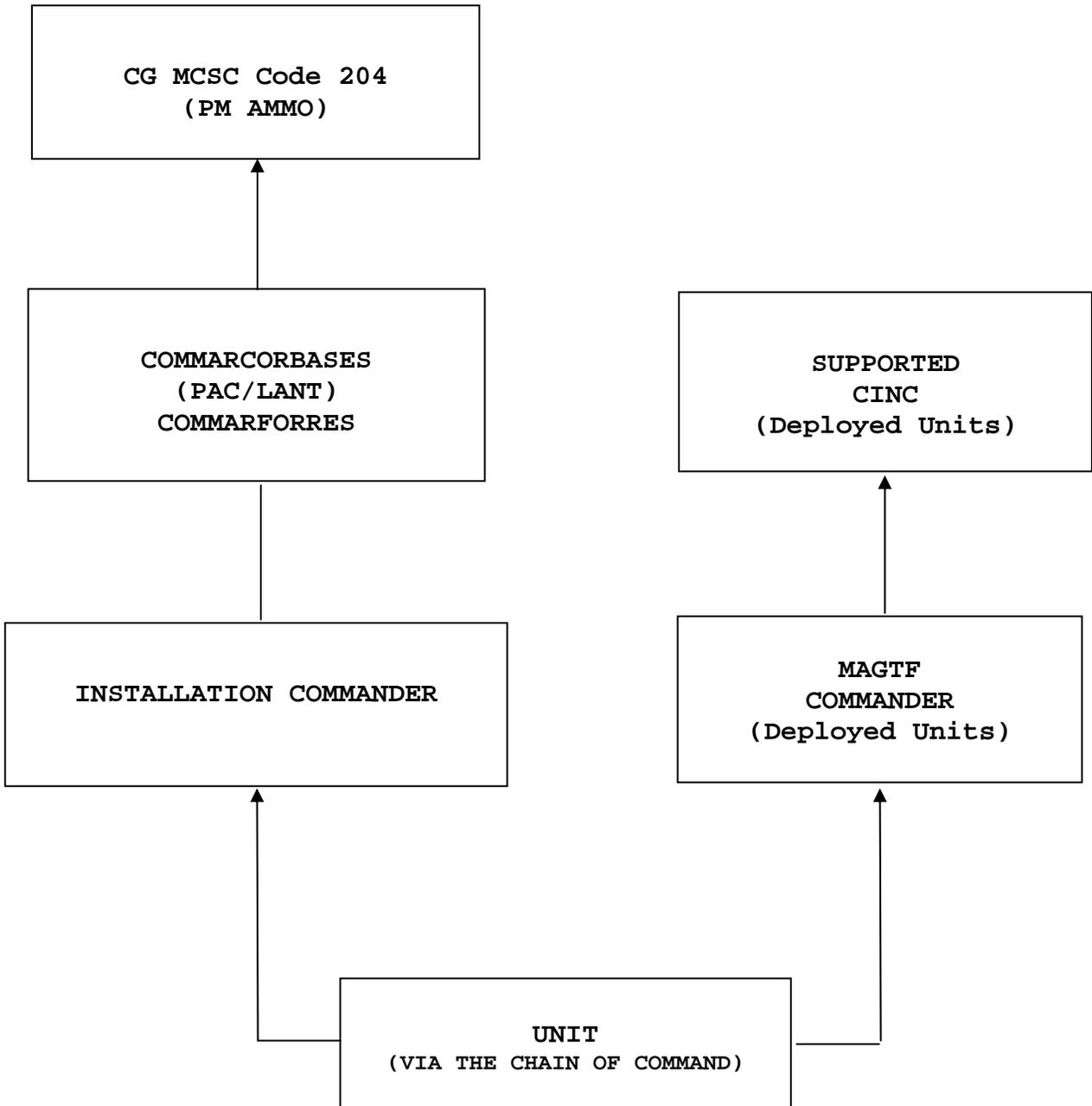


Figure 1-2 Event Waiver Chain of Submission.

1002. REVIEW BOARDS AND INSPECTIONS

1. DDESB

a. Jurisdiction and Responsibilities. The jurisdiction of the DDESB extends to facilities wherever Munitions are manufactured, tested, handled, reworked, transported, stored, or disposed of by the Services within the United States, its territories and possessions, and within areas where the United States has long-term rights or as specifically designated by the Secretaries of the military departments in areas occupied by the armed forces. A complete listing of DDESB responsibilities is contained in DoD Directive 6055.9.

b. Board Composition. The DDESB consists of one primary member in the grade of O-6/GS-15, and an alternate member of the same grade from each of the military Services. The Board is chaired by an officer of equivalent seniority on a rotating basis among the military departments. The Board is technically supported by a permanent secretariat of senior civilian explosives safety engineers and liaison officers from each of the Services. The composition of the DDESB and secretariat is discussed in more detail in DoD 6055.9-STD.

c. DDESB Surveys. The DDESB surveys, on a biennial basis, all DoD shore activities involved in handling, processing, or storing Munitions. The installation commander to be surveyed is normally notified 2 to 4 weeks prior to the scheduled time of survey. Specific actions to be taken by installation commanders in assisting the DDESB, correcting deficiencies, and preparing briefings include:

(1) Providing all information requested by DDESB survey personnel including station maps, population data, ammunition handling and storage data, all approved or pending MILCON site approval data.

(2) Commanding Officer (CO) of the activity shall be present, or represented, at the survey in brief and debrief.

(3) Take immediate action to correct obvious and readily correctable violations noted by DDESB survey personnel.

(4) Upon receipt of the DDESB survey report, submit a brief report via the chain of command to CMC (SD) defining what local action was or will be taken to correct all deficiencies noted by DDESB survey report

d. Correspondence with DDESB. Marine Corps installations and commands shall not initiate direct communication with the DDESB. Required correspondence shall be forwarded via the activity's chain of command. CG MCSC Code 204 (PM Ammo) shall be included as a via addressee on all correspondence forwarded via the chain of command to the DDESB.

## 2. Weapon System Explosives Safety Review Board (WSESRB)

a. Jurisdiction and Responsibilities. The WSESRB is designated by the CNO to review safety aspects of weapon or explosive systems and to make recommendations to the responsible naval command or Program Manager (PM). This responsibility includes all mechanical, chemical, biological, Hazards of Electromagnetic Radiation to Ordnance (HERO), and other electrical hazards associated with a weapon system. Equipment and systems whose malfunction would imperil the safe handling, maintenance, storage, transfer, release, delivery, firing, demilitarization, or disposal of a weapon system are also included. Additionally, in the areas of safety, the WSESRB recommends for approval, for full production all systems and materials considered for use by the DON.

b. Board Composition. The WSESRB is headed by a representative of the NOSSA and consists of representatives from CG MCSC Code 204 (PM Ammo) and other commands as necessary.

c. Responsibilities. Every PM, weapon system designer, producer, processor, packager, handler, or user of a weapon system is responsible for safety within their activity. The WSESRB reviews all DON weapon system acquisition programs to ensure that all safety requirements are met. WSESRB reviews must be conducted before weapon systems advance to the next stage of development and recommendations provided to the respective PM before test, prototype, or production units are introduced to the Marine Forces. Detailed instructions for preparing for WSESRB Reviews are contained in NAVSEAINST 8020.6 series.

3. Explosives Safety Inspection (ESI) Program

a. Jurisdiction and Responsibilities. The jurisdiction of the NOSSA to conduct shore station ESI's applies to all Navy and Marine Corps installations, including tenant, or other commands (Federal, State, etc.), engaged in the storage, management, accountability, handling, renovation, production, processing, development, testing, or transporting Munitions. However, Program 7 (Environmental Compliance), Program 8 (AA&E Physical Security) and the Range portion of Program 9 (Ranges/EOD) are not subject to ESI for USMC installations.

**NOTE**

The inspection of Marine Corps activities conducted in accordance with Program 09 of NAVSEAINST 8020.14 series is restricted to small arms and grenade ranges only. Additionally, only the following areas within those eligible ranges may be inspected: off-range ammunition supply points, equipment and operations (including motor vehicles), and ready service lockers and magazines that serve to support range operations. Inspection of on-range ammunition handling, transport, facilities design and construction, and standard operating procedures in support of range operations or field exercises will be the responsibility of MCCDC (C465) and not subject to the ESI Program.

b. ESI Team Composition. ESI team membership will consist of appropriate NOSSA, ESSO Atlantic or Pacific Division inspector personnel, augmented, as needed, by experts in specific fields selected from various Marine Corps activities, Navy weapons stations and Navy weapons laboratories. A Marine aviation ordnance officer or ammunition officer (MOS 6502 or 2340) will be assigned to serve as chief inspector for the Marine Corps installations. CG MCSC Code 204 (PM Ammo) will provide Marine Corps Chief Inspectors with a base information package prior to the ESI for the purpose of acquainting the Chief Inspector with current conditions and any special circumstances that may exist at the base to be inspected. The package will include:

(1) In-brief information- Date, time, location of in brief; base command and organization personnel attending, base POC contact information.

- (2) ESO information- Name and contact information, and general comments.
- (3) Facility summary- Number and types of magazines, current or projected MILCON, and other facility data.
- (4) Previous ESI/DDESB survey results summary.
- (5) Summary of current waivers/exemptions.
- (6) Current site plan/approval status.

Additional details relative to ESI team membership and qualifications are contained in NAVSEAINST 8020.14 series.

c. Procedures. The procedures required for each activity to be visited by an ESI team are set forth in NAVSEAINST 8020.14 series. These procedures require specific actions to be taken in providing adequate command attention and support to the ESI teams. Occasionally there may be differing opinions between ESI team members and installation personnel over interpretation of requirements or precedence of regulatory guidance. On Marine Corps installations, Marine Corps Orders (MCO) which modify other regulatory guidance or which specifically exempts the Marine Corps from any/all provisions of that guidance will take precedence. Differing opinions on regulatory interpretation will be brought to the attention of the Chief Inspector. The Chief Inspector, drawing from his/her experience and considering input from all parties, will make the final decision. If, in extreme instances, the differing views are so contentious in nature that they cannot be reasonably resolved by the Chief Inspector, the situation will not be written as an ESI finding but will be written in the report as a separate observation by the Chief Inspector. The observation will factually describe the problem, present both viewpoints to include applicable regulatory references and request joint resolution between CG MCSC Code 204 (PM Ammo) and NOSSA. Commanders of Marine Corps activities under the cognizance of the ESI teams shall provide a copy of all correspondence to the CG MARCORSYSCOM Code 204 (PM AMMO).

#### 4. Ammunition Hazard (AMHAZ) Handling Review Board

a. Jurisdiction and Responsibilities. The AMHAZ Handling Review Board was established by CNO to be convened biennially at major Navy and Marine Corps installations. The purpose of the AMHAZ review is to provide a joint review by senior DON headquarters personnel of all factors pertinent to proper safety in the handling, storage, and transportation of Munitions at each major installation and all nearby activities. A secondary purpose is to review explosives safety conditions as reflected in, or impacted by, planned construction projects. Unlike the ESI process, AMHAZ Handling Review Boards are not investigative or inspection organizations. They are advisory groups, dedicated to working jointly with local commands and others to achieve proper balance between operational readiness and acceptable levels of safety. The AMHAZ Handling Review Boards do have the authority to recommend to DDESB or CNO the cancellation, modification, or continuance of any waivers or exemptions in effect.

b. Board Composition. The AMHAZ Handling Board will consist of senior military officers or civilians, knowledgeable in explosives safety, from the following commands:

- (1) The cognizant Fleet CIC.
- (2) NOSSA: Chairperson, safety engineer, and appropriate Atlantic or Pacific ESSO representatives.
- (3) Regional commander.
- (4) NAVFACENCOM Installation Planning Division.
- (5) CNO (N411)(ex-officio member).
- (6) CG MCSC Code 204 (PM Ammo) (ex-officio member).
- (7) Additional personnel as desired by CNO in order to obtain specific experience or background.

c. Procedures. The procedures required of each activity to be visited by the AMHAZ Handling Review Board are set forth in NAVSEA OP 5, Volume 1. These procedures require specific actions to be taken in providing adequate command attention and support to the AMHAZ Review. Commanders of Marine Corps activities under the cognizance of the AMHAZ Handling Review

Boards shall provide a copy of all correspondence to CG MCSC Code 204 (PM Ammo).

5. Technical Assistance Visit (TAV) Program

a. Jurisdiction and Responsibilities. Each TAV will be conducted on an as-requested basis. The TAV program is established for the sole purpose of providing technical expertise and assistance in the management and safe storage of MM on Marine Corps installations. TAV's are designed to assist in the validation of Munitions programs associated with the installation and do not serve as a pre-inspection review. ESI TAV's should be requested through the appropriate NOSSA ESSO, and TAV's for assistance in the management of the Ground Range Safety Program should be requested through MCCDC (C465).

b. TAV Team Composition. The TAV team will consist of qualified personnel designated by the CG MCSC CODE 204 (PM AMMO). Marine Corps aviation ordnance personnel will be designated by CMC (ASL-30) for visits to Marine Corps air stations. Personnel from various field activities as well as personnel from appropriate training facilities, or ESO's from other installations may be included on these teams.

c. Procedures. Requests for TAV's will be submitted electronically to CG MCSC Code 204 (PM Ammo) at least 60 days prior to the date of the intended visit. Request will include a preferred TAV date and a fall back date. Request will indicate the primary area(s) of program concern. TAV's will not be scheduled within 120 days of a scheduled ESI or other external inspection. The results of the latest DDESB, AMHAZ Review Board, and ESI should be made available as well as all current waivers and exemptions. Copies of all current site plans and proposed military construction (MILCON) projects within the Munitions storage area will also be available. Copies of current SOPs, documentation of magazine and other regular inspections, and ESSA's will also be available.

6. ENVIRONMENTAL COMPLIANCE EVALUATION (ECE)

a. Jurisdiction and Responsibilities. The 12 August 1997 Munitions Rule (MR) amended the Resource Conservation and Recovery Act (RCRA) by stating under what condition munitions would become a hazardous waste, therefore subject to regulation.

Those areas impacted by the MR amendment will be examined by the Marine Corps ECE Program on a recurring basis under the cognizance of the DC I&L, augmented by CG MCSC Code 204 (PM Ammo).

b. ECE Team Composition. For the purpose of this Manual, the MR portion of the ECE's, are to be conducted by qualified personnel designated by DC I&L in coordination with CG MCSC Code 204 (PM Ammo).

c. Procedures. Protocol for conducting ECE's will be accomplished in accordance with MCO P5090.2A.

7. Inspections. Representatives from CMC, CG MCSC Code 204 (PM Ammo), MCCDC, DDESB, and NOSSA will make periodic inspections and assistance visits to Munitions storage areas at Marine Corps installations to ascertain compliance with prescribed safety regulations. All inspections, surveys, and assistance visits to Marine Corps activities by agencies external to CMC and CG MCCDC will be coordinated through CG MCSC Code 204 (PM Ammo). Direct liaison from Marine Corps activities to or from these external agencies is not authorized.

### 1003. RESPONSIBILITIES

1. Director, Safety Division (SD), Headquarters, U.S. Marine Corps. The Director, SD, is responsible for the overall administration of the Marine Corps Munitions Safety Program as outlined in SECNAVINST 8023.3. The overall program is divided into three general titles: Ground Range Safety, Aviation Operations Explosives Safety, and Ground Operations/Marine Corps Installations Explosives Safety. CMC (SD) has delegated oversight and functional area responsibilities for these three general categories as follows:

a. Commanding General, Marine Corps Combat Development Command (MCCDC). The CG, MCCDC (C465) is responsible for Ground Range Safety Program. The CG, MCCDC (C465) serves as the single point of contact for ground range operations involving the use of Class V (W) within the Marine Corps. Responsibilities include providing range certification/re-certification and range TAV's.

b. Deputy Commandant Aviation (DC AVN), Aviation Logistics Support Branch (ASL). The DC AVN, (ASL) serves as the single

point of contact for Aviation Operations Explosives Safety. Responsibilities include Class V (A) aviation ordnance safety, aviation range operations, and Munitions safety involving operational use of Class V (A) in aircraft operating areas (AOA). Specific responsibilities include the following:

- (1) Provide amplifying instructions to policies involving the safe use of Class V (A) in the AOA and the qualification and certification of Marine Corps aviation ordnance personnel.
- (2) Provide recommendations to CG MCSC Code 204 (PM Ammo) for approval and disapproval of event waivers involving the use of Class V (A) by Marine Corps units.
- (3) Coordinate with CG MCSC Code 204 (PM Ammo) in providing aviation ordnance personnel to assist in executing the Marine Corps Installations Explosives Safety Program.
- (4) Act as approval authority for all exemption and waiver requests for deviations from current aviation range procedures.
- (5) Provide aviation ordnance review of OPNAVINST 5102.1 series.

c. Commander, Marine Corps Systems Command (CG MCSC). The Program Manager for Ammunition, CG MCSC Code 204 (PM Ammo), is responsible implementing and executing the USMC Explosives Safety Program, for all explosives safety and inventory management matters involving the use of Class V (W) and the non-operational use of Class V (A) within the Marine Corps. Specific responsibilities include the following:

- (1) Provide amplifying instructions necessary to implement policies for the safe management and disposition of Class V (W), the non-operational use of Class V (A), and the Marine Corps qualification and certification program.
- (2) Provide review and recommendations of approval or disapproval for exemptions to transportation regulations involving the movement of Munitions by Marine Corps units, tenants, or other entities (federal or other) physically located on Marine Corps installations.

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(3) Provide technical review and initial approval for site approval requests for Marine Corps installations and activities.

(4) Provide technical review and approval for non-DoD storage authority on all requests submitted by Marine Corps installations and activities.

(5) Provide technical review and initial approval on requests for deviation from explosives safety criteria (exemptions and waivers) involving the use of Munitions by Marine Corps commands.

(6) Provide approval or disapproval of applicable requests for event waivers from Marine Corps activities.

(7) Establish a TAV program to assist Marine Corps units involved in the storage of Class V (W) and the non-operational use of Class V (A).

(8) Provide munitions disposition instructions for all excess, obsolete, unserviceable, and waste Class V (W) munitions within 60 days of receipt.

2. Deputy Commandant Installations And Logistics (DC I&L). The DC I&L has overall responsibility for Marine Corps installations. The DC I&L will coordinate operational and policy matters relating to Munitions with CG MCSC Code 204 (PM Ammo) and CG, MCCDC (C465) to ensure that specific functional area considerations and requirements are addressed. Additional DC I&L requirements are contained throughout this Manual.

3. Installation Commanders. Installation commanders shall ensure compliance with the instructions contained in this Manual. Specific responsibilities include the following:

a. Shall ensure command and tenant activities publish standard operating procedures (SOP) that govern explosives operations aboard their installation. For those aviation operations for which technical manuals, Naval Air Systems Command (NAVAIRSYSCOM) conventional weapons loading manuals and checklists are published, a separate SOP is not required.

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However, SOPs are required for all common functions to include storage, handling, transportation, and the end of life cycle management. The SOPs shall be prepared in accordance with NAVSEA OP 5, Volume 1, and NAVSEAINST 8023.11, and shall implement the policies and procedures set forth in this Manual.

b. Establish an explosives safety program that ensures compliance with this Manual, and other applicable explosives safety references and instructions.

c. Process all requests for deviations from explosives safety criteria in accordance with the provisions of this Manual and those of NAVSEA OP 5, Volume 1. When discrepancies exist between these references, this Manual will take precedence. Discrepancies between references will be immediately brought to the attention of CG MCSC Code 204 (PM Ammo) via electronic mail.

d. Designate an individual in writing, civilian or military, as the explosives safety officer (ESO) for the installation. The installation ESO shall be organizationally placed in the installation safety office. This individual's assignment as ESO will be their primary duty. Due to the complex issues and catastrophic consequences that may arise direct access to the installation commander is essential. As such, the ESO shall report directly to the installation commander on matters involving explosives safety, and should be assigned to the commanding officer's advisory staff. Due to the multitude of program requirements and specialized knowledge required to perform these duties, all commands should recognize that full time dedication is essential, and that any additional assignments be kept to a minimum. Furthermore, it is highly recommended that a civil servant be appointed as ESO to ensure stability and continuity of explosives safety program. Civil servant ESO's shall meet the Office of Personnel Management Handbook of Occupational Groups and Families qualifications for the Safety and Occupational Health Management series (0018). Additionally, the civil servant ESO shall be qualified for the explosives safety specialty within the 0018 series.

e. Ensure that all material potentially containing range residue or Material that Presents a Potential Explosive Hazard (MPPEH) is certified in accordance with DoD and Marine Corps MPPEH certification requirements as "MPPEH-FREE" prior to public release.

f. Ensure that personnel certifying material as "MPPEH-FREE" are trained in accordance with DoD and Marine Corps training requirements.

4. Installation Explosives Safety Officer (ESO). The ESO is the single point of contact for all explosives safety matters at the installation, base, post, or station to which assigned, including all tenant activities. The installation commander shall designate the ESO in writing. The role of the ESO is to develop, implement, and manage a robust explosives safety program that complies with the provisions of this Manual and applicable references. ESO training and certification requirements are found in chapter 10. Specific responsibilities include the following and are amplified in chapter 11:

a. Ensure that site approval packages are maintained for all locations, unless specifically exempted, where Munitions are stored and handled.

b. Ensure that overall installation operations involving the transportation, storage, handling, and execution of munitions disposition instructions are conducted in compliance with applicable directives, and executed in a safe manner.

c. The ESO will advise and monitor the explosives safety representative/liaison of each of the base units and/or tenant organizations on their conduct of, and compliance with, the Explosives Safety Program requirements.

5. Support Activities. Commanders of activities rendering Munitions support are responsible for the following:

a. Inspect all Munitions returned by using units to determine serviceability in accordance with applicable technical manuals.

b. Formally request an investigation, on those items reclassified to an unserviceable condition due to misuse, by the organization returning the Munitions. A copy of the request, as well as the results will be provided to CG MCSC Code 204 (PM Ammo).

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c. Request munitions disposition instructions for all excess, unserviceable, obsolete, and waste military munitions (WMM) per chapter 7 of this Manual.

d. Ensure the munitions disposition instructions provided by the designated disposition authority (DDA) are carried out as directed.

e. Ensure all operations involving the storage, handling, transport, security, accountability, management, manufacture, assembly/disassembly, and repair of Munitions are conducted in accordance with provisions of this Manual and applicable references.

f. Ensure frequent communications are maintained with installation Facilities and Environmental offices for awareness of current status.

g. Individual installation units and tenant activities will designate a responsible individual to conduct all applicable aspects of the Explosives Safety Program and serve as liaison between the unit/tenant and the installation ESO.

6. Deployed Unit Commanding Officers. COs of deployed units returning Class V via naval shipping (Landing Force Operational Reserve Material (LFORM), or training stocks), are responsible for the following:

a. Ensure items are properly prepared for turn-in to naval storage activities prior to returning to port.

b. Ensure packaging materials, banding, pallets, and appropriate markings and shipping documents are available throughout the deployment.

c. Ensure that the necessary manpower and expertise are devoted for adequate preparation and turn-in.

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CHAPTER 2

TRANSPORTATION

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CHAPTER 2

TRANSPORTATION

2000. BACKGROUND. Accidents occurring during movement can kill and injure personnel, possibly destroying essential supplies, damaging valuable equipment, and reducing the speed and efficiency of the overall operation. Most accidents are avoidable provided the proper safety precautions are taken. Therefore, it is imperative that a safety program designed to minimize the potential hazards associated with the transport of Munitions, in all modes, be aggressively pursued at all levels.

2001. TRANSPORTATION MODES. Transportation includes movement by any mode (surface or air), whether transported by commercial carrier, Defense Transportation System (DTS), or organic equipment.

2002. TRANSPORTATION REGULATIONS. Regulations pertaining to the motor vehicle transportation of Munitions, authorized vehicles, licensing requirements, and the waiver of these requirements are contained in the following directives: DoD 4500.9-R, Defense Transportation Regulation (DTR), Part II, Cargo Movement; 49 Code of Federal Regulations (CFR) Parts 100-199 (BOE-6000-E);; MCO P4600.14; NAVSEA OP 5, Volume 1; NAVSEA SW020-AC-SAF-010; NAVSEA SW020-AF-ABK-010; and NAVSEA SW020-AG-SAF-010. In view of heightened levels of Force Protection Conditions, particular emphasis should be placed on security/screening requirements for personnel transporting Munitions both on and off the installation.

2003. RAIL TRANSPORTATION. Transportation of Munitions by rail shall be conducted in accordance with DoD 4500.9-R (DTR), Part II, Cargo Movement; 49 CFR Parts 100-199; NAVSEA SW023-AG-WHM-010 (formerly OP 4461); NAVSEA SW020-AC-SAF-010; NAVSEA SW020-AF-ABK-010; and NAVSEA SW020-AG-SAF-010.

2004. AIR TRANSPORTATION. Air shipments of Munitions shall be in accordance with 49 CFR Parts 100-199; MCO P4030.19 series; NAVSEA SW020-AC-SAF-010; and NAVSEA SW020-AG-SAF-010. Class V munitions shall not be airdropped during training operations. Operational Commanders should coordinate with ammunition support activity personnel to simulate the air delivery of Class V

munitions utilizing inert loads (i.e., ballasted sand-filled containers).

2005. HELICOPTER TRAINING OPERATIONS. Limited quantities of small arms, pyrotechnics and smoke grenades may be transported with Marines during helicopter training operations. These items shall be limited to the rounds physically carried by the Marines as part of the training operation. In addition, all items carried by the Marines must be HERO-safe per NAVSEA OP 3565. Bulk ammunition (e.g., 40mm, mortars, demolition material, or grenades) shall not be transported internally or externally with passengers aboard the helicopter during training operations.

2006. WATER TRANSPORTATION. Shipments of Munitions by water, including Landing Force Operational Reserve Material (LFORM), Mission Load Allowance (MLA), and Maritime Prepositioning Force (MPF) ships, shall be in accordance with 49 CFR Parts 100-199, NAVSEA OP 4, and OP 5 and NAVSEA SW020-AG-SAF-010.

2007. ON-STATION TRANSPORTATION. The on-station transportation of Munitions shall be conducted in accordance with NAVSEA SW023-AG-WHM-010. Additionally, assistant military driver ((A) Driver) is authorized to occupy the cargo compartment of military vehicles used to transport limited quantities of mission essential ordnance and explosives materials along designated on-station routes in support of flight-line and combat aircraft loading area (CALA) operations. Reference CO, NOSSA ltr Ser N714/199 of 20 Nov 00.

2008. TRANSPORTATION OVER PUBLIC HIGHWAYS. Transportation of Munitions over public highways shall be conducted in accordance with DoD 4500.9-R (DTR), Part II, Cargo Movement; 49 CFR Parts 100-199; NAVSEA SW020-AG-SAF-010; SW020-AF-ABK-010; and NAVSEA SW020-AC-SAF-010. It is the policy of the Marine Corps to minimize the movement of Munitions on public highways by Marine Corps personnel. Should this become necessary, there will be, at minimum, one qualified driver at least 21 years of age, and one A driver or qualified representative 18 years or older.

2009. USE OF COMMERCIAL CARRIERS. Commercial carriers will be used for the transportation of Munitions to the maximum extent possible. Commanding officers and officers in charge of Marine Corps CONUS activities are authorized to grant safe haven or refuge to military and military-sponsored shipments of

explosives, hazardous materials, or other sensitive items endangered by civil disturbance, natural disaster, or terrorist activity. Installations that do not have existing sited explosives vehicle holding/parking areas will, to the extent possible, comply with compatibility, Quantity-Distance, lightning protection, and security requirements.

2010. USE OF GOVERNMENT-OWNED AND -OPERATED VEHICLES.

Government owned and operated vehicles may only be used to transport Munitions up to 100 miles from a Marine Corps installation. All such movements require prior authorization from the respective Installation Commanders. Prior authorization and coordination with local law enforcement agencies is also required.

1. Infrequent movements of Munitions from an installation to destinations in excess of 100 miles may be approved by the Installation Commander.
2. Repeated use of Government owned and operated motor vehicles for scheduled trips exceeding 100 miles require the approval of CG MCSC Code 204 (PM Ammo).

2011. TRANSPORTATION BY TACTICAL VEHICLE. Requirements contained in NAVSEA OP 5, Volume 1, relative to transport by tactical military vehicles may be waived by the installation commander provided that the movement will be over Marine Corps-owned property or public roads of foreign governments where such waivers are not otherwise prohibited by local laws or regulations. Waivers may be granted as follows:

1. The use of combinations of Marine Corps tactical vehicles and cargo trailers may be authorized to carry Munitions. When transported in this manner, the vehicles shall be routed from storage areas directly to training areas. This authorization applies, provided not more than one truck and one trailer comprise a combination.
2. The use of the high mobility multipurpose-wheeled vehicle (HMMWV), assault amphibious vehicle (AAV), 5-ton series vehicles, and logistics vehicle system (LVS) may be authorized to carry ammunition during training. However, all such authorizations must include the provision that the Munitions transported is in the original packaging (wooden or fiber

container only) and secured to prevent movement while in transit. Ammunition packed in metal containers must be placed on wooden planking. Compliance with all current regulations pertaining to fire extinguisher requirements and inspection of vehicles prior to and during such use is mandatory.

3. The use of ferrous beds may be authorized for movement of Munitions. However, all Munitions transported in this manner must be packed in original wooden or fiber containers or, if packed in metal containers, must be placed on wooden pallets or planking covering the ferrous bed of trucks or trailers. All Munitions must be secured so as to prevent movement while in transit. Compliance with all current regulations pertaining to fire extinguisher requirements and inspection of vehicles prior to and during such use is mandatory.

4. Plastic bed liners can generate static electricity and are not authorized for use in the transport of scrap or bulk explosives. All other types of Munitions may be transported in vehicles with plastic bed liners provided that it is in its authorized shipping configuration.

5. Tactical vehicles are authorized for off-station transport of Munitions. When transport by tactical vehicle is necessary, loads will be loaded, blocked and braced, and tied down in accordance with U.S. Army drawings. Specific drawings include: Class 19 Division 48 identified as 4900 (CA17Q1), 4901 (CA17Q2), and 4901/5 (CA17Q2). Reference CO, NOSSA ltr Ser N714/0132 of 27 Oct 00. Army drawings may be obtained through the Defense Ammunition Center (DAC) website: [www.dac.army.mil/DET/](http://www.dac.army.mil/DET/)

6. The use of Marine Corps-owned compressed natural gas (CNG) fueled pick-up trucks for the transport of Munitions both on and off station is authorized in accordance with safety instructions provided in enclosure (1) of CO, NOSSA ltr Ser N714/917 of 15 Aug 00.

#### 2012. COMBAT LOADING

1. Installation commanders are authorized to approve the transportation of live ammunition and crews in the same combat vehicle, subject to the following:

a. Authorization is limited to live fire-training areas only. Transportation of ammunition and personnel in the same vehicle en route to the training area is prohibited, as is the transportation of personnel who are not directly assigned responsibilities that require their presence.

b. Where applicable, ammunition must be transported in original containers. Special attention must be given to securing separately loaded projectiles and propelling charges.

c. No smoking restrictions must be strictly enforced.

d. All other pertinent safety precautions (e.g., availability of fire extinguishers) must be emphasized to all concerned prior to each evolution.

2. Operators of vehicles that are an integral part of a tactical weapon system receive explosives training and qualification through completion of MOS-producing schools, and thus may be exempted from the explosives driver's certification process. If implemented, this exemption only applies to operators of the M1A1 Main Battle Tank, light armored vehicle (LAV) variants, AAV, and M-923 series 5-ton truck only when in a tactical configuration with the 155MM Howitzer. This is known as combat loading and only applies when the vehicle is tactically configured on a designated range. This does not extend to such vehicles used to transport Munitions off-range such as when drawing Munitions from or making turn-ins to the ASP. These operations require full compliance with the remaining requirements of this chapter. The decision to exercise the combat loading exemption is at the discretion of the installation commander of the training site.

2013. SERVICE FOCAL POINT (SFP). CMC (LPP-2) is the Marine Corps SFP for joint transportation publications. The SFP is responsible for establishing joint procedures and preparing the necessary documentation to implement joint manuals, including MCO P4030.19.

2014. EXPLOSIVES DRIVER/OPERATOR LICENSING REQUIREMENTS. All drivers and operators will be licensed as follows:

1. Explosives Loaded Vehicles. Military vehicles transporting Munitions on and off military installations shall be driven by

operators who have satisfactorily demonstrated the standards and procedures for transportation of Munitions with the following exceptions:

a. When personnel over the age of 21 are not available, mature individuals ages 18-20 may be authorized for on-installation explosives driver qualification. Installation commanders may authorize a waiver of the minimum age licensing requirements within Marine Corps installations for which they are responsible, or over public roads of foreign governments provided that no local civilian or military laws or regulations prohibit such a waiver.

b. Installation Commanders may authorize the transportation of small arms and associated ammunition for marksmanship training, competition, or other requirements on a case-by-case basis without the usual transportation restrictions. The ammunition must be in the custody of a designated individual. Use of privately owned vehicles may be authorized for on/off station use.

c. Personnel to be licensed for tactical 5-ton series vehicles must be a minimum of 64 inches in height for physical safety standards addressed in MCO P1200.7 series.

d. Civilian and military explosives driver and explosives operators of MHE will be licensed for a period not to exceed 4 years, in accordance with MCO 11240.106 and TM 11275-15-4 (series), MCO P112540.106 (series). Drivers must possess both a valid license and a current medical certificate

## 2. Material Handling Equipment (MHE) Operators

a. Operators of powered MHE shall be licensed on each type of MHE for which qualified. In addition, each MHE operator shall complete a valid explosives operator's certification course and possess a current medical examiner's certificate. Appendix C of SW023-AH-WHM-010, provides the curriculum for the MHE explosives operators training course. This course was designed to provide training in the operation of the equipment and development of proficiency skills as well as explosives training. It is recognized that the Marine Corps is not organized in this manner. Operators who have successfully completed the individual equipment-training course need not

repeat this training. Therefore, modification to this curriculum is authorized to omit the operational proficiency training and demonstration, thereby reducing the duration to 12 hours.

b. NAVSEA OP 5, Volume 1, appendix D defines DON explosives safety training requirements. Table D-1 requires that explosives MHE operators attend the Basic Explosives Safety Course within 6 months of being assigned duties involving the handling and movement of Munitions. As noted in NAVSEA OP 5, Volume 1, paragraph D-3.b, Marine Corps personnel within MOS 2305, 2311, 2336, 2340, 6502, 6531, 6541, and 6591 have satisfied this requirement through completion of MOS schools. MHE operations often require personnel from other occupational fields to perform Munitions evolutions. It is not possible to extend training opportunities to all individuals whose contact with Munitions is incidental and who should already be under the supervision of qualified personnel. Accordingly, the requirement for Marine Corps explosives MHE operators to attend the Basic Explosives Safety Course is recommended, vice mandatory. This supersedes the mandatory requirement in table D-1.

2015. SECOND DESTINATION TRANSPORTATION. CG MCSC Code 204 (PM Ammo) is designated by DC I&L as the executive agent for Class V (W) second destination transportation (SDT) funds. SDT funds are used in support of Marine Corps training, Apportioned War Reserve (AWR), Marine Ammunition Requirements Support Order (MARSO), and War Reserve Materiel Requirements (WRMR) positioning strategies.

2016. RESPONSIBILITIES

1. Installation Commanding Officer (CO) Responsibilities For Transportation Of Munitions. The responsible party for all authorizing actions relative to the transportation of Munitions is the Installation CO. The CO may delegate this authority to the lowest level commensurate with assigned responsibilities and organic capabilities.

2. Installation Transportation Office Responsibilities For Transportation Of Munitions. The installation transportation office is responsible for certifying that hazardous materials are properly classified, described, packaged, marked, and

labeled, and in proper condition for transportation in accordance with DOT and Service regulations.

3. Originating Shipping Activity Responsibilities. The activity which offers hazardous materials for shipment is responsible for establishing a quality control program to ensure packing, marking, labeling, and certifying of hazardous materials by properly trained personnel is in accordance with DOT, RCRA, and Service regulations. The following rules shall be adhered to:

a. The shipping activity shall conduct a visual inspection of exterior packaging and review shipping documents for accuracy and completeness. Document review shall include screening of material being shipped against Notices of Ammunition Reclassification (NAR), TW024-AA-ORD-010.

b. Exterior containers shall only be opened when there is physical evidence to support suspected damage to the contents, or if external markings do not correspond to documentation.

c. Opened containers shall be resealed in accordance with the applicable test report or special packaging instructions.

d. Inspect each package to ensure the container is correctly labeled and in good condition.

e. Check the shippers' certification for overall accuracy.

f. Immediately remove damaged or improperly prepared packages from being offered for transportation by any mode.

g. Ensure hazardous materials are packaged in United Nations specification performance oriented packaging containers when required.

4. ESO Responsibilities. The installation ESO is responsible for oversight and monitoring of transportation activities involving Munitions to insure explosives safety standards are observed. This may be accomplished through:

a. Visual observation of transportation operations on a periodic basis. The ESO, in conjunction with unit personnel, shall determine the inspection frequency requirements for all

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locations. Unit personnel may perform these inspections utilizing the required inspection SOP and checklist. The ESO will review unit performed inspection documentation on a regular basis and document the review.

b. Review of transportation documentation, such as, Government Bills of Lading (GBL), DD Forms 626 and 836, personnel training records, driver licensing records, SOP's, and vehicle inspection/maintenance records.

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CHAPTER 3

STORAGE AND HANDLING

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CHAPTER 3

STORAGE AND HANDLING

3000. BACKGROUND. The Marine Corps stores less than 6% of its allotted inventory. Therefore, most of the inventory is stored and maintained in Army and Navy Munitions storage facilities that provide extensive logistics support. This support includes, but is not limited to, those operations associated with receipt, storage, surveillance, issue, demilitarization, material recovery, destruction, and disposal. Munitions are also stored at various NATO depots, aboard amphibious ships, and aboard Maritime Prepositioning Ships (MPS). For Marine Corps activities, the storage of Munitions ashore is generally divided into three broad categories; permanent storage, field storage, and other storage. Regardless of category, proper authority at designated levels must be obtained prior to commencing Munitions operations or storing Class V. These categories and the rules that govern them are discussed in this chapter.

3001. STORAGE FACILITIES. Marine Corps Munitions will be stored in permanent magazine storage facilities. Outdoor storage is not authorized except in conjunction with training and field exercises or temporary (overnight) operational circumstances. Permanent magazine storage facilities are those built to Naval Facilities Engineering Command (NAVFACENGCOM) specifications, approved by the Department of Defense Explosives Safety Board (DDESB), identified in the Installation Master Plan, and maintained and supported by host maintenance departments. Earth covered magazines (ECM) are designated, based on headwall and blast door hardness, as "7-bar", "3-bar", or "undefined". Detailed discussions of the types of ECM and the various types of existing magazines that may be found at storage facilities are contained in chapter 8 of NAVSEA OP 5, Volume 1. Storage in these facilities shall be in accordance with NAVSEA OP 5, Volume 1, and this Manual.

3002. STORAGE OF NON-DOD Munitions. Non-DoD (including captured enemy Munitions) and foreign Munitions items shall be properly segregated and separated from DoD Munitions as described in NAVSEA OP 5, Volume 1.

The following additional regulations shall be adhered to:

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1. Only those Class V (W) items authorized in MCO 8011.4, the current edition of Marine Corps Bulletin 8011, and items stored for another DoD Military Service may be stored on Marine Corps installations or in a Marine Corps ammunition supply point (ASP) during peacetime.
2. In the case of Class V (A), only those items based on formally established requirements will be stored.
3. Storage of non-DoD and foreign Munitions, with the exceptions of safe haven and combat operations, requires storage authority from CG MCSC Code 204 (PM Ammo). Requests may be submitted in either naval message, letter, or electronic mail (ees@mcsc.usmc.mil) formats routed through the local chain of command, to CG MCSC Code 204 (PM Ammo). PM Ammo will review and provide approval/disapproval. All requests must include the following:
  - a. Complete item description and national stock number (NSN) or other identifying information, if known.
  - b. Item quantity.
  - c. Hazard classification/division (HC/D) and compatibility group.
  - d. Net explosive weight (NEW).
  - e. Justification for and type of storage required.
  - f. Expected duration of storage.
  - g. A pre-approved post exercise munitions retrograde plan for unexpended ammunition.
4. Confiscated small arms ammunition items in non-DoD configuration may be stored on Marine Corps installations with the approval of the installation commander. The installation commander may assist external organizations (e.g. NCIS, FBI, local law enforcement) in storage of confiscated/evidentiary non-DoD configured small arms ammunition. However, the organization requesting assistance is responsible for providing an accurate inventory of the material, descriptive nomenclature, and is responsible for the proper disposition of the material.

The installation will not assume responsibility for providing/obtaining disposition of this material. These items are not authorized for subsequent issue or use. Disposition requests will be submitted to the Marine Corps designated disposition authority (DDA) as soon as the investigative authority releases these items.

5. The temporary storage or disposal of explosives is available in order to protect the public or to assist agencies responsible for Federal, State, or local law enforcement in storing or disposing of explosives when no alternate solution exists. Such storage or disposal shall be established in accordance with an agreement between the Secretary of Defense and the head of the Federal, State, or local agency concerned. These requests will be forwarded to CG MCSC Code 204 (PM Ammo) who will in turn coordinate with NAVORDCEN, OPNAV, and SECNAV for approval.

3003. MARINE CORPS TENANT UNITS ON NAVY INSTALLATIONS. For Marine Corps units located as tenant units aboard Navy installations, storage authority must be requested through the installation commander and forwarded through the Navy chain of command with an information copy to CG MCSC Code 204 (PM Ammo).

3004. FLEET SENTENCING. All Marine Corps ammunition support activities (Ashore) that perform receipt, storage, segregation, or issue of Navy and Marine Corps procured conventional ammunition, will utilize the Navy and Marine Corps Conventional Ammunition Sentencing manuals NAVSUP P-805 for reference, and NAVSUP P-807 for sentencing.

1. Marine Corps logistics squadrons (MALS) and their squadron elements are exempt from fleet sentencing while in garrison. However, when operating deployed from an advance base MALS units shall perform sentencing utilizing NAVSUP P-807.

2. A field return inspection guide is available on CD-ROM for OT cog ammunition to assist and train in the sentencing process. Guides may be requested through CG MCSC Code 204 (PM Ammo).

3005. USE OF MATERIAL CONDITION CODE TAGS. Material Condition Code (MCC) tags may be used at the discretion of Marine Corps facilities storing Class V (W) ammunition. Class V (A) stored and utilized at unit/squadron level activities to support ready service requirements are authorized to develop and use locally

generated inventory forms at the discretion of the unit commander. This pertains to storage only. Preparation for shipment will be per chapter 2 of this Manual and applicable Department of Transportation (DoT) regulations.

### 3006. USE OF LEAD SEALS

1. The use of lead seals has been discontinued within the DoD. This change prohibits the procurement of lead seals for ammunition containers, but allows their use until current stocks are depleted. A comparable non-lead seal has been tested by the DoD Lock Program and approved for use. This seal provides good tamper indicating capabilities and is suitable replacement for lead seals currently in use. This seal is issued in two parts (a wire and a seal) under the following nomenclature and NSN:

NOMENCLATURE	NSN
Wire, Steel	9505-00-006-5050
Seal, Anti-pilferage	5340-00-522-2514

Use of other non-lead, anti-pilferage seals may be used provided they are approved for use under the DoD Lock Program and meet the following criteria.

2. Crimped seals shall be embossed on one side with the six-digit alphanumeric unit identification code (UIC) or manufacturers code (factory seal). The opposite side of the crimped seal shall be embossed with an identification number assigned to individual sealing container, or traceable serial number. A list of authorized personnel and their corresponding identification number, or serial number logbook will be maintained by the unit and shall be updated as needed to reflect current status.

3007. USE OF WOODEN PALLETS. Marine Corps installations storing Class V (W) ammunition may utilize standard, serviceable wooden pallets to the fullest extent possible. The use of wooden pallets for dunnage is authorized for storage.

3008. USE OF METAL PALLETS. Metal pallets are not required for shipping or storing Marine Corps Class V (W). The re-palletization of Marine Corps Class V (W) scheduled for loading aboard amphibious ships is not required.

3009. SUPERVISION OF HANDLING PERSONNEL. Close supervision of personnel involved in Munitions evolutions must be maintained at all times in accordance with MCO 8023.3 series.

3010. INSTRUCTION OF HANDLING PERSONNEL. All personnel physically handling Munitions, including those who utilize Munitions in accomplishment of their mission (e.g., tank, artillery, mortar crewman, and engineers), shall be properly instructed prior to each handling evolution. This shall include instructions on the employment and safety precautions associated with the specific items being used. Personnel involved in the actual firing or employment of ammunition should refer to MCO 3570.2 series or appropriate technical and field manuals for associated safety regulations.

3011. PROTECTION FROM HAZARDS OF ELECTROMAGNETIC RADIATION TO ORDNANCE (HERO). Munitions must be protected from the adverse effects of HERO; i.e., transmitting equipment capable of generating electromagnetic radiation of sufficient magnitude to initiate electro-explosive devices (EED). Details regarding electromagnetic radiation are contained in NAVSEA OP 3565.

3012. HANDLING OPERATIONS IN AVIATION AREAS. All explosive operations and handling evolutions conducted in combat aircraft loading areas (CALA); hazardous cargo areas; flight lines; weapons assembly areas; flight line ready service storage areas; and arm/de-arm areas shall be conducted in accordance with NAVSEA OP 5, Volume 1; NAVSEAINST 8020.7; published SOPs; and applicable aircraft weapons/stores loading manuals and checklists.

3013. RESPONSIBILITIES

1. Installation Commander's Responsibilities For Storage And Handling Of Munitions. The installation commander is responsible for the following actions as they relate to the implementation of the policies set forth in this Manual:

a. Ensure the Development of SOPs for all ammunition operations, including storage and handling evolutions specified in NAVSEAINST 8023.11 series.

b. Ensure existing SOPs are periodically reviewed and updated.

c. Ensure personnel engaged in ammunition handling and storage operations are properly trained, qualified and certified to perform the required functions assigned per MCO 8023.3 series.

d. Ensure adequate types and quantities of facilities are available for storage of Munitions.

2. Ammunition Handling And Storage Personnel Responsibilities. Personnel assigned to ammunition handling and storage operations are responsible for the following actions as they relate to the implementation of the policies set forth in this Manual:

a. Implement, and observe the SOPs governing the specific operation in which they are engaged.

b. Immediately note and report any unsafe conditions or deviations from SOPs to the individual's supervisor.

c. Perform only those operations for which they are qualified and certified.

d. Ensure that RCRA training requirements identified in MCO P5090.2A are adhered to.

e. Ensure that waste military munitions (WMM) stored in ammunition storage facilities are inspected not less than quarterly and inventoried not less than annually.

f. Ensure that all applicable training requirements are adhered to for personnel handling and storing ammunition containing depleted uranium (DU).

3. Installation Environmental Office Responsibilities. The installation environmental office is responsible for the following:

a. Coordinate reporting and reinstatement procedures with DC I&L (LFL), CG MCSC Code 204 (PM Ammo), and environmental regulatory officials if conditional exemption (CE) storage is lost. Refer to MCO P5090.2A and chapter 7 of this Manual for more detail.

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b. Coordinate RCRA training for Munitions personnel per MCO P5090.2A.

c. Coordinate with ammunition handling and storage personnel to maintain an inventory of WMM and inspections of storage facilities.

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CHAPTER 4

SECURITY AND ACCOUNTABILITY

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CHAPTER 4

SECURITY AND ACCOUNTABILITY

4000. BACKGROUND. The Marine Corps continuously trains and deploys with ammunition and explosives, which by their very design are inherently hazardous. Careless losses, improper disposition, theft, and unauthorized use expose the public to unnecessary hazards. Therefore, it is imperative that the provisions of this chapter and all cited references be closely examined and adhered to.

4001. CMC-MANDATED CHANGES. OPNAVINST 5530.13 provides the current guidelines and policies for the security of arms, ammunition and explosives (AA&E). Recent procedural reviews have resulted in several AA&E security and accountability policy changes, which have been incorporated into MCO P4400.150 series. As a result of these policy changes, the following procedures shall be implemented immediately:

1. Expenditure Reporting. Munitions are most susceptible to theft or loss during field exercises. To ensure that proper accountability is afforded to all Munitions, commanding officers and officers in charge shall ensure that the Class V (W) Expenditure Report (NAVMC Form 11381), depicted in figure 4-1, is used to document all expenditures of Munitions assets. NAVMC 11381 is available in the Marine Corps Electronic Forms System (MCEFS). This form will be completed at the range by the range safety officer (RSO) and the ammunition technician to include signatures of both parties prior to any ammunition leaving the range for transport to the ammunition supply point (ASP) or armory. Local commanders are authorized to add additional fields to NAVMC 11381 in order to comply with or to support other local requirements as deemed appropriate. However, the standard fields contained on this form shall not be changed. Expenditure reports shall be maintained by fiscal year (FY) and retained for the current year plus 2 FYs as of the closing date of expenditure. For those expenditures maintained on NAVMC 10774s, the retention period shall be 3 years from placement of the NAVMC 10774 in the inactive file.

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**CLASS V (W) EXPENDITURE REPORT**  
**NAVMC 11381 (X-XX) (XX)**  
SN: XXXX-LF-XXX-XXXX

FROM: (RSO/EOD)	PRINT NAME	RANK	SSN	UNIT/RUC/PHONE NUMBER
--------------------	------------	------	-----	-----------------------

Ref: (a) MCO P4400.150 series

1. Per the reference, the following Class V (W) expenditure report is completed:  
Range (s) and date (s) \_\_\_\_\_

RECEIPT DOC#	DODIC	NOMENCLATURE	LOT	QTY REQ	QTY RECEIVED (NOTE 1)	QTY EXPENDED	QTY TURNED IN (NOTE 2)

I certify the receipt/expenditure data listed above is accurate and that any expended items above was consumed on the range/training brief was conducted and all expended ammunition was graded, stored, and disposed of in accordance with applicable regulations and procedures. (If applicable) \_\_\_\_\_ (Number) unused propellant items were burned on ranges per Individual Training Standards, under the supervision of the Range Commander: \_\_\_\_\_ (Print Name, Rank, Signature) \_\_\_\_\_ Date \_\_\_\_\_

RSO/EOD (Signature) \_\_\_\_\_ Date \_\_\_\_\_

I certify that I have completed the turn-in documents for any unexpended Class V (W) (note 2) and returned the unexpended assets to an authorized storage activity.

Ammo Tech/EOD and/or Authorized Individual:  
(Print Name, Rank) \_\_\_\_\_  
(Signature) \_\_\_\_\_ Date \_\_\_\_\_

NOTE 1: All serial numbers for serialized ammunitions will be annotated on a separate sheet and attached to this expenditure report with a copy of the expenditure msg.  
NOTE 2: Unexpended Class V (W) will be turned in using the same document number as the initial issue document using a suffix (Example M00001-8001-0001.A )  
Retention: Expenditure reports are filed by fiscal year (FY) and retained for current year plus two FY's.

(A&E Audit & Verification Officer Only): I certify I have audited this expenditure report against all issue and turn-in documents (DD1348s) and corrective action required. (Circle one) is or is not  
A&E Officer (Signature) \_\_\_\_\_ Date \_\_\_\_\_

Figure 4-1. Class V (W) Expenditure Report (NAVMC 11381).

## 2. Certification Screening

a. Commanding officers and officers in charge shall ensure that all personnel who account for, maintain, and distribute AA&E in performance of their primary duties are screened in accordance with this paragraph and OPNAVINST 5530.13 series. This includes explosive ordnance disposal (EOD) and aviation ordnance personnel, engineers, military police, AA&E officers, armorers/custodians, and ammunition technicians.

b. Screening will be conducted annually and will include a review of the Marine's medical records, service record book or officer qualification record, and provost marshal office (PMO) incident reports.

c. Personnel who are required to be qualified and certified in their primary duties involving AA&E shall document screening in accordance with MCO 8023.3 series.

d. Letters of designation referencing this Manual and signed by the commanding officer or officer in charge may serve as screening documentation.

e. All other screening documentation shall be done utilizing the Personnel Screening for AA&E Form (NAVMC Form 11386), depicted at figure 4-2.

f. This certification will be maintained as long as that individual is handling AA&E as their primary duties or upon their transfer to another duty station.

g. If the individual is assigned primary duties of handling AA&E at the new duty station, re-certification is required.

h. Commanders will coordinate with CMC (MMEA/MMOA) when requesting retraining or reassignment of any Marines who do not meet the requirements of this screening process. The Assignment, Classification, and Travel Systems (ACTS) Manual (MCO P1000.6F) contains specific guidance which must be followed in order to complete these retraining and reassignment requests.

## 3. Unit-Level Inventories

a. Commanding officers and officers in charge shall appoint in writing an A&E audit and verification officer in accordance with MCO P4400.150 (series). This requirement applies to EOD units, engineer school, PMO, rifle ranges, armories, Marine support battalion detachments, Marine security guard detachments and Marine Corps security force detachments.

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**PERSONNEL SCREENING FORM FOR ARMS, AMMUNITION, AND EXPLOSIVES**

Screening (check one): initial    annual



Ref: (a) OPNAVINST 5530.13 series  
(b) MCO P4400.150 series  
(c) MCO P8020.10 series

Individual being screened	Individual conducting screening
Rank/Name:	Rank/Name:
SSN/MOS:	SSN/MOS:
Billet:	Billet:
Date of screening:	Date of screening:
Signature:	Signature:

SUBJECT	YES	NO	EXPLAIN "NO" RESPONSES
A competent medical authority has screened subject Marine's medical record. There are no medical conditions that would prevent this Marine from handling AA&E.			
Subject Marine's service record book or officer qualification record has been screened. There is no derogatory information that would prohibit this Marine from handling AA&E.			
Subject Marine has no pending legal action and/or convictions by court-martial, civilian courts, or non-judicial punishment that would prohibit this Marine from handling AA&E.			
Subject Marine demonstrates the requisite maturity, judgment, and leadership required to handle AA&E.			

Based on the above information, I have determined that the subject Marine (check one):

- \_\_\_\_\_ does meet the personnel screening requirements to handle AA&E in performance of their regular duties.
- \_\_\_\_\_ currently does not meet the personnel screening requirements to handle AA&E in performance of their Regular duties. Subject Marine will be re-evaluated in \_\_\_ days.
- \_\_\_\_\_ can not meet the personnel screening requirements to handle AA&E in performance of their regular duties. A summary of the findings for non-qualification is attached. If appropriate, the command will request via CMC (Code MM) that action be taken to re-train and/or reassign subject individual to an occupational field not requiring routine handling of AA&E.

Retention: This Record will be maintained for one year after termination of the individual's assignment, or one year after final interview if the individual is disqualified during the screening or re-screening process.

Figure 4-2. Personnel Screening Form For AA&E (NAVMC 11386).

4. Storage Activity Inventories. All Munitions that is being stored in approved magazines will be inventoried in accordance with MCO P4400.150/151 (series) for Class V(W) or NAVSUP P-724 for Class V(A). Record keeping personnel shall not be permitted to conduct inventories. In addition, storage personnel will accompany these personnel when access to the Munitions storage area is required. Storage personnel will be denied access to Munitions record keeping files. Based on inventory results, investigations shall be conducted and MLSR reports shall be submitted, where appropriate. The reports or investigations, if required, shall be submitted in accordance with MCO 4340.1 and JAGINST 5800.7.

4002. SCOPE OF ACCOUNTABILITY. All Class V, to include inert, practice, service (live), or any component thereof, is considered non-expendable and will be accounted for in accordance with NAVSEA OP 5, Volume 1, NAVSUP P-724, UM-4400.15, and MCO P4400.150 series.

4003. INERTING AND DISPLAY OF Munitions ITEMS

1. Only qualified EOD personnel are authorized to conduct inerting and stripping operations of Class V in accordance with NAVSEA OP 5, Volume 1; MCO 1510.78; and MCO 3571.2. Inspection and marking of inert-filled and empty ordnance items shall be in accordance with MCO 3570.2; NAVSEA OP 5, Volume 1; and the current edition of Marine Corps Bulletin 8011.

2. Inert ammunition does not contain any explosive material. Only inert ammunition and components shall be used for classroom training, all displays (public, museum, or otherwise), public functions and patriotic occasions. MCO 8011.4 series authorizes the respective COMMARFOR and commanders of supporting establishments to approve the inerting of ammunition for training purposes by EOD personnel and the displaying of that inert ammunition by any approved unit. Additionally, aviation ordnance items used for public display shall be in accordance with NAVAIR 00-80T-103 and NAVSEA OP 5, Volume 1. No ammunition, other than inert, shall be used for displays unless specifically approved by the Naval Ordnance Safety and Security Activity (NOSSA) via the chain of command. CG MCSC Code 204 (PM Ammo) will coordinate all requests with NOSSA. Request for approvals shall be submitted using the event waiver process outlined in chapter 1.

3. Commanders at all echelons shall take immediate action to ensure compliance with this Manual for all Munitions items not properly inspected and marked by EOD.

4004. AUTHORIZED QUANTITIES. Munitions requisitioned or maintained on hand shall be limited to those authorized quantities listed as part of an Apportioned War Reserve (AWR) Marine Ammunition Requirement Support Order (MARSO), War Reserve Material Requirement (WRMR) stock held for safety or security purposes, or the annual training requirement. The types and quantities must not exceed that which can be properly stored, accounted for, and safeguarded.

4005. REMOVAL OF Munitions FROM THE INSTALLATION. Munitions shall not be removed from any military activity, except as duly authorized by proper authority.

4006. SALE OR EXCHANGE OF Munitions. Government-owned Munitions shall not be provided gratuitously, offered for sale, sold, exchanged or bartered for privately owned or Government-owned property. This does not apply to ammunition provided by morale, welfare, and recreation (MWR) activities or stocked within the Marine Corps exchange system. In addition, military owned ammunition shall not be authorized to be fired from privately or personally owned weapons.

4007. RESPONSIBILITIES

1. Personnel Responsibilities. Commanders at all echelons and all personnel, civilian or military, involved in operations relative to Munitions are responsible for proper ammunition accounting, physical control, security, transportation, use, storage, handling, and disposition. Particular care must be exercised when Munitions is physically in the hands of personnel and when unused Munitions is being returned to a storage site. The accountability of Munitions is paramount at all times and at all levels.

2. Commanders Responsibilities. Commanding officers and officers in charge are responsible for the following:

a. Establish written procedures to appoint or relieve responsible officers (RO) of ASP, station ordnance, or

individual units that are responsible for maintaining and retaining Munitions items. Commanders will maintain all appointment, acceptance, and revocation letters on hand for 5 years, and ensure that units have current letters on file. A copy of all appointment/revocation letters shall be sent to installation ESO for their records.

b. Appoint unit AA&E officers and RSO's. Responsibilities for AA&E officers and RSO's can be found in MCO P4400.150 (series)

c. Appoint in writing an Munitions audit and verification officer to conduct and document monthly inventories of Munitions that is stored in local unit controlled magazines.

d. Ensure that all personnel who account for, maintain, and distribute AA&E in performance of their primary duties are screened in accordance with paragraph 4001.2 of this chapter.

e. Ensure that expenditure reports are maintained by fiscal year (FY) and retained for the current year plus two FY's as of the closing date of expenditure. For those expenditures maintained on NAVMC 10774's, the retention period is 3 years from placement of the NAVMC 10774 in the inactive file.

#### 4008. CLEARING BARRELS

1. Clearing Barrels will be provided at designated weapons clearing locations (generally located outside arms rooms, ranges).

2. Construction:

a. Recommend a 30-50 gallon container, filled with pea gravel or sand (pea gravel has the greatest stopping ability based on Air Force 13 Aug 92 Clearing Barrel Penetration Test).

b. If sand is used, it must be dry and free of rocks and other debris. Properties of wet sand can cause ricochets. Place dry sand in a plastic bag and tie it off prior to placing into clearing barrel. The owning unit, to insure maintenance is performed, must check all clearing barrels annually. Document the annual check as part of the magazine inspection program.

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c. Commercial-off-the-shelf (COTS) clearing barrels may be used with prior approval by CG MCSC Code 204 (PM Ammo). COTS requests must be submitted in writing along with item documentation, specifications, and test data to CG MCSC Code 204 (PM Ammo).

d. Barrels will have  $\frac{3}{4}$  inch plywood or thick rubber matting covering the diameter of the container fitted directly behind the lid to reinforce it against muzzle blast (not applicable to COTS).

e. Barrels will be at least 14 inches wide, 24 inches deep, and be mounted at a height and angle to permit safe and smooth firearms clearing.

f. Barrels will have an aiming point in the center of the lid at least 4 inches in diameter (not applicable to COTS).

g. Recommend clearing barrels be painted red in color with yellow 1 inch stenciling "Weapon Clearing Barrel" on two sides and lid.

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CHAPTER 5

SITE PLANNING

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CHAPTER 5

SITE PLANNING

5000. BACKGROUND. Construction features and locations are important considerations in planning ammunition and explosives (Munitions) facilities, or facilities that are exposed to the damaging effects of potential explosions. The effects of potential explosions may be reduced significantly by construction features that limit the amount of explosives involved, reduce the intensity of blast overpressure or thermal radiation, or lower the quantity and range of hazardous fragments and debris. Proper location of exposed sites reduces the risk of unacceptable damage and injuries in the event of an incident. The Munitions safety standards contained in DoD 6055.9-STD, and implemented by NAVSEA OP 5, Volume 1, apply to all DoD Munitions facilities whenever U.S.-titled ammunition is in the custody of DoD civilian or military employees, and to U.S.-titled ammunition in host nation facilities. These standards shall be considered the minimum with greater protection provided when practical; and shall govern the siting and construction of all such facilities, unless specifically exempted. Storage of Munitions in unauthorized locations exposes both the DoD and the public to unnecessary hazards. Therefore, it is imperative that the provisions outlined in this chapter and all cited references be closely examined and strictly adhered to.

5001. LOCATIONS REQUIRING SITE APPROVAL/PLANS. Site approval is required by DoD 6055.9-STD and NAVSEA OP 5, Volume 1, for all shore activities at which Munitions are handled, manufactured, modified, or stored. This includes permanent fixed containers, not located on Ranges, used in conjunction with an amnesty program, as well as those areas used for the storage and permitted treatment of waste military munitions (WMM). COs shall request explosives safety site approvals for new construction or modification to existing structures that are encumbered by an inhabited building explosives safety quantity-distance (ESQD) arc, unless they are minor in nature and do not introduce an additional hazard. This applies to all permanent storage facilities, regardless of the date of first construction, and supersedes NAVSEA OP 5, Volume 1, paragraph 8-1.2.6.a. In the event that a record of site approval is not on

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file or if the re-designation or modification of an existing site is required, submit site approval requests to the DDESB via CG MCSC Code 204 (PM Ammo) and DC I&L (LFL). The chain of submission for site approval requests is depicted in figure 5-1. Site approval must be obtained prior to handling or storing Class V Munitions., and prior to starting new construction.

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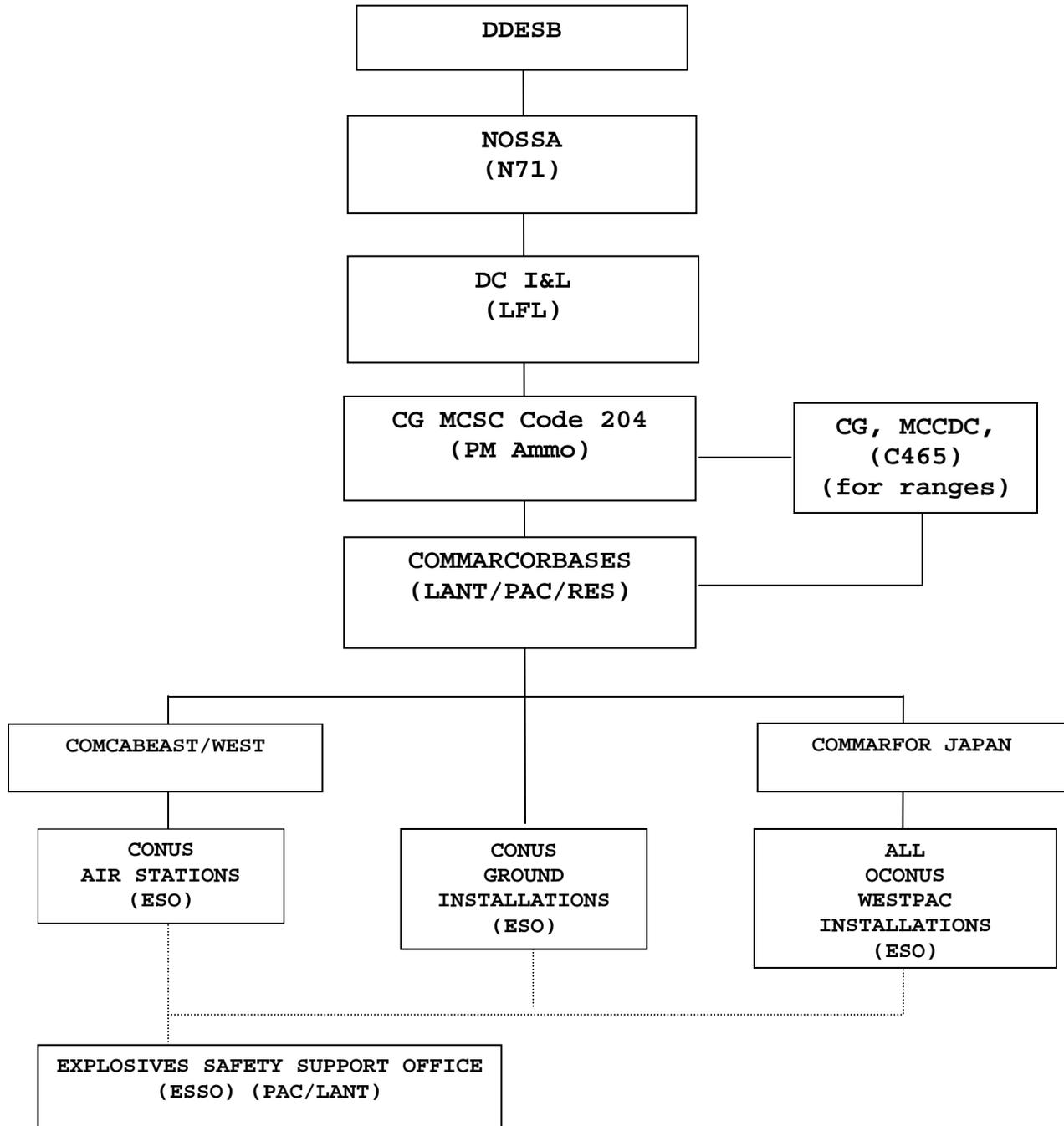


Figure 5-1. Chain Of Submission For Site Approval Requests.

5002. SITE APPROVAL FOR SITES STORING LESS THAN 300 POUNDS NET EXPLOSIVE WEIGHT (NEW). Site approval for locations storing less than 300 lbs. NEW of Hazard Class/Division (HC/D) 1.2.2, 1.3, or 1.4 may be obtained from the cognizant explosives safety support office (ESSO) or as specified in paragraphs 5007 and 5008, below. Copies of all site approvals will be forwarded to CG MCSC Code 204 (PM Ammo) and CMC (LFL) upon approval.

5003. SITE APPROVAL FOR SITES STORING MORE THAN 300 POUNDS NET EXPLOSIVE WEIGHT (NEW). Site approval for sites storing more than 300 lbs NEW or for HC/D greater than those listed in Paragraph 5002, above, must be forwarded via the chain of submission identified in figure 5-1.

5004. NEW CONSTRUCTION ENCUMBERED BY EXISTING ARCS. New construction adjacent to explosive storage/operating areas that are encumbered by previously approved explosive arcs require re-siting.

5005. SITE APPROVAL FOR DEPLOYED UNITS. Deployed units will request site approval for all explosive operations conducted ashore. These requests shall be coordinated through the chain of command to the appropriate command authority exercising operational control (OPCON), specified in initiating directives. During exercises and contingency operations when prior site approval is not possible, an event waiver is required in accordance with instructions set forth in chapter 1 of this Manual. Information copies of all documentation will be provided to CG MCSC Code 204 (PM Ammo).

5006. FIELD STORAGE. Field storage is primarily intended for situations which require Munitions to be stored away from the standard storage environment, such as during combat or field training, and is considered temporary in nature. A review and approval of the ammunition storage plan are required from the supporting installation commander prior to beginning any field/combat operation. Installation commanders may authorize temporary field storage on approved ranges/training areas up to 90 days, using the criteria of NAVSEA OP 5, Volume 1, without prior approval. The provisions of NAVSEA OP 5, Volumes 1 and 3 with the following guidelines will govern temporary storage facilities/sites:

1. Field storage sites for training operations not located on approved ranges/training areas shall be formally sited prior to any explosives operation. The installation commander will submit a site plan via the chain of submission previously depicted in figure 5-1. Site plans shall be submitted for approval for all Munitions storage or handling locations for all vehicle staging areas, and for all secure explosives holding areas. Once site approval is granted, the installation commander may authorize and conduct temporary field storage for up to 90 days (per exercise or storage evolution) at these sites utilizing the ESQD criteria of NAVSEA OP 5, Volume 1.

2. NAVSEA OP 5, Volume 3 is for use at advanced bases during combat operations. The field storage unit (FSU) concept of this reference may be used in training provided the location is on an approved range/training area, or formally sited. However, the ESQD between potential explosives sites (PES) and exposed sites (ES) shall not be reduced to less than the criteria of chapter 7 of NAVSEA OP 5, Volume 1. In addition, proper storage compatibility group integrity shall be maintained at all times in accordance with SW020-AC-SAF-010.

3. If any training field storage exceeds 90 days a request for approval will be submitted to CG MCSC Code 204 (PM Ammo). The request will be submitted via naval message or electronic mail (EES@MCSC.USMC.MIL) and outline the following data elements at a minimum:

a. The exercise being supported.

b. The units participating and the size of the units (i.e., battalion, regiment, MEF).

c. The quantity and HC/D of the Munitions intended to be stored.

d. The combat service support (CSS) unit establishing the field ammunition supply point (FASP).

4. For training exercises and activities unable to comply with the ESQD criteria of NAVSEA OP 5, Volume 1, due to strategic or other compelling reasons addressing operational necessity, installation commanders shall request an event waiver prior to

the execution of the explosives operation. Event waivers shall be prepared and submitted in accordance with chapter 1 of this Manual. ESO shall provide a risk assessment, utilizing Safety Assessment for Explosives Risk (SAFER) when applicable, to assist the commander in the decision making process.

5007. OTHER STORAGE

1. Installation commanders and the Commander, Marine Forces, Reserve (COMMARFORRES) may grant storage authority for the types and quantities of HC/D 1.2.2, 1.3, and 1.4 Munitions identified below in facilities such as hangers, troop buildings, armories, and manufacturing or operating buildings without regard to ESQD requirements. However, all storage must comply with fire protection regulations, safety and physical security requirements outlined in this manual, OPNAVINST 5530.13; NAVSEA OP 5, Volume 1; and NAVSEA SWO20-AC-SAF-010, 020, 030, and 040. Examples include small arms ammunition, riot control ammunition and pyrotechnics for alert, safety or security purposes. Copies of storage approvals shall be submitted via the chain of submission depicted in figure 5-2.

2. The following storage authority limitations apply to all Marine Corps commands less MARFORRES. These limitations shall be strictly adhered to:

- a. No more than 25 pounds NEW of HC/D 1.4 shall be stored.
- b. No more than 10 pounds NEW of HC/D 1.3 shall be stored.
- c. The only HC/D 1.2 materiel permitted to be stored under this provision is a maximum of eight MK141 Mod 0 Diversionary Charges (DWBS) (0.32 lbs. total NEW HC/D 1.2.2).
- d. When combining HC/D 1.2.2, 1.3, and 1.4, no more than 35 pounds total NEW shall be stored, of which no more than 10 pounds NEW shall be HC/D 1.3.
- e. No HC/D 1.1 or other 1.2 materiel shall be stored.

f. Items hazard classified as HC/D 1.4S may be stored without regard to limits posted above and may be excluded from the total NEW.

g. Installation commanders may grant EOD units authorization to store up to 50 pounds NEW of HC/D 1.3 and 1.4 in EOD operating buildings. This authorization is only to be granted in situations where the items are part of the unit's immediate response tool kit and the total NEW does not exceed 50 lbs. per site. However, all storage must comply with fire protection regulations and safety/physical security requirements outlined in OPNAVINST 5530.13; NAVSEA OP 5, Volume 1; and NAVSEA SWO20-AC-SAF-010, 020, and 030. For existing facilities without sprinkler systems, the total NEW is limited to 25 pounds for overnight storage. The storage of Munitions to support EOD training is prohibited per MCO P4400.150E.

h. Installation commanders shall review all storage authority requests on a case-by-case basis at least annually. Approval shall be granted only for those types and quantities of Munitions required to meet security force, safety, or operational requirements (i.e. burial detail, CAD or PAD arriving via UPS after working hours). Commanders may also approve storage of privately owned small arms ammunition in unit armories. Privately owned ammunition will be kept segregated from DoD stocks and will be subject to locally written accountability procedures.

i. Installation commanders shall consolidate all approved storage authorizations and provide this consolidated listing to CG MCSC Code 204 (PM Ammo) by 30 June, annually.

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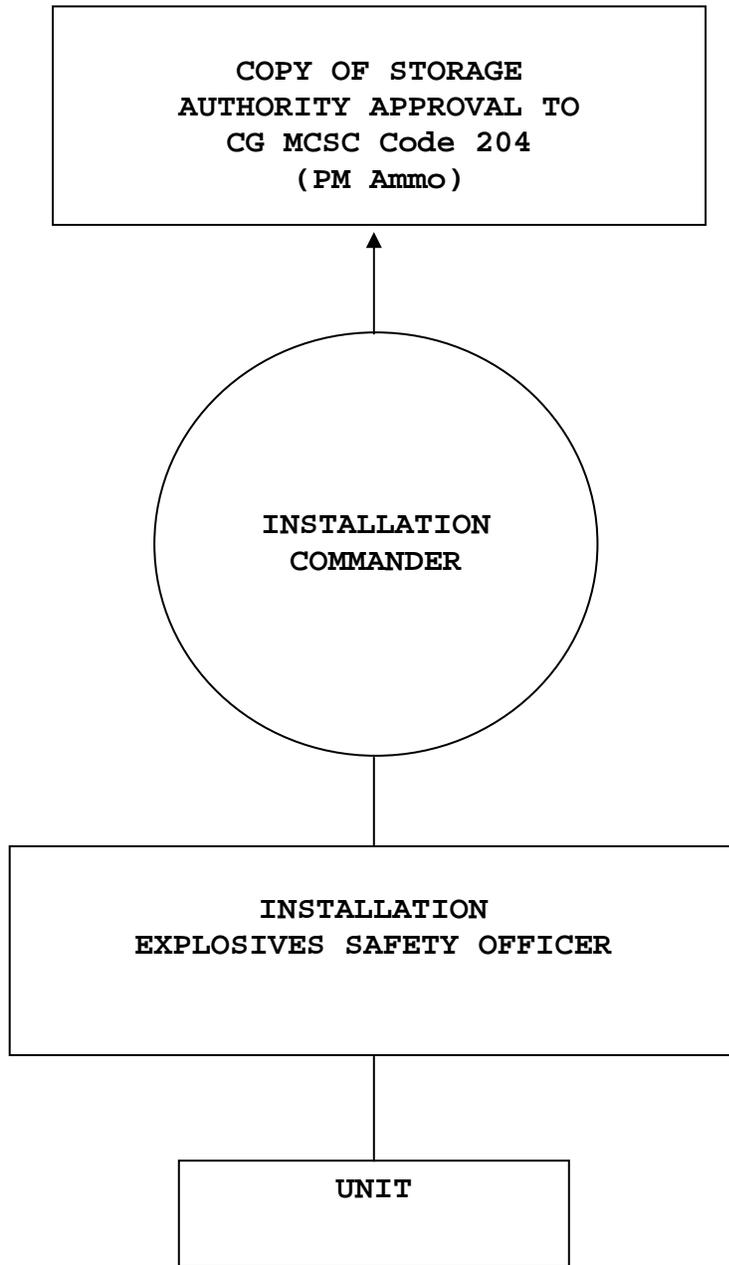


Figure 5-2.Chain Of Submission For Storage Authority Requests.

5008. SPECIAL STORAGE AUTHORITY FOR MARINE CORPS RESERVE UNITS.  
Due to unique training and facility restrictions faced by Marine Corps Reserve units, COMMARFORRES may authorize storage of Munitions to satisfy local individual unit training requirements, in addition to security-related munitions, with the following restrictions:

1. Such authority is granted in response to support of local training events that necessitate the temporary short-term storage of training assets until such time as they can be transported to an approved storage facility. Such authority shall be reviewed and reissued annually.
2. Storage of small arms cartridges is authorized in local police facilities only when organic service storage facilities do not afford adequate support.
3. No HC/D 1.1 or 1.2 munitions are stored.
4. The total NEW of HC/D 1.3 and 1.4 combined, to include HD/C 1.4S, does not exceed 300 lbs., including security and blank funeral ammunition.
5. Blank funeral ammunition is limited to 80 rounds per detail based on the number of details conducted annually.
6. One-time instances that require storage of munitions in excess of the requirements outlined above require an event waiver approval by CG MCSC Code 204 (PM Ammo).
7. An information copy of all storage authorizations shall be provided to CG MCSC Code 204 (PM Ammo) by 30 June annually.

5009. SITE APPROVAL DOCUMENTATION. The following information shall be submitted for site plan approval:

1. The installation commander's endorsement of the request, along with changes, modifications, or specific precautionary measures considered necessary.
2. Drawings and maps of site plans at a scale such that 1-inch equals not more than 400 feet. When drawings at a smaller scale are necessary to properly reflect certain distance and structure

relationships within the arc surrounding a given project, a reduction in scale is permitted. This shall be in addition to, not as a replacement for, properly scaled 1:400 maps/drawings. Each map or drawing shall include at a minimum:

- a. Inhabited building distance (IBD) arcs.
- b. Intermagazine (IM), intraline (IL), and public traffic route (PTR) distance arcs.
- c. All new arcs or any arcs which will change as a result of the proposed project.
- d. Each arc shall show the point of origin, length of radius, quantity of explosives (expressed in terms of HC/D and NEW), and K-factor.
- e. Each individual map or drawing shall reflect the scale and North arrow.
- f. Identification of all other facilities, describing their occupancy and use, within IBD of an explosive facility or PES.

3. A completed NAVMC 11010/31. The use of the Naval Facilities Engineering Command (NAVFACENGCOM) E-1 Installation Planning, Design and Management Guide CD-ROM is an excellent tool that automates the planning process and form generation. Its use is authorized and encouraged. Regardless of the process selected, the NAVMC 11010/31, Part II, Division A, must have the signature of the installation ESO in block 8.

5010. NON MASS-DETONATING FRAGMENT PRODUCING (HAZARD CLASS/DIVISION (HC/D) 1.2) MATERIAL. HC/D 1.2 includes items configured for storage and transportation that do not mass detonate when a single item in a stack is initiated. If an explosion occurs, these items will burn and explode progressively with no more than a few at a time reacting. These reactions will project fragments, firebrands and unexploded items away from the explosion site. Blast effects are limited to the immediate vicinity and are not the primary hazard.

1. The previous HC/D 1.2 criteria provided maximum fragment throw distances (i.e., 400, 800, 1,200, and 1,800 feet) and were ammunition item specific and quantity independent.
2. The approved criteria, however, are based on extensive testing and take into account the NEW of individual ammunition items, total NEW at a structure or site, the maximum credible event (MCE) per ammunition item, and the type of structure (if any) involved in an event.
3. The result is that the HC/D 1.2 criteria are more consistent with HC/D 1.1 hazardous fragment criteria and more accurately represent the fragment hazard that would be expected from an event involving HC/D 1.2 ammunition.
4. The Joint Hazard Classification System (JHCS); NAVSEA OP 5, Volume 1; and SW020-AC-SAF-010/020/030/040 have been updated to reflect the criteria and shall be used in the site planning process.
5. Effective immediately, all requests for safety review and site approval for new construction or modification shall reflect the revised HC/D 1.2 criteria. All Marine Corps installations shall convert to the revised criteria by October 2003.

5011. SAFETY ASSESSMENT FOR EXPLOSIVES RISK (SAFER). In order to minimize the need for waivers in situations where the siting requirements of IBD cannot be met, the DDESB in cooperation with all the Services has approved the use of the quantitative risk management computer model SAFER. SAFER provides both acceptable risk criteria, and the statistical methodology necessary to calculate the probability of fatality through simple data input by the user. Site plans that meet the criteria of SAFER will be approved without waiver. The use of SAFER in preparation of explosives safety site plans is subject to the following criteria:

1. The user must have completed training in the use of the SAFER model.
2. All available options to meet required Quantity-Distance siting criteria must have been exhausted.

3. The installation commander must accept the risk, as calculated by SAFER, in writing.

4. Site plan packages utilizing SAFER will contain the following:

a. All the elements of a standard site plan submission, to include maps showing the required IBD arcs and all optional locations considered as well as the arc indicated by the SAFER model. All ES/PES locations will also be shown.

b. A detailed written explanation of the situation which created the need to deviate from standard QD criteria, options considered, reasons for rejection of options, all locations that are effected by the deviation (including building number, usage, sited NEW, etc.).

c. Copies of the SAFER printouts, signed by the preparer.

d. Statement of risk acceptance by the installation commander.

e. Site plan packages utilizing SAFER will be submitted directly to CG MCSC Code 204 (PM Ammo). **Do not** submit/route SAFER site plans through the normal site approval channels. CG MCSC Code 204 (PM Ammo) will review the SAFER site plan to ensure applicable submission parameters have been met, and provide copies of the site plan to the DDESB Risk Based Explosives Safety Criteria Team (RBESCT) Site Plan Review Panel. Following RBESCT panel review, the review panel chairman will forward the site plan, to the DDESB for approval.

f. Once approved, SAFER site plans are valid for 5 years provided no changes to original submission have occurred. Upon expiration of this 5-year interval, or upon changes to the original plan, the plan must be resubmitted for approval following the previously stated format.

5012. FORWARD ARMING AND REFUELING POINT (FARP) OPERATIONS. All FARPs, in which explosives operations are conducted, must have site approval from the appropriate level of command, as outlined below prior to conducting operations.

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1. Training evolutions involving explosive FARP operations, conducted on U.S. controlled training areas/ranges approved for the type munitions may be approved by the installation commander. When an explosive FARP operation is established at CONUS locations other than on approved training areas/ranges, or explosives operations other than approved training use, then formal DDESB site approval is required prior to the conduct of operations. The only exception is when a temporary explosive FARP operation is to be conducted at an OCONUS location, outside a U.S. controlled training area/range. This type operation can only be authorized by the fleet commanders-in-chief (CINCLANFLT, CINCPACFLT, CINCUSNAVEUR, COMUSNAVCENT) via event waiver in accordance with NAVSEA OP 5, Volume 1. All explosive FARP training operations shall be established in accordance with the separation distances specified in figure 5-3. Units conducting non-contingent FARP operations shall follow current Naval Air Training and Operational Procedures Standardization (NATOPS) Manual and Conventional Weapons Loading checklist (CWL). For operations not covered by NATOPS or CWL prepare an SOP. . A copy of the SOP shall be provided to the range control officer prior to the operation. For range SOP and other operational requirements refer to the range safety officer.

2. Contingency explosive FARP operations conducted as part of contingency operations that are either not expected to last for extended periods of time (12 months or less) or are of such short-notice that advance approval is not possible shall be approved by the unified commander or designated Component Commander, as appropriate. Contingency FARPs shall be established in accordance with the separation distances specified in Figure 5-4. When contingency FARP operations are expected to last more than 12 months, such locations require site approval from the fleet commanders-in-chief. The separation distances shown are the minimum required to prevent prompt propagation of explosives sites. However, subsequent reactions are probable with death to exposed personnel and substantial damage to assets expected. Aircraft and equipment will not be usable following such an incident. In order to prevent propagation or reaction between explosives sites, greater separation (asset preservation) distances should be provided. PTR separation distances will afford this level of protection.

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From:	To:	Rearm Point	Ordnance Staging Area	Ordnance Buildup Area	Ordnance Storage Area	Red Label Area	Sling Out Area	Refueling Point	Bulk Fuel Storage	Bivouac/Billeting Area	Runway/Taxiway (DoD Use)	Runway/Taxiway (Joint Use)	Inhabited Building	Public Traffic Route
Rearm Point		IM	None	IL	IM	IM	IM	IL	IBD	IBD	Note 1	IBD	IBD	Note 3
Ordnance Staging Area		IM	IM	IL	IM	IM	IM	IL	IBD	IBD	PTR	IBD	IBD	Note 3
Ordnance Buildup Area		Note 2	IM	IL	IM	IM	IL	IL	IBD	IBD	PTR	IBD	IBD	Note 3
Ordnance Storage Area		Note 2	IM	IL	IM	IM	IM	IL	IBD	IBD	PTR	IBD	IBD	Note 3
Red Label Area		IM	IM	IL	IM	IM	IM	IL	IBD	IBD	Note 1	IBD	IBD	Note 3
Sling Out Area		IBD	IBD	IBD	IBD	IBD	IBD	IBD	IBD	IBD	Note 1	IBD	IBD	Note 3
Notes:	1. No ESQD applies, however, applicable NAVAIR airfield safety criteria shall be met.													
	2. K30 used for HC/D 1.1 items only. Use applicable PTR distance for non-mass detonating explosives.													
	3. PTR distance based on traffic density (low, medium, high).													
	Refer to NAVSEA OP 5, Vol 1, Chapter 7.													

Figure 5-3.--Training Forward Arming And Refueling Point (FARP) Matrix.

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From:	To:	Rearm Point	Ordnance Staging Area	Ordnance Buildup Area	Ordnance Storage Area	Red Label Area	Sling Out Area	Refueling Point	Bulk Fuel Storage	Bivouac/Billeting Area	Runway/Taxiway (DoD Use)	Runway/Taxiway (Joint Use)	Inhabited Building	Public Traffic Route
Rearm Point		IM	IM	IL	IM	IM	IM	100'	IBD	IBD	K4.5	IBD	IBD	Note 2
Ordnance Staging Area		IM	IM	IL	IM	IM	IM	100'	IBD	IBD	K4.5	IBD	IBD	Note 2
Ordnance Buildup Area		IM	IM	IL	IM	IM	IM	100'	IBD	IBD	K4.5	IBD	IBD	Note 2
Ordnance Storage Area		IM	IM	IL	IM	IM	IM	100'	IBD	IBD	K4.5	IBD	IBD	Note 2
Red Label Area		IM	IM	IL	IM	IM	IM	100'	IBD	IBD	K4.5	IBD	IBD	Note 2
Sling Out Area		IM	IM	IL	IM	IM	IM	100'	IBD	IBD	K4.5	IBD	IBD	Note 2
Notes:	1. Where asset preservation is a primary concern, use K24/K30 separation for H/D 1.1, and PTR separation distance for H/D 1.2,1.3, or 1.4. Applies wherever IBD is not specified.													
	2. PTR distance based on traffic density (low, medium, high). Refer to NAVSEA OP 5, Vol 1, Chapter 7.													

Figure 5-4.--Contingency Forward Arming And Refueling Point (FARP) Matrix.

5013. RESPONSIBILITIES

1. Commanding Officer (CO) Responsibilities For Site Planning.  
The following requirements shall be observed for all PES and ES relationships encumbered by ESQD arcs:

a. Maintain a file copy of each site map, showing the locations of all magazines and magazine areas. In addition, the file will list the type and construction of magazines, the distances to inhabited buildings on and off the activity, public passenger railways, public highways, navigable channels, and intraline distances to explosive operations. The NAVFACENGCOM building numbers shall be indicated for each magazine. The site map shall be revised as often as necessary to maintain accuracy of the data. All site maps will be in 1:400 scale and of sufficient quality to be useable.

b. Maintain a file of the appropriate approval documents for all current Munitions storage sites.

c. Obtain approval for any new ammunition or explosives storage sites, or modification to existing sites, prior to the start of their construction.

d. Obtain approval for construction of any facilities that are unrelated to ammunition and explosives storage and operations, but may be affected by these storage and operations (i.e., within an IBD arc) prior to the start of construction.

2. Facilities Planning/Public Works Responsibilities For Site Planning. Facility planners are responsible for routing all planned construction projects which may encumber explosive operations, or which violate existing ESQD arcs, through the installation Explosives Safety Office for ESO review, recommendations, and concurrence. Planners are responsible for providing all maps, blueprints, and construction details required by ESO, higher headquarters, and DDESB review authorities. The site approval process is complex and requires time. Both engineering and explosives safety requirements are reviewed by several different organizations prior to final review/approval by the DDESB. It is not uncommon for this process to take 4-6 months, depending on workload of review organizations. It is, therefore, required that facility planners submit site packages as early in the development stages

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of a project as possible. No construction will occur prior to the receipt of an approved site plan.

3. Explosives Safety Officer (ESO) Responsibilities For Site Planning. The ESO is responsible for the following site planning activities:

a. Review and recommend approval or disapproval of all facility construction, modification, or changes in usage impacting base explosives operations.

b. Sign block 8 of NAVMC Form 11010/31, Part II, Division A, upon concurrence of site plan.

c. Coordinate with facility planners to develop alternative site plans should original plans be found out of compliance with regulatory requirements.

d. Maintain accurate and up-to-date files of all approved site plans.

4. Ammunition Officer Responsibilities For Site Planning. Ammunition Officers are responsible for developing preliminary requirements for construction, modification, or changes in use of facilities to meet mission goals, and submitting these requirements through the appropriate channels for formal development. Ammunition Officers will work with ESO, facility planners, and installation Environmental Offices to ensure that all requirements of these offices are included.

**NOTE**

The installation Environmental Office should be consulted early in the process to ensure sufficient time for preparation of required environmental documents.

5. Installation Environmental Office Responsibilities For Site Planning. The environmental office is responsible for coordinating with the ESO and ammunition personnel to ensure that all proposed construction, modification, or change in usage of explosives facilities comply with applicable Federal, DON, Marine Corps, State, and local environmental regulatory requirements. The environmental office will prepare all

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required regulatory documentation, studies, and reports relative to these requirements.

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CHAPTER 6

MILITARY MUNITIONS (Munitions)  
AMNESTY PROGRAM

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CHAPTER 6

MILITARY MUNITIONS (Munitions)  
AMNESTY PROGRAM

6000. BACKGROUND. The physical security and accountability of Munitions is of paramount importance to an effective explosives safety program. It is understood that many factors contribute to the loss of accountability; that acts of inattentiveness and distraction can lead to the same results as those of intentional theft and gross negligence. While strict adherence to the provisions of chapter 4 will safeguard against the intentional acts, measures are necessary to supplement the process, thereby ensuring maximum recovery of Munitions items outside the supply system. A Munitions amnesty program can help satisfy this requirement. This chapter sets forth the guidelines and procedures for the Marine Corps Munitions Amnesty Program.

6001. AMNESTY PROGRAM GUIDELINES. The Munitions amnesty program is neither intended to circumvent normal turn-in and accountability procedures, nor serve as a substitute for sound leadership. Implementation of such a program is not mandatory, but subject to the discretion of the installation commander. If implemented, the program is to be established to provide an opportunity for individuals to return Munitions that have been stolen, misplaced or inadvertently left in the possession of an individual. For this program to be effective, returns must be able to be made without fear of prosecution. Therefore, amnesty turn-ins will not be the subject of an investigation of individuals making the turn-in. If implemented, each Munitions amnesty program is subject to the following guidelines:

1. All Munitions found on installation, excluding small arms ammunition (up to and including .50 caliber), will be considered extremely hazardous and will not be handled or moved by unauthorized personnel. Supporting explosive ordnance disposal (EOD) personnel shall be contacted immediately and will respond upon request to recover this category of Munitions. Small arms ammunition may be delivered directly to the ASP. In the event that the ASP cannot respond in a timely manner, the provost marshal office (PMO), or EOD shall be contacted through the command duty officers. Regardless of the turn-in method,

neither documentation nor verification of identity is required. Using units discovering Munitions after having completed their turn-ins and having their accounts reconciled are not authorized to use the amnesty procedures outlined herein. These units shall make amended turn-ins using the procedures set forth in chapter 4 of this Manual and those of chapter 7 of MCO P4400.150E.

2. Civilian law enforcement agencies shall be contacted when any DoD-owned Munitions is discovered outside of the installation boundaries. EOD may be contacted in the event that the situation dictates.

3. To ensure proper control and safety, a Munitions amnesty program can be supplemented by any of the following methods, or combinations thereof:

a. Munitions amnesty days may be scheduled as often as deemed necessary for the collection of unauthorized Munitions. Collection points shall only be established at locations that afford inhabited building distance (IBD) levels of protection. To ensure that proper care is exercised, qualified and certified ammunition or EOD personnel must be available and on-hand to supervise amnesty turn-ins. The installation medical and fire departments shall be notified and be available on call should the need arise.

b. Installation commanders may establish dates and sites which explosives vehicles may be dispatched to receive amnesty turn-ins. The location of the amnesty vehicle must be selected so that it does not create a hazard to personnel and structures. At a minimum, locations shall afford IBD protection (i.e., minimum of 1,250 feet from inhabited areas or those frequented by personnel unrelated to explosives operations). Vehicles loaded with explosives shall use established base explosive transportation routes.

c. Due to the hazardous nature of Munitions, the use of amnesty containers is the least desirable method of supporting a Munitions amnesty program. If implemented, extreme care must be exercised as to the physical location, numbers, and construction of amnesty containers.

(1) Permanent off-range locations for hazard class/division 1.1, 1.2, and 1.3 materials shall be sited in accordance with NAVSEA OP 5, Volume 1 and provide Inhabited Building Distance (IBD) protection. Containers for hazard class/division 1.4 small arms ammunition do not require siting but will be provided a 50 ft. fire safety separation. Containers placed on USMC ranges approved for the type of ammunition involved do not require a separate site approval as long as its location does not extend an IBD ESQD arc beyond established range borders.

(2) If used, amnesty containers are to be constructed of 10-gauge steel, permanently mounted, and secured with a lock in accordance with OPNAVINST 5530.13.

(3) Slots in containers for hazard class/division 1.4 material will be sized to accept no larger than a .50 caliber cartridge. Containers shall be clearly marked "AMNESTY BOX FOR SMALL ARMS AMMUNITION ONLY-NO SMOKING WITHIN 50 FT."

(4) It is recognized that numerous items of hazard classes/divisions other than 1.4 may be fitted/forced through a slot designed for .50 caliber ammunition. For this reason it is imperative that daily check personnel adhere to the provisions of paragraph 3.d below.

d. Personnel not qualified and certified in accordance with MCO 8023.3 may perform checks of small arms ammunition amnesty containers on a daily basis but shall not remove items from the container if Munitions items other than small arms ammunition are present. Non-qualified/certified checkers will contact qualified EOD or ASP personnel to remove unauthorized Munitions contents IAW base procedures. All Munitions recovered shall be returned to the installation ASP. Items that appear to be damaged or unsafe to move shall be left in place until examined by EOD personnel and conditional assessment made by senior EOD member.

## 6002. RESPONSIBILITIES

1. Commanding Officers Responsibilities For A Munitions Amnesty Program. If a Munitions Amnesty Program is implemented, commanders shall be responsible for the following:

a. Periodically brief assigned personnel on the existence and guidelines for use of the Munitions amnesty program.

b. Monitor execution of the Munitions amnesty program to ensure guidelines are being properly followed.

c. Establish Standard Operating Procedures (SOPs) addressing details on implementation of the installation's Munitions amnesty program.

d. Approve, in writing, all physical locations of amnesty containers. Documentation will be reaccomplished if physical locations of containers change, and by each subsequent Installation Commander. One letter, listing all approved locations is acceptable. Copy will be furnished to the ESO, RCO, EOD OIC, Duty Officer, and OIC of the Ammunition Storage Area.

e. Establish key control procedures for amnesty containers in accordance with requirements for access to secure areas, and installation orders.

2. Ammunition Personnel Responsibilities For A Munitions Amnesty Program. Ammunition personnel responsible for storage, inspection, transport, handling, and packaging of ammunition are responsible for the following:

a. Monitor amnesty containers daily when tasked, and remove any turned-in materiel. Respond to requests from monitoring personnel not qualified/certified to handle or transport Munitions, and remove any turned-in material that they may discover.

b. Inspect turned-in materiel for serviceability and suitability for training.

c. Amend required accountability documentation if material is suitable for continued use.

d. Mark and package material for storage and transportation.

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e. Request disposition instructions from the appropriate Service DDA for excess, obsolete, unserviceable and WMM materiel.

3. Responsibilities Of All Personnel Utilizing Munitions. All personnel utilizing Munitions are responsible for the following:

a. Follow established accountability and turn-in procedures for all Munitions in their possession.

b. Take special precautions to ensure Munitions are not inadvertently removed from training sites, discarded, or otherwise misdirected to circumvent established Munitions turn-in and accountability procedures.

c. Understand the installation amnesty program in the event Munitions are inadvertently removed from an authorized training area.

4. Responsibilities of the ESO. The installation ESO will advise the installation Commander on location/siting of amnesty containers and monitor the execution of the amnesty program. Monitoring may be accomplished through:

a. Review of SOP's.

b. Periodically review key control logs/documents to insure daily checks are being accomplished.

c. Physical inspection of amnesty containers annually.

d. Review of amnesty turn in documents and procedures.

e. Document all reviews and inspections via locally developed checklist. Reviews/inspections may be conducted in conjunction with other inspections.

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CHAPTER 7

UNSERVICEABLE AND WASTE MILITARY MUNITIONS MANAGEMENT

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CHAPTER 7

UNSERVICEABLE AND WASTE MILITARY MUNITIONS MANAGEMENT

7000. BACKGROUND

1. The 12 February 1997, Military Munitions Rule (MR) amended the Resource Recovery and Conservation Act (RCRA) by defining the conditions under which munitions can become hazardous waste, therefore subject to regulation. The Environmental Protection Agency (EPA), in consultation with the DoD and appropriate State officials, developed and promulgated amendments to several sections within Title 40 Code of Federal Regulations (CFR), Environmental Protection that established standards for the identification, storage, transportation, and emergency responses for waste military munitions.

2. Largely as a result of DoD's effective management practices for the storage, transportation, and emergency responses, EPA incorporated several existing DoD practices into the MR.

3. In response to EPA's promulgation of the MR amendments to RCRA, in January 1998, the DDESB amended DoD 6055.9-STD to reflect several of the changes found in the MR.

4. Also in response to EPA's promulgation of the MR amendments to RCRA, the military Services developed and promulgated the DoD policy to implement the EPA's MR, effective 1 July 1998. This policy commonly referred to as the Munitions Rule Implementation Policy (MRIP), established the military Services' policy for the implementation and management of the MR. Chapter 6 of the MRIP created the designated disposition authority (DDA) as well as the process Services are to use to request disposition instructions for excess, obsolete, unusable (or unserviceable) and waste military munitions.

5. The DDA concept was created within DoD to ensure excess, obsolete, and unserviceable munitions that could potentially become hazardous waste are provided visibility and opportunity to be used beneficially consistent with RCRA and Service standards. The DDA is the only person within each service authorized to designate unused munitions (other than those that automatically become waste per the MR) as hazardous waste.

6. In addition to the MR and the MRIP, related issues included in this chapter include: explosives safety submissions, physical security & accountability, the reuse of ammunition and explosives (Munitions) materials and ocean dumping of ammunition.

7001. POLICY

1. Maximize the use of valuable and limited Marine Corps owned and managed Munitions resources through:

- a. Intended use.
- b. Legitimate emergency destruct and combat disposal (ED/CD) training.
- c. Maintenance and renovation.
- d. Recycling and recovery of chemicals and components.
- e. Foreign military sale.
- f. Demilitarization.

2. Ensure that unused Munitions is NEVER buried, abandoned, destroyed, fired indiscriminately, or otherwise disposed of, in order to circumvent return to an ammunition support facility.

3. Comply with Federal, DoD, DoN, and USMC explosives safety and environmental regulations while seeking to reduce or minimize the generation of hazardous wastes and hazardous waste military munitions.

4. Direct the treatment of waste munitions at RCRA permitted and authorized treatment locations.

5. Ensure coordination with D/C I&L for matters involving waste military munitions.

7002. MUNITIONS DISPOSITION PROCESS. The DDA is responsible for and provides disposition instructions for unserviceable and waste military munitions (WMM). Usually ammunition in condition code "H" and condition code "V". Condition code "H" is those ammunition items that are restricted from being used in their

primary delivery form. However, these items are not immediately considered WMM since they may have further use as training ammunition in support of individual training standards (ITS) or may be transported to an authorized facility for the purpose of reuse, recovery, or for recycling. Condition code "V" is a waste designation code normally used by the DDA only. The two exceptions are when EOD has conducted an emergency response and for munitions that have been recovered when intent was abandonment. (Note: In the case of abandoned or buried munitions that have been recovered, personnel will contact the DDA for clarification and disposition instructions.) The munitions disposition process is a two-step process consisting of a request and a subsequent instruction.

1. Ammunition Support Activity Initiated Requests for Munitions Disposition Instructions. The installation or ammunition support facility storing and accounting for the unserviceable, or waste munitions will usually initiate the munitions disposition process by requesting munitions disposition instructions from the appropriate DDA.

a. Requests for disposition instructions for Class V (W) materiel in condition code "H" and condition code "V" will be sent to the Marine Corps DDA at [DDA@MCSC.USMC.MIL](mailto:DDA@MCSC.USMC.MIL). If email is not available a standard naval message will be sent to CG MARCORSYSCOM QUANTICO VA//AM-EES//.

b. Requests for Class V (W) materiel in all other condition codes will be sent to the Inventory Management and Systems Division (IMSD), Marine Corps Systems Command (CG MARCORSYSCOM (IMSD)).

c. Class V (A) requests will be sent to the Navy DDA at NAVSURFWARCENDIV CRANE IN//PM-42// via standard naval message.

2. DDA Initiated Munitions Disposition Instructions. On a recurring basis, the DDA will query the Marine Corps Ammunition Accounting and Reporting System (MAARS II) by ammunition support activity to determine quantities of on-hand unserviceable and waste Class V (W) assets. Queries will be sent electronically by the DDA to the CO or other designated point of contact to validate the MAARS II query. Ammunition support activity personnel will validate the query and return to the DDA within 30 days of receipt. The DDA will provide munitions disposition

instructions based on the DODIC and quantity validated as well as required materiel to support ITS.

3. Coordination. The DDA will coordinate with IMSD, who will then issue munitions disposition documents providing instructions to the requesting unit within 60 days of receiving the request. The DDA's munitions disposition instructions to the requesting ammunition support activity will provide direction for the effective and compliant management of Class V materiel.

4. Munitions disposition instructions will be maintained at the ammunition support facility for 3 years.

7003. MUNITIONS DISPOSITION REQUEST. The ammunition support activity's request for munitions disposition instructions will contain the following information:

1. DODIC and nomenclature for each item.
2. Quantity and unit of issue.
3. Material condition code.
4. Applicable notice of ammunition reclassification (NAR), ammunition information notice (AIN), or reason for local condition code change.
5. Potential for local use by ammunition and/or explosive ordnance disposal (EOD) technicians in support of MCO 1510.78A requirements. If the ammunition support activity's request for munitions disposition instructions also contains a request to conduct ED/CD training, the request will state the approximate date of the training and the anticipated number of personnel to be trained. Additionally, in a separate paragraph, this request will identify the type and quantity of donor materiel required. If donor materiel is required, ensure the request includes CG MCCDC QUANTICO VA (C465RA2) as an information addressee. The DDA will provide a coordinated response. If the request is sent via email, the DDA will coordinate the special allowance for Donor Material with MCCDC.
6. Additional information pertinent to the request or situation surrounding the request.

7. Reason each munition on request became unserviceable.
8. Local point of contact.
9. Figure 7-1 provides a sample request for munitions disposition instructions.

#### 7004. MUNITIONS DISPOSITION INSTRUCTIONS

1. DDA Disposition Options. The DDA's options in response to requests for munitions disposition instructions include:
  - a. Transportation to a depot level facility capable of performing resource recovery and recycling, further evaluation to determine final condition code, or waste treatment.
  - b. Authorization for local ED/CD training if requested.
  - c. Designation as waste munitions.
2. Required Information. The DDA's munitions disposition instructions will include the following specific guidance for each DODIC requested:
  - a. Shipment to Designated Depot or Other Capable Activity. The DDA/IMSD will provide document numbers for the shipment of Class V materiel in the munitions disposition instructions.
  - b. Authorization to Conduct ED/CD Training. The authorization to conduct local training will list DODIC and quantities and any other pertinent information.
  - c. Management as Waste Munitions. In the event Class V materiel is designated as waste munitions, the DDA will include specific guidance in the munitions disposition instructions.
  - d. Types of instructions. Past munitions disposition instructions have included several separate actions such as authorization for ED/CD training with a specified quantity, with balance shipped to a depot for further determination of classification or resource recovery and recycling.

e. Appropriate Change of Condition Code. The DDA will state the applicable condition code for materiel authorized for ED/CD training as well as for waste military munitions.

f. Coordinating Instructions. Although many munitions disposition requests and subsequent instructions are routine, unique situations regularly arise requiring additional case-by-case specific coordination with various organizations both internal and external to the Marine Corps. The DDA will provide amplification and coordinating instructions as required.

3. Figure 7-2 provides a sample of munitions dispositions instructions.

#### 7005. MISFIRES

1. Misfires considered both safe to transport off-range and to store in designated ammunition storage units (ASU's) will be evaluated for repair, reuse, or additional evaluation (e.g., malfunction or misfire investigations, failure analysis, testing for RDT&E purposes, and evaluation for possible repair or reuse). These munitions are not classified as WMM, but will be reclassified into the appropriate condition code after the required evaluation is completed. Depending on the reclassification action taken upon completion of evaluation, the ASU in physical possession of the munition may have to request munitions disposition instructions per this chapter.

2. The MR recognizes range management is necessary for the safe use of DoD ranges and that range clearance activities are a necessary part of range management. When military munitions are used as intended, a small percentage may fail to function properly (malfunction, misfire, and hangfire). Range clearance, conducted to destroy military munitions that may pose an explosive safety hazard, can include destruction in place or collection and destruction elsewhere on the range. This DOES NOT extend to malfunctioned or misfired munitions items removed from the range that require a request for disposition instructions per the procedures specified in paragraph 7002 of this chapter.

3. "Hangfires" in most weapon systems differ from "misfires" in that in a hangfire, the round fully functions after an initial delay. However, hangfires in missiles are defined as an event in which the prefiring sequence has been initiated but the

missile does not launch from the missile tube. A missile misfire is defined as an instance when no prefire event occurs. Proper operator procedures for distinguishing hangfires are contained in the operator's manual for each particular missile. All missiles that are determined to be hangfires are not safe for return to storage and shall be destroyed on the launch position and shall not be transported off-range nor returned to the ASU. Misfired missiles, except for Stinger, shall be handled in the same manner as all other misfires. Stinger misfires shall be destroyed on the launch position.

7006. RECOVERED MILITARY MUNITIONS. Military munitions recovered during exercises on Marine Corps installations are divided into two categories:

1. Abandoned and Subsequently Recovered Unused Waste Military Munitions. Unused military munitions that have been buried or abandoned with intent to dispose will be managed as WMM.

a. Recovered WMM will be placed in authorized waste munitions storage magazines and the cognizant ammunition support activity will request munitions disposition instructions from the DDA within 96 hours from the time the waste military munitions have been turned-in.

b. No disposal or destruction action shall take place without DDA instructions unless declared an emergency by EOD.

c. Example. An unused 40mm grenade found in a dumpster. This example is a waste since the intent is clearly disposal.

2. Recovered Unused Military Munitions. Those military munitions that have been recovered when the intent to abandon is not clearly evident will be turned into the installation ammunition support activity for further evaluation provided subject munitions are determined to be safe for transportation and storage.

a. Qualified ammunition personnel will determine the applicable condition code in accordance with applicable Class V technical manuals.

b. If the recovered Class V materiel is deemed unserviceable, subject munitions will be managed per the munitions disposition process.

c. Example. An unused TOW missile is left on a range and the next unit discovers. This example is not automatically a waste since the intent does not clearly indicate intent to dispose. Further investigation will determine whether the TOW should be classified as a waste or reclassified back into serviceable status.

3. Recovered Munitions Coordination. Any time munitions are recovered, the DDA, installation environmental office, and EOD should be notified as soon as possible.

#### 7007. EMERGENCY DESTRUCT AND COMBAT DISPOSAL (ED/CD) TRAINING

1. MCO 1510.78A lists specific quantities of Class V(W) required to support ammunition and explosives technician ITS proficiency for ED/CD.

2. Excess, obsolete, and unserviceable Class V materiel will be considered for ED/CD training when submitted in the request for munitions disposition instructions. The DDA will examine DODICs and quantities to ensure compliance with MCO 1510.78A requirements.

3. Ammunition support activities requesting authorization to conduct ED/CD training will ensure that ED/CD training is pre-planned and documented in local Standard Operating Procedures (SOPs) and that Marines participating in ED/CD have training documented in centrally managed training files. These files are subject to inspection and evaluation.

7008. SPECIAL ALLOWANCES OF CLASS V(W) MATERIEL IN SUPPORT OF ITS MAINTENANCE. In the event ED/CD training is requested donor materiel will be included and separately annotated. The Marine Corps DDA will coordinate the request for special allowance of donor materiel with CG MCCDC.

#### 7009. FOREIGN MILITARY MUNITIONS MANAGEMENT

1. Increased training opportunities with foreign countries has made it imperative that foreign military munitions used by or in support of the DoD on Marine Corps installations have a pre-approved plan for the retrograde of any excess and or unserviceable foreign military munitions.

2. The hosting command will ensure that users of foreign military munitions on Marine Corps installations have a pre-approved plan for retrograde of any excess or unserviceable material that provides for the removal of all unused material within 30 days of the completion of the exercise. All foreign agents shall make every effort to retrograde foreign military munitions to their point of origin.

3. Foreign military munitions remaining after the execution of the established retrograde plan fall under the cognizance of the Marine Corps installation and meet the definition of military munitions per the MR.

4. In the event that foreign military munitions remain under the control of the Marine Corps, munitions disposition instructions will be requested through the DDA's within 30 days. Disposition for Class V(W)-type materiel will be provided by Marine Corps Class V(W) DDA. Disposition for Class V(A) type materiel will be provided by the Navy DDA. Additionally, it might be necessary to request for the storage of non-DoD munitions. See chapter 3 for requesting non-DoD munitions storage authorization.

7010. STANDARD OPERATING PROCEDURES (SOP). Ammunition support facilities will establish and maintain current SOPs as specified in this Manual; NAVSEA OP 5, Volume 1; and NAVSEAINST 8023.11. SOPs associated with WMM will be reviewed by the installation environmental office in addition to the installation ESO to ensure proper procedures are addressed. In addition to the requirements found in the references, the local SOP will contain the following information:

1. Procedures for requesting, executing, and maintaining munitions disposition instructions.

2. Procedures for conducting ED/CD training in support of MOS 2300 ITS.

3. Storage plans for WMM based on the type storage available (i.e., CE for storage, RCRA permitted storage of hazardous WMM, or less than 90-day hazardous waste storage). (Note: Those activities storing waste military munitions using an other than CE approach, must comply with MCO P5090.2A hazardous waste requirements, this Manual, and NAVSEA OP 5, Volume 1.) Those activities storing waste military munitions in CE status will comply with the tenants of this Manual; NAVSEA OP 5, Volume 1; and MCO P5090.2A.
4. Inspection and inventory criteria for waste military munitions. WMM will be inventoried annually and inspected quarterly.
5. Contingency plan of action to address potential hazardous situations involving Munitions to comply with NAVSEA OP 5, Volume 1, and MCO P5090.2A requirements.
6. Training requirements per MCO P5090.2A ensure ammunition personnel involved with waste munitions handling or management receive the initial Hazardous Waste training and the required annual refresher training. This training will be fully documented in the individual's qualification/certification training jacket.

**NOTE**

Most Marine Corps environmental offices provide hazardous waste training and should be contacted for scheduling and quotas.

7011. RECORDKEEPING. To comply with Marine Corps and Federal explosives safety and environmental regulations pertaining to Class V materiel, the following records will be maintained for 3 years:

1. Disposition instructions involving Condition codes "H" or condition code "V".
2. Quarterly inspections and annual inventories for WMM.
3. Explosives safety and environmental compliance evaluations and inspections.

4. Personnel training records for WMM handling and management.
5. Hazardous waste manifests will be used in the event WMM is shipped if the conditional exemption for transportation cannot be used.
6. Records of all WMM stored under CE.

7012. PHYSICAL SECURITY AND ACCOUNTABILITY. Unserviceable Munitions and WMM shall be provided the same degree of security and accountability that is afforded other categories of Munitions material.

7013. TRANSPORTATION OF WASTE MILITARY MUNITIONS (WMM). WMM will be transported in accordance with the MR, MCO P4600.14B, MCO P4450.12, and MCO P5090.2A.

1. Conditionally Exempt (CE) WMM Transportation. WMM will be transported (i.e., without a hazardous waste manifest) when all States along a planned shipment route have either implemented the Federal MR or adopted CE, and when the following conditions are met:

- a. The WMM are not chemical agents or chemical munitions.
- b. The WMM must be transported from a military owned or operated installation or activity to a military owned or operated treatment, storage, or disposal facility with applicable shipping documents.

NOTE

Shipments to a commercial facility are not eligible for CE.

c. In the event of loss or theft, the transporter notifies the installation environmental office and the ammunition storage activity.

2. CE applies to WMM transported by either military personnel or commercial carriers, who have signed a contractual agreement with the Military Traffic Management Command and who operate under the DoD and Department of Transportation (DoT) system of shipping controls.

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3. If a receiving activity (i.e., Marine Corps installation; ammunition depot; or Government-owned, contractor-operated (GOCO) facility does not receive the WMM shipped under CE within 45 days of the day it was shipped, the environmental office will make notifications required per MCO P5090.2A.

a. Loss of CE. Failure to comply with any of the conditions listed above will result in the immediate loss of CE. The loss of CE will subject the WMM to RCRA hazardous waste regulation as specified in MCO P5090.2A and could result in an enforcement action (e.g., fine or penalty, from the date of the violation).

b. Reinstatement of CE. When CE is lost for any WMM, the installation environmental office will coordinate in conjunction with the ammunition supply activity, and the traffic management office, after meeting all requirements for CE. After internal coordination, the installation environmental office shall apply to the appropriate Federal or State environmental regulatory authority for reinstatement.

4. Transportation of WMM within the boundary of an installation are not subject to RCRA transporter requirements. Additionally, if the shipment occurs on a public or private right-of-way that is within or along the border of the installation, a RCRA hazardous waste manifest is not required. The installation environmental office should be notified of any movement of WMM on the installation.

5. Off-site transportation of WMM not shipped under CE must comply with RCRA transporter requirements as specified in MCO P5090.2A, MCO P4400.16B, and MCO P4450.12.

#### 7014. STORAGE OF WASTE MILITARY MUNITIONS

1. Requirements for Storing WMM. Waste military munitions will be stored in accordance with this Manual; MCO P5090.2A; DoD 6055.9-STD; and NAVSEA OP 5, Volume 1. This section addresses the storage of WMM using the conditionally exempt storage concept. Note CE storage is not the only storage available for WMM. An ammunition storage activity in consultation with the installation environmental and installation explosives safety office may determine that other WMM storage is better suited for

that particular activity. Other storage options for WMM may include permitted storage, less than 90-day storage, and satellite accumulation point storage. All WMM storage to include CE falls under RCRA and as such must be coordinated with the installation environmental office prior to storing any WMM. The installation explosives safety office must also be involved prior to storage of any WMM to ensure compliance with explosives safety requirements and regulations.

2. Conditionally Exempt (CE) WMM Storage. For conventional WMM stored under the jurisdiction of the DDESB, a conditional exemption from certain RCRA requirements may be granted if the following conditions are met:

a. Administrative Requirements.

(1) The State allows the use of CE for the storage of WMM.

(2) The WMM is not a chemical munition.

(3) There are no waivers or exemptions to DoD 6055.9-STD for the specific storage unit where the WMM will be stored.

(4) The installation's environmental office notifies the appropriate Federal or State environmental regulatory authority of the location of any storage facility used to store WMM within 90 days of the date the unit was first used to store WMM under CE.

(5) The installation ASU keeps written records of all WMM stored under CE. These records, which will be maintained for 3 years from the date WMM were last stored under CE, will contain the following information:

(a) The type of WMM stored by standard nomenclature, lot number, Federal supply class (FSC), national stock number (NSN), Department of Defense identification code (DODIC), and condition code.

(b) The quantity of each type of WMM stored.

(c) The date that each military munitions, by type, was identified as waste.

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(d) The last storage date for each, by type, WMM.

(e) The storage location or locations (e.g., building number or storage pad, and grid coordinates) used to store WMM.

(f) The disposition (e.g., destroyed, demilitarized, shipped) and date of action, by type, of the WMM.

(g) When applicable, the sending and receiving sites for those WMM received from or shipped to off-site sources.

(6) The ammunition storage facility inventories any WMM stored under CE, at least annually and maintains these records for 3 years.

(7) The ammunition storage facility inspects any WMM stored under CE, at least quarterly, for compliance with the conditions of CE and maintains records of the findings of these inspections for 3 years.

(8) All storage units, including those that store conditionally exempt WMM, will be subject to installation environmental, or responsible activity-specific SOPs or plans designed to provide safety, security, and environmental protection. At a minimum the following information shall be provided to the appropriate installation office for inclusion in required SOPs or plans:

(a) Ammunition specific section that includes the type, quantities, and location of munitions stored.

(b) Provisions limiting access to trained and authorized personnel.

(c) Procedures minimizing the possibility of an unpermitted or uncontrolled detonation, release, discharge, or migration of military munitions or explosives out of any storage unit when such release, discharge, or migration may endanger human health or the environment.

(d) Provisions for prompt notification to installation emergency response and environmental office in the event of an

actual or potential detonation or uncontrolled release, discharge, or migration (that may endanger human health or the environment).

b. Design and Operational Requirements

(1) The installation will ensure it implements procedures and measures to prevent loss or theft of WMM.

(2) Access to units used to store WMM will be limited to appropriately trained, specifically authorized personnel. Installation, Federal and State environmental regulatory personnel, who require access to determine whether WMM are stored who have been briefed on explosives safety concerns and cleared for access, are considered trained and authorized. ASU and environmental personnel will escort these personnel.

(3) Storage of WMM under CE will comply fully, without waiver or exemption, with DoD 6055.9-STD.

(4) Physically separate (e.g., on a separate pallet or shelf, etc.) WMM from non-WMM when both are stored in the same storage unit or area.

(5) Clearly mark the separated WMM as such to ensure proper identification. (Note: Marking of the area {e.g., shelf, pallet, or storage facility} in which WMM are physically separated is sufficient to meet this requirement. Therefore, it is not necessary to unpackage WMM to mark each round or box.)

(6) ASU will manage WMM and any WMM residues to ensure there is no migration of contaminants out of storage units.

(7) For non-chemical agent WMM that contain liquids (e.g., munitions or missiles that use liquid propellants), the ASU used to store the WMM must have either a secondary containment system, which ensures that any released liquids are promptly detected and detained until properly removed from the area, or a vapor detection system, which ensures that any released liquids or vapors are promptly detected so that an appropriate response is taken. For these WMM, the storage of non-leaking weapons in their shipping or storage container is considered a means of secondary containment. Ensure that all

spill residues are managed in accordance with explosives safety and environmental requirements.

c. Reporting Requirements for CE. In addition to other applicable MR reporting requirements, the installation environmental office will notify their chain of command, DC I&L (LFL), MARCORSSYSCOM (PM AM), and the appropriate Federal or State environmental regulatory authority, telephonically or electronically (by email, message or facsimile) and using the format specified in chapter 13, DoD 6055.9-STD within 24 hours from the time the installation becomes aware of any unpermitted or uncontrolled detonation, release, discharge, or migration of WMM out of any storage unit that may endanger human health or the environment. If the initial report was made telephonically, a written report must be submitted within 5 days of the incident.

d. Loss of CE. The unpermitted or uncontrolled detonation, release, discharge, or migration of WMM out of any storage unit that might endanger human health or the environment will result in the immediate loss of CE for those WMM. The loss of CE will subject the WMM to RCRA HW regulations as specified in MCO P5090.2A and could result in an enforcement action with potential fines or penalties from the date of violation.

e. Reinstatement of CE. When CE is lost for WMM storage, the installation environmental office will coordinate with the ammunition storage facility to prepare the application to request the reinstatement of CE. The request for reinstatement shall include a written report that details the incident or violation that caused the loss of CE. After internal coordination, the installation environmental office shall apply the appropriate Federal or State environmental regulatory authority for reinstatement.

f. Termination of Use and Closure Requirements for Storage Units. When storage units that have stored WMM are to be closed coordinate all actions with the installation environmental office, CG MARCORSSYSCOM (AM) and DC I&L (LFL).

7015. RETURN OF REUSABLE Munitions MATERIEL. Except under conditions where it will hinder combat operations, original packaging material shall not be destroyed or discarded until

after the Munitions is expended. Reusable containers shall be returned to the ASP for disposition. A list of reusable containers for Class V (A) material is contained in the current edition of NAVSUP P-724. A list of reusable containers for Class V (W) material will be published periodically by CG MCSC Code 204 (PM Ammo) via AIN as conditions warrant.

7016. OCEAN DUMPING. Class V materiel and WMM will not be dumped or discarded in National or International waters. Disposition of this material will follow the munitions disposition process outlined in this chapter. The only exception is in the event of an emergency. When, in the opinion of the ship's commanding officer, munitions or WMM present a danger to the safety of the ship or personnel, ocean dumping may be directed.

7017. EXPLOSIVES SAFETY SUBMISSION. DoD 6055.9-STD requires that a response action plan be submitted to the DDESB for review and approval of explosives safety aspects when real property known or suspected to contain military munitions is considered for lease, transfer, excess, or disposal from DoD ownership or control. Additionally, an after action report is required to be submitted at the end of the project. All emergency response actions will be included in this report, which will remain indefinitely in an explosives safety repository.

## 1. INTRODUCTION

Years of military training, testing, and the disposal of excess, obsolete, or unserviceable ammunition has resulted in the presence of munitions and explosives of concern (MEC) on former military ranges. Many of these former ranges have been put to uses where the presence of MEC is incompatible with their current or anticipated future land usage.

Marine Corps Order (MCO) 8020.13 requires that all real property known or suspected of containing MEC must be cleared to ensure the protection of public health and the environment before it can be reused.

To ensure the response process is carried out in a safe and acceptable manner the responsible installation will prepare an Explosives Safety Submission (ESS). The ESS is designed to outline the process used to address explosives safety concerns.



The ESS must be approved by the Commanding General, Marine Corps Systems Command (Code 204 Program Manager for Ammunition) (CG MARCORSYSCOM, and the Department of Defense Explosives Safety Board (DDESB), via the appropriate chain of command before any intrusive response activities can begin.

2. EXPLOSIVES SAFETY SUBMISSION CRITERIA. Most, but not all, response activities involving MEC will require an ESS. Listed below are examples of when an ESS would or would not be required.

2.1. The following are examples of activities requiring ESS development and approval:

2.1.1. As part of any "no further action" decision made at any point during, or at the end of, the investigative phase of a munitions response.

2.1.2. Prior to implementing the selected removal action, interim remedial action (IRA), or remedial action, including instances where the: We are missing something here.

2.1.3. Prior to changing the use of any USMC real property where MEC is suspected of being present to a use that is incompatible with the presence of MEC.

2.2. The following activities do not require an ESS:

2.2.1. Explosives or munitions emergency responses conducted by EOD personnel as part of an emergency response.

2.2.2. Routine range clearance activities on operational ranges.

2.2.3. Munitions response for former ranges where only small arms ammunition (i.e., .50 caliber or less) were used.

2.2.4. The erection of temporary fencing, signs, and or other barriers along the perimeter of a site.

2.2.5. An investigation or characterization to collect the information necessary to develop an ESS or select a response action.

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2.2.6. A determination the property does not contain MEC.

3. DEVELOPMENT OF AN ESS

ESSs are developed to answer explosives safety concerns when conducting MEC response activities. Appendix A provides detailed guidance on the specific contents of an ESS.

4. REVIEW AND APPROVAL OF AN EXPLOSIVES SAFETY SUBMISSION

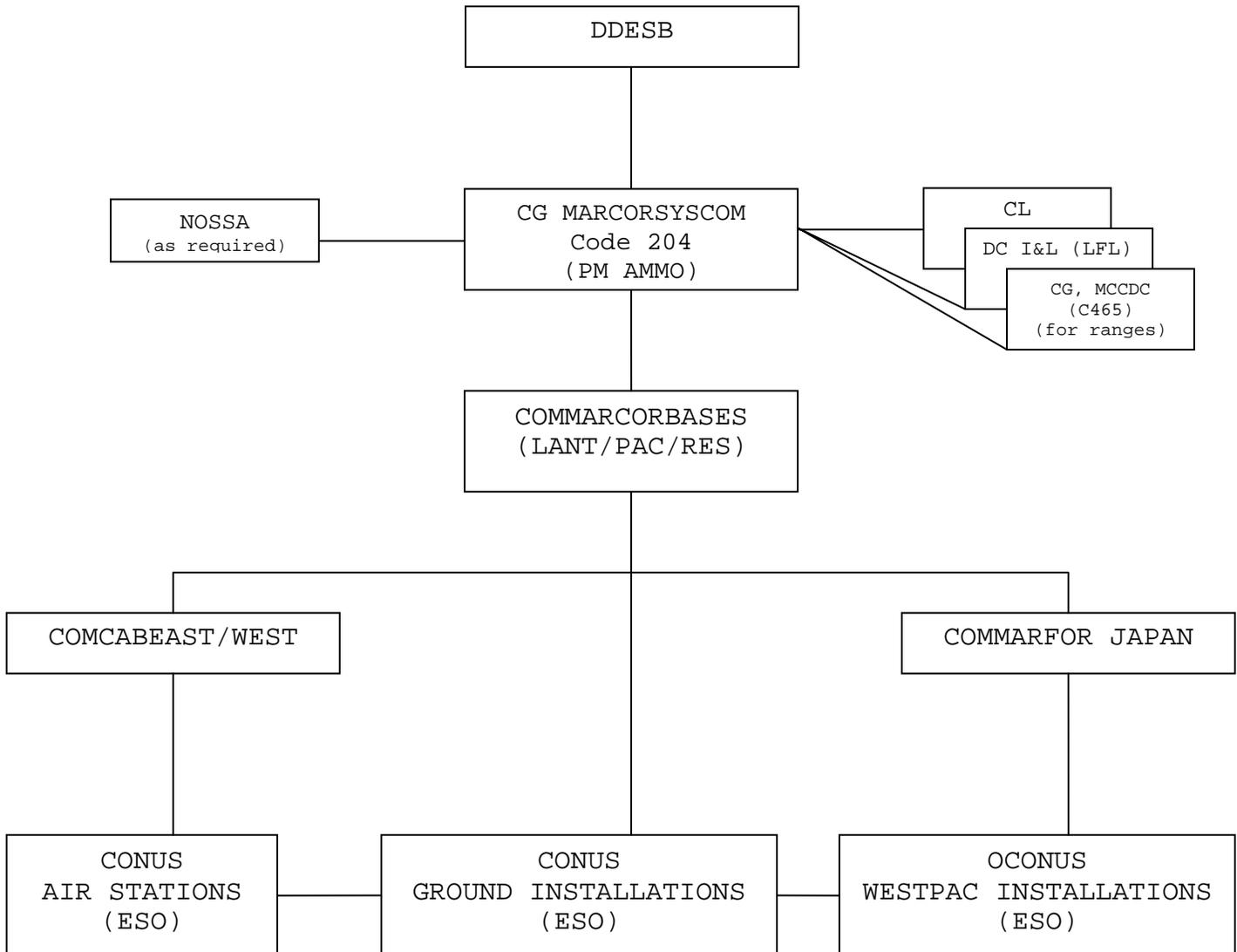
4.1. The review and approval process applies to all ESSs developed for response activities on all USMC real property.

4.2. Review and approval of the ESS is required prior to the initiation of any intrusive response activities. To allow sufficient time for the review and approval process, the ESS should be submitted to the Commanding General, Marine Corps' Systems Command (CGMARCORSYSCOM) via the chain of command a minimum of 90 days prior to the planned start of response activities. Failure to initiate the review process in a timely manner may delay the start of on-site response activities.

4.3. The ESS will be reviewed for completeness and technical sufficiency throughout the chain of command. If a reviewing office has concerns with the ESS, the installation will be required to address these concerns. If the ESS is returned, the reviewing office will cite the specific reasons why the ESS is being returned and outline recommended actions the installation can take to address the concerns.

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Figure 7-1. ESS Submission



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5. AFTER ACTION REPORT

5.1. After completion of the project an after action report will be prepared and approved by CGMARCORSYSCOM and the DDESB. A copy will be forwarded to each organization having review authority.

5.2. The approved after action report must be included in the site's administrative record and if the property is to be disposed of by the General Services Administration, the after action report must accompany the report of excess (SF 118).

7018. RESPONSIBILITIES

1. Commander, Marine Corps Systems Command (CG MCSC)

a. Designate an individual as the Marine Corps DDA for Class V (W) ammunition.

b. Coordinate all WMM issues, plans and reports for response actions with DC I&L and CG, MCCDC, (C465).

c. Develop and maintain a repository of military munitions response action notification.

d. Provide guidance for the preparation of explosives safety submissions (ESS) for response actions involving military munitions.

e. Provide guidance for addressing the explosives safety concerns in health and safety plan development/execution, personnel qualification, and quality assurance.

f. Review/approve ESS and forward them to the DDESB or other entities, as appropriate.

g. Provide an oversight and verification process addressing the implementation of explosives safety principles in response actions involving munitions.

h. Using the process described above, provide explosives safety oversight of ongoing response actions to include, at a minimum, ESS compliance, health and safety plan execution, personnel qualification, and quality assurance.

i. Review and approve ESS amendments and forward them to the DDESB or other entities, as appropriate.

j. Review and approve after action reports (AARs) to verify that appropriate explosives safety actions have been completed in accordance with selected response actions and associated ESS.

k. Provide formal verification of the final response action.

## 2. Class V (W) DDA Responsibilities

a. Manage unserviceable and waste munitions to achieve maximum utility while reducing or minimizing the generation of hazardous waste from WMM consistent with explosives safety and environmental policies, regulations, and requirements.

b. Ensure excess, obsolete, and unserviceable munitions that could potentially become hazardous waste are provided visibility and opportunity to be used beneficially consistent with explosives safety and environmental policies, regulations, and requirements.

c. Designate unused munitions as WMM as required.

d. Coordinate disposition instructions for excess and obsolete munitions.

e. Provide munitions disposition instructions for unserviceable and WMM to Marine Corps ammunition support activities or wherever Marine Corps Class V (W) materiel is stored:

(1) Within 60 days of receipt of the request for disposition instructions.

(2) Ensure that the installation environmental office is provided a copy of munitions disposition instructions involving WMM.

f. Represent CMC, as required, for matters involving unserviceable and waste military munitions.

- g. Coordinate policy for the management for unserviceable, and WMM with appropriate Marine Corps activities and CMC as appropriate.
- h. Retain copies of munitions disposition instructions for 3 years.

### 3. Marine Corps Ammunition Storage Units or Facilities

- a. Request munitions disposition instructions from the appropriate authority for excess, obsolete, unserviceable, waste Class V, foreign, and non-DoD munitions.

- b. Execute the munitions disposition instructions as directed.

- c. Ensure that the items designated as WMM by the DDA are prepared for shipment.

- d. Complete appropriate shipping control documents if transporting under CE.

- e. Maintain the following records for 3 years:

- (1) Munitions disposition records to include:

- (a) Munitions disposition requests.

- (b) Munitions disposition instructions.

- (c) When required, the installation environmental office will prepare and sign the HW manifest.

- (2) Record of ED/CD training to include:

- (a) Names of the individuals trained.

- (b) Training date.

- (c) Purpose of the training supported by lesson plans, local SOPs, and ITS.

- (d) Types and quantities of munitions used.

(e) Location or ranges where training was conducted.

(3) All shipping documentation for non-waste and waste Class V materiel.

(a) For non-waste Class V materiel, retain copies of shipping control documents per MCO P4600.14B and MCO P4450.12.

(b) For waste Class V materiel, retain copies of hazardous waste manifest and/or appropriate shipping documentation if transported in conditionally exempt status, per MCO P5090.2 and MCO P4450.12.

f. Maintain a current and updated notice of ammunition reclassification (NAR) manual.

g. Maintain copies of results from the two most recent inspections, surveys, and evaluations (e.g., ECE, ESI, AMHAZ, DDESB).

h. Maintain local waste munitions inspections and inventory records.

i. Ensure that users of foreign military munitions on Marine Corps installations have an approved plan for retrograde of any excess or unserviceable materiel prior to requesting approval to store non-DoD munitions.

j. Maintain copies of results from the two most recent inspections, surveys, and evaluations (e.g., ESI, DDESB, AMHAZ, and ECE).

k. Provide copies of WMM inspections and inventories to the installation environmental office.

l. Conduct local WMM inspections.

4. Installation Environmental Office Responsibilities. The installation environmental office is responsible for the following:

- a. Prepare and sign the HW manifest.
- b. Coordinate the shipment with the receiving activity if the shipment is designated for waste treatment.
- c. Notify the Federal/State environmental agencies in the event that a shipment of WMM is lost.
- d. Coordinate the reinstatement of CE for transportation when required.
- e. Provide/coordinate hazardous waste training (initial and recurring).
- f. Incorporate WMM storage and handling training records into existing environmental compliance evaluations.
- g. Update the installation's emergency preparedness and contingency plan to reflect ammunition and explosives.
- h. Provide written notification of all response actions involving military munitions to CG MCSC Code 204 (PM Ammo) and DC I&L (LFL).
- i. Develop ESS for CG MCSC Code 204 (PM Ammo) approval and DC I&L (LFL) review and concurrence.
- j. Develop (for ESS preparation/submission), safety and health plans, qualification of personnel documentation and quality assurance and procedures that address explosives safety.
- k. Provide (for ESS preparation/submission), as appropriate, additional supporting documentation, such as legal documents, to CG MCSC Code 204 (PM Ammo) and DC I&L (LFL).
- l. Coordinate (for ESS) response actions with CG MCSC Code 204 (PM Ammo), DC I&L (LFL), and the appropriate installation ESO and EOD personnel.
- m. Conduct the response action in accordance with the approved ESS.

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n. Amend, as appropriate, approved ESS to reflect changes in the selected response action and submit the amendments to CG MCSC Code 204 (PM Ammo).

o. Develop proposed language for ESS for deeds, activity master plans, or other land use controls in collaboration with DC I&L (LFL) and CG MCSC Code 204 (PM Ammo).

5. Installation Explosives Safety Officer Responsibilities.  
The installation ESO will exercise management oversight in those areas of procedure, practices, and record keeping which relate or overlap with explosives safety requirements.

6. Foreign Military Agent Responsibilities

a. Develop and provide a pre-approved retrograde plan to the installation ammunition support activity prior to storing foreign military munitions in Marine Corps ammunition support activities.

b. Retrograde foreign military munitions to their point of origin within 30 days after completion of an exercise per the pre-approved retrograde plan.

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From: Requesting Activity Ammunition Storage Facility  
To: Designated Disposition Authority (E-mail)  
Date:

Subj: REQUEST FOR CLASS V(W) MUNITIONS DISPOSITION INSTRUCTIONS

1. The below-listed items are unserviceable; request disposition instructions be provided.
2. There are no applicable NARs for the below-listed items.
3. Items are unserviceable returns from using units and are in C/C H due to loss of lot identity. Items can be utilized for local ammunition and EOD emergency destruction/combat destruction (ED/CD) training.
4. Training dates are scheduled for late March 2001. Approximately 18 personnel are to attend this training.
5. Following items are requested for ED/CD training:

DODIC	NOMEN	QTY	C/C
A011	CTG 12 GA #00 BUCK	3	H
A023	CTG 12 GA SLUG	2	H
C869	CTG 81MM HE	3	H

6. If paragraph 5 is approved, request the following donor material be provided:

DODIC	NOMEN	QTY
M030	CHG ¼ LB TNT	20
M171	NON-ELC CAPS	70
M766	IGNITORS	70
M670	TIME FUSE	800'

Figure 7-2. Sample Request For Munitions Disposition Instructions.

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From: FM CG MARCORSYSCOM QUANTICO VA//AM/EES-DDA//  
To: REQUESTING ACTIVITY AMMUNITION STORAGE FACILITY  
Date:

Subj: INSTRUCTIONS FOR CLASS V(W) MUNITIONS DISPOSITION

REF /A/ EMAIL  
REF /B/ DOC/CFR/40/900812  
REF /C/ DOC/MRIP/980701  
REF /D/ RMG/ R/ 151237Z NOV 99 ZYB/SUBJ/MUNITIONS MANAGEMENT  
POLICY FOR UNSERVICEABLE AND WASTE CLASS V (W) MATERIEL  
NARRATIVE. REFERENCE A IS THE REQUEST FOR DISPOSITION FOR  
MILITARY MUNITIONS. REFERENCE B IS TITLE 40 PROTECTION OF THE  
ENVIRONMENT, SUBPART M WHEN MILITARY MUNITIONS BECOME A SOLID  
AND HAZARDOUS WASTE SUBJECT TO REGULATION. REFERENCE C, THE DOD  
MUNITIONS RULE IMPLEMENTATION POLICY, ESTABLISHED THE DESIGNATED  
DISPOSITION AUTHORITY PROCESS FOR EXCESS, UNSERVICEABLE AND  
WASTE MILITARY MUNITIONS (MRIP). REFERENCE D IS THE POLICY  
MESSAGE CONTAINING SPECIFIC INFORMATION FOR REQUESTING MUNITIONS  
DISPOSITION INSTRUCTIONS.

1. In response to reference (a) and in accordance with  
references (b), (c), and (d), the below listed munitions are  
authorized for use in ED/CD training.

2. Retain subject Munitions Disposition Instructions and  
training records for a minimum of three years.

DODIC	C/C	QTY	DISPO
A011	H	3	ED/CD
A023	H	2	ED/CD
C869	H	3	ED/CD

3. The following donor material is approved.

DODIC	NOMEN	QTY
M030	CHG ¼ LB TNT	20
M171	NON-ELC CAPS	70
M766	IGNITORS	70
M670	TIME FUSE	800'

Figure 7-3. Sample Munitions Disposition Instructions.

7019. DEFORMER OPERATION

1. Background: Small arms munitions are defined as .50 Cal. and smaller (i.e..50 cal, 7.62mm, 5.56mm, 9mm, .38 cal, .45 cal, and .22 cal). The recovery, to include mutilation, deforming or other process intended to render expended small arms cartridge casings unusable for its intended purpose, has been determined to pose de minimis risk and is not considered to be an explosives operation. Marine Corps training generate significant quantities of expended small arms cartridge casings that may be recovered. It is in the interest of the Marine Corps, to recover and recycle this material to the maximum extent practicable through base qualified recycling programs.

2. Policy: The decision to implement an installation recovery/recycle/demilitarization program for expended small arms cartridge casings is at the sole discretion of the installation commander based on such considerations as cost-benefit analysis of quantities generated, equipment purchase and maintenance requirements, personnel training, as well as other local considerations. If implemented, the following requirements apply:

a. A demilitarization operation for processing expended small arms cartridge casings may be treated as a non-explosives operation provided:

(1). Expended small arms cartridge casings to be processed are screened and certified as free from containing live munitions prior to being processed (i.e. deformed or mutilated). Screening is intended to ensure that only expended small arms cartridge casings of .50 cal. and smaller are processed, and to remove unused (live, misfired, dud) munitions.

(2). Demilitarization processing equipment is tested to be capable of containing overpressure, fragment, and thermal hazards associated with a worst-case reaction involving a single live round of the most energetic cartridge that could be processed in the equipment. This information can be obtained from the equipment manufacturer.

(3). Demilitarization processing equipment is operated within the manufacturer's specifications and restricted only to

the processing of expended .50 cal. and smaller cartridge casings.

(4). Demilitarization processing equipment is regularly inspected and maintained to ensure safe operation.

(5). Equipment will be operated by trained and qualified personnel.

b. Demilitarization processing operations meeting the requirements of 7019.2.a and located outside Inhabited Building Distance (IBD) from all Potential Explosion Sites (PES), do not require submission of a site plan to this Command.

c. Locations used for demilitarization processing operations/equipment that are located within IBD arcs require submission of a site plan to the DDESB through established channels. These locations will be sited at Intraline Distance (ILD) or greater, except to the PES to which it is integral.

### 3. Responsibilities:

a. Installation Commander: The installation commander will ensure:

(1). Local policy, instructions, and procedural documents are promulgated to provide adequate guidance and direction for the program. Guidance includes, but is not limited to, SOP's, LOI's, base regulations, MOU's, and material tracking documentation.

(2). SOP's are prepared, approved, and periodically reviewed and updated in accordance with this Order, MCO P8020.11 and NAVSEA INST 8023.11.

b. Organization that owns and operates Demilitarization Processing Equipment: The owning/operating organization will:

(1). Ensure that only equipment meeting the requirements of DoD 6055.9-STD is purchased and utilized in demilitarization operations and that operating personnel receive and document adequate training in its use and maintenance.

(2). Obtain and maintain documentation that equipment has been tested and meets the requirement for containment of overpressure, fragment, and thermal hazards associated with the accidental detonation of the most energetic round that could be processed.

(3). Establish and maintain a program of inspection and periodic maintenance of the equipment in accordance with the equipment manufacturers recommendations/standards. Maintain written records of inspections and maintenance for the life of the equipment.

(4). Prepare SOP's for the operation, maintenance, and inspection of demilitarization processing equipment in accordance with manufacturers specifications, this Order and NAVSEA INST 8023.11.

(5). Establish and maintain records of final disposition of processed materials. Suggested information should include a locally developed/assigned identification number identifying the processed material, quantity of material (lbs) and date ownership was transferred, name of individual/organization receiving the processed material, name/rank/title of individual who performed screening of material prior to processing and date screening was performed.

c. Installation Explosives Safety Officer (ESO): The ESO will:

(1). Periodically review screening and operating SOP's.

(2). Periodically, on a schedule developed with the OIC, inspect the screening operation for conformance with SOP requirements.

(3). Periodically review training records of screening personnel to insure completeness and currency. Insure personnel performing screening are listed on the unit commander's appointment list. This review may be performed in conjunction with other similar reviews of records but will be documented separately. Use of checklist's and electronic files/records is encouraged.

(4). Periodically, on a schedule developed with the operating organization, inspect the demilitarization operation for conformance with SOP's, safety procedures, personnel training, and record keeping. This inspection may be performed in conjunction with other inspections but will be documented separately. Use of checklist's and electronic files/records is encouraged.

(5). Provide a written report of all discrepancies noted to the owning organization commander with copy to the installation commander. Conduct follow-up visits at 30-day intervals to ensure corrective action is accomplished. Document and report follow-up visits.

d. Ammunition Screening Personnel:

Personnel performing inspection/screening of expended small arms cartridge casings, .50 Cal. and below, will:

(1). Read, understand, and sign all applicable SOP's pertaining to the screening operation.

(2). Ensure their individual training records are maintained and current.

(3). Ensure and verify that they have been appointed in writing, by the unit commander to perform the screening operation.

(4). Sign (name/rank/organization/date) the Explosives Free Certification statement following each screening operation, which will accompany the screened material and/or the documentation package for the screened material.

(5). Return any live, misfired, or dud ammunition that may be found during the screening operation to ammunition storage personnel in accordance with established procedures.

e. Unit Commanders: Commanders of units making turn-ins will:

(1). Ensure unit personnel are properly trained to perform screening inspection of expended small arms cartridge cases.

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(2). Ensure an SOP for screening of expended small arms cartridge cases, .50 caliber and below, is prepared, reviewed and staffed IAW this Order, and NAVSEA INST. 8023.11.

(3). Prepare a letter of authorization listing those unit personnel (by name, rank) who are trained and authorized to perform screening inspection, and who are authorized to sign the Explosives Free Certification statement. Review and update the list annually, and provide copies to the ESO and the organization owning/operating Demilitarization Processing Equipment.

4. CG MCSC Code 204 (PM Ammo), as manager of the Marine Corps Explosives Safety Program, or his designated representatives, will, in conjunction with assist visits, visit/observe/assess both screening and deformer operations.

a. CG MCSC Code 204 (PM Ammo) will coordinate any contemplated visits through the installation ESO as far in advance as mutually practicable. The installation ESO will coordinate with the operating organization.

b. Visits will be informal with minimal impact to normal operations. Focus of visits is to confirm implementation of explosives safety standards, review adequacy of records, and ensure assigned responsibilities are being addressed.

c. CG MCSC Code 204 (PM Ammo) representatives will provide the installation ESO and the owning/operating organization with an informal verbal assessment of the operation. However, should multiple adverse or non-compliant conditions be noted, a formal written assessment will be provided to the ESO, the owning/operating organization and the installation commander within 15 working days of the site visit. Installations will respond, to CG MCSC Code 204 (PM Ammo), with a Corrective Action Plan (CAP) or statement of corrective action taken within 15 working days of receipt of the written assessment.

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CHAPTER 8

MALFUNCTION AND MISHAP REPORTING

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CHAPTER 8

MALFUNCTION AND MISHAP REPORTING

8000. BACKGROUND. It is essential to the safety of personnel that all malfunctions, mishaps and accidents involving Munitions be immediately reported. Therefore, it is imperative that the provisions outlined in this chapter and all cited references be closely examined and adhered to.

8001. MALFUNCTIONS. Malfunction is the term applied to an explosive material or system when it fails to function in a manner for which it was designed.

8002. RESPONSIBILITIES. Unit commanders are responsible for the following:

1. Report all malfunctions involving the use of Class V (W) in accordance with MCO 8025.1D.
2. Report all malfunctions involving the use of Class V (A) in accordance with OPNAVINST 8000.16A.
3. Report non-aircraft related explosive mishaps as a separate safety investigation report (SAFEREP) or hazard report (HR) in accordance with MCO P5102.1A.
4. The CO/OIC shall not attempt to distinguish the cause of the incident as weapons related or explosives related. Rather, report and permit qualified technical investigators to determine cause.
5. Maintain the integrity of mishap sites and physical exhibits pending determination of a need for investigation.
6. Maintain a record of all malfunctions and mishaps including recommendations for preventive measures.
7. Notify the installation explosives safety officer (ESO) and provide the ESO copies of any explosives malfunction/mishap reports.

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RECLASSIFICATION (CHANGE IN CONDITION CODE)

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CHAPTER 9

RECLASSIFICATION (CHANGE IN CONDITION CODE)

9000. BACKGROUND. Certain actions to include but not limited to, malfunctions or surveillance testing, may require that munitions be reclassified into unserviceable condition codes. Once an item has been determined to be in excess or is assigned condition code H or V, the supporting ammunition activity must request disposition from the Marine Corps designated disposition authority (DDA). NALC IMSD processes all other reclassification actions. Chapter 7 of this Manual provides details for requesting munitions disposition instructions. Therefore, it is imperative that the provisions outlined in this Chapter and all cited references be closely examined and adhered to.

9001. LOSS OF LOT IDENTITY. Small arms ammunition without lot number identity, which is otherwise serviceable, will be returned to a serviceable condition code provided that it meets the following restrictions:

1. If it can be determined that returned small arms ammunition were issued from a specific lot and the lot has not since been reclassified by a notice of ammunition reclassification (NAR), assign the lot number from which the ammunition was originally drawn. Issue subject ammunition on the next requisition from the major subordinate command (MSC) from which the turn-in was received.
2. If multiple lots were drawn, and no single lot number can be isolated for assignment, storage activities may consolidate the items into a "grand lot" and assign a local lot number. These assets will then be issued on the next requisition from the MSC from which the turn-in was received. However, if a NAR affecting any lot within the grand lot is received, the entire grand lot must be relegated to the applicable NAR-prescribed condition code.

9002. NOTICE OF AMMUNITION RECLASSIFICATION (NAR) MANAGEMENT. NAVSUP P-801/TW024-AA-ORD-010, "The NAR Manual", is the source for identifying suspended, limited use, and unserviceable ammunition. Ammunition storage activities must manage their inventory per this reference to ensure that all munitions

distributed are safe and serviceable. Failure to identify pertinent NAR's may cause malfunction, injury, death, destruction to property, and potentially generate waste military munitions.

### 9003. RESPONSIBILITIES

1. Command Responsibilities for Reclassification of Munitions. Commanders at all levels are responsible for reviewing all NAR and ammunition information notice (AIN) messages released upon receipt to determine if on-hand assets are appropriately classified. NAVSUP P-801/TWO24-AA-ORD-010 provides a compilation of previously released NAR's. This information is also readily available from the Navy Ammunition Logistics Center web page, [www.nalc.navy.mil](http://www.nalc.navy.mil).
2. Issuing Unit Responsibilities for Reclassification of Munitions. Prior to issuing Munitions, each issuing unit shall cross-reference NAR's and AIN's with on-hand stock to ensure only serviceable assets are used.
3. Responsibilities for Reclassification of Munitions by Marine Corps Units Supported by Army Activities. Marine Corps units directly supported by an Army activity shall utilize the current edition of NAVSUP P-801/TW024-AA-ORD-010 for NAR and AIN information. When clarification is necessary, contact CG MCSC Code 204 (PM Ammo).

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CHAPTER 10

EXPLOSIVES SAFETY OFFICER (ESO) TRAINING/QUALIFICATION AND  
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CHAPTER 10

EXPLOSIVES SAFETY OFFICER (ESO) TRAINING/QUALIFICATION AND  
CERTIFICATION REQUIREMENTS

10000. BACKGROUND. In order to conduct an effective explosives safety program, Marine Corps military and civilian ESO must fully understand not only explosives safety regulatory requirements, but also the interaction between those requirements and the requirements of ammunition life-cycle management. Formal training in a variety of disciplines is necessary to achieve this understanding. Marine Corps ESO's must also have full knowledge of the distinctions among explosives safety requirements/policies of the various Services in order to function effectively in the increasingly joint operational arena. To this end the Commander, Marine Corps Systems Command (MCSC), as delegated by Commandant, U.S. Marine Corps/Safety Division (CMC/SD) through MCO 5100.29, is responsible for establishing training/qualification requirements for personnel involved in the conduct of the Marine Corps Class V (W) and non-operational aspects of Class V (A) explosives safety program. In view of the complex mix of experience, training, and the broad variety of disciplines involved, explosives safety within the Marine Corps, is recognized as a unique and inherently governmental function not subject to contracting/ privatization. This chapter defines the Marine Corps explosives safety training/qualification requirements.

10001. LETTER OF ASSIGNMENT. Installation commanders will appoint, in writing, qualified individuals to serve as the ESO. All Marine Corps installations that routinely store, handle, transport, use, maintain, assemble/disassemble, or train with Class V (A) or (W) materials will have an ESO and a formal explosives safety program. Management and execution of the installations explosives safety program will be the appointee's primary duty. Due to the multitude of program requirements and specialized knowledge required to perform these duties, all commands should recognize that full-time dedication is essential, and that any additional assignments will be kept to a minimum. Due to the complex issues and catastrophic consequences that may arise, direct access to the installation commander is essential, and the ESO should be a member of the commanding officer's advisory staff. The ESO will be included

on all installation facility planning teams/panels/boards to provide input as necessary.

10002. GENERAL REQUIREMENTS. It is recognized that previous training and experience are valuable assets to the Marine Corps explosives safety program and should be considered in the initial appointment of ESO. The following general guidance is provided for consideration in evaluating personnel qualifications for the position.

1. Personnel with previous or current experience and formal training in the military occupational specialties (MOS) of ammunition technician/officer, aviation ordnance technician/officer, explosives ordnance disposal (EOD) technician/EOD officer in the grade of staff sergeant and above will be considered qualified to fill the position of ESO/ESS. They will be considered fully qualified upon completion of the additional training requirements called out later in this chapter.
2. Civilian personnel, considered for appointment as an ESO will be selected from Occupational Codes 0018- Safety Specialist, 1910- Quality Assurance Specialist (Ammunition Surveillance), 0346 Logistics Management Specialist (with experience in ammunition storage, transportation, or maintenance) at the grade level of GS-09 or above. Civilians with experience in career fields directly associated with ammunition life-cycle management may also be considered. The civilian position of ESO/explosives safety specialists will be full-time, permanent, career or career-conditional status. To promote stability and continuity of the explosives safety program, career civil servants are preferred for the position of ESO.
3. Due to the complexity of the field and inherent danger of the commodity involved, personnel without background or training in the ammunition or safety career fields should not be considered for appointment as an ESO. Should an installation commander find it necessary to select an individual without the proper background or training, that individual will be identified immediately to CG MCSC Code 204 (PM Ammo) in order to expeditiously schedule the required training and assistance.

4. Should the installation commander be unable to locate qualified personnel locally for appointment to the position of ESO/ESS, interim assistance in program management may be requested through CG MCSC Code 204 (PM Ammo).

5. In the event that the size of installation, diversity of mission, operations tempo, or other circumstances dictate the appointment of more than one individual, all general and specific requirements apply to all appointee's.

a. The senior appointee will be designated as ESO, as determined by these ordered criteria, (1) grade/rank, (2) experience, and (3) training.

b. The junior appointee's will be designated as explosives safety specialists (ESS).

c. ESO's are responsible for establishing and carrying out the installation explosives safety program in accordance with provisions of this publication and providing supervision, direction, and guidance to junior personnel.

d. ESO's will be at least one grade senior to explosives safety specialists. In the case of civilians, position descriptions will be amended to reflect the additional supervisory and management duties, and to provide justification for non-competitive promotion should this be necessary.

10003. TRAINING REQUIREMENTS. After consideration of the general requirements outlined above, the following specific requirements will apply.

1. USMC ESO and explosives safety specialists training will consist of both mandatory training courses and mandatory refresher training. This approach is necessary to provide all ESO/explosives safety specialists with a foundation of basic knowledge, and provide a means to update and remain current with changes in requirements.

2. Core training courses will be provided in formal classroom setting/format.

3. Refresher training may include formal classroom, CBT, or other formats consistent with personnel requirements.

10004. MANDATORY TRAINING COURSES. All personnel appointed to the position of ESO/ explosives safety specialists will complete the following training. Courses designated mandatory will be completed within 18 months of appointment. Length and availability are described below. Course locations are available as follows: Defense Ammunition Center (DAC) McAlester, OK (formerly U.S. Army Defense Ammunition Center and School); DAC on-site, at local activity; DAC Computer Based Training (CBT); Naval Aviation School's Command, NAS Pensacola, FL; U.S. Army Ordnance Missile and Munitions Center and School, Marine Element, Redstone Arsenal, AL.

1. Mandatory Courses

a. Explosives Safety Officer Course (Sub-Course AMMO-74). Length: 60 hours. Availability: DAC on-site. Provides a course of training and professional foundation in conduct and management of a comprehensive Explosives Safety program. Course content is focused on the duties/responsibilities of the ESO relative to management of the Explosives Safety Program at the installation level. Presentation of the material follows the relationship of these duties to the 15 Programs outlined in the ESI.

b. SAFETY ASSESSMENT FOR EXPLOSIVES RISK (SAFER). Length: 16 hours. Availability: Provided by MARCORSYSCOM through APT Research Inc. Course provides an introduction to risk-based explosives safety site plan assessment and software. Content includes history of statistical analysis as it applies to assessing risk, explanation of risk-based analysis and criteria, application of risk analysis software to site planning, hands on application of SAFER software to site planning problems. Students will receive a personal licensed copy of SAFER for application at their home installations. Refresher training will be provided in conjunction with changes to the SAFER program.

c. Explosives Safety for Naval Facility Planning (AMMO-36). Length: 36 hours. Availability: DAC on-site. Provides emphasis on the preparation and review of site plans for a variety of explosives facilities. Content includes an in-depth review of quantity-distance standards, and application of these standards in the form of a Facility Design Problems Workshop.

d. Electrical Explosives Safety for Naval Facilities (AMMO-29). Length: 28 hours. Availability: DAC on-site. Provides basic regulatory guidance and procedures to inspect, test, document and manage safety aspects applicable to facilities housing explosives. Content includes identification of lightning protection system components, design criteria, requirements for grounding/bonding, control of static electricity and electrical equipment in hazardous locations, overview of HERO, and field exercise involving visual inspection and testing of lightning protection systems.

2. Mandatory Refresher

a. Explosives Safety for Officers/Managers/ Supervisors (AMMO-49). Length: 36 hours. Availability: DAC CBT. Complete at 3 year intervals following completion of mandatory courses: Provides an overview of general ammunition and explosives (Munitions) safety training for Navy and Marine Corps Shore activity explosives safety officers, managers, and supervisors. Content includes introduction to the different classes of Munitions, safe handling practices, safety requirements, use of publications for extracting information, and use of reference information to solve problems.

b. Explosives Safety for Naval Facility Planning (AMMO-36). Complete at 5-year intervals following completion of initial mandatory course.

10005. USMC ESO/EXPLOSIVES SAFETY SPECIALISTS CERTIFICATION. Upon completion of mandatory courses, CG MCSC Code 204 (PM Ammo) will issue a "Letter of Certification", and a "Certificate of Qualification" stating that the individual has completed the basic requirements for performance of duties as a USMC Explosives Safety Officer.

1. Certification will remain valid for as long as the individual maintains the schedule of mandatory refresher training and satisfactorily performs the duties of ESO/explosives safety specialists.

2. Certification will not be revoked in situations where the individual is clearly not responsible for failure to maintain refresher-training requirements, as determined by CG MCSC Code

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204 (PM Ammo), and the individual has made every attempt to complete the requirement.

3. Certification will be revoked if an individual fails to maintain currency in training requirements without cause, as determined by CG MCSC Code 204 (PM Ammo).

4. Certification will be revoked for failure to satisfactorily perform the duties and responsibilities of ESO/explosives safety specialists. In this instance revocation may be made (1) by the installation commander, or (2) by the ESO/ESS immediate supervisor in consultation and with the concurrence of CG MCSC Code 204 (PM Ammo).

5. Certification is mandatory for holding the position of ESO/explosives safety specialists. This requirement may be held in abeyance in cases of newly appointed ESO/explosives safety specialists until the new appointee has the opportunity to complete requirements for certification. However, in no case will certification take more than 18 months to complete.

10006. SCHEDULING. All mandatory and refresher training will be scheduled, to the extent possible, by CG MCSC Code 204 (PM Ammo). Training may be scheduled in conjunction with conferences/seminars via DAC mobile training teams, or in regional area format, or at locations predetermined by DAC training schedule. In any instance, the following general sequence of events will occur:

1. CG MCSC Code 204 (PM Ammo) will maintain a file of ESO/explosives safety specialists by name, installation, and training history. File will be screened annually to determine specific training requirements. This does not relieve the individual ESO of the responsibility for maintaining awareness of their training requirements or shortfalls.

2. Requirements will be evaluated relative to the most effective format for delivery of training.

3. ESO/explosives safety specialists will be contacted, 10007 individually, and apprised of training requirements and options. Reasonable accommodations with individual schedules will be made if possible, at the discretion of CG MCSC Code 204 (PM Ammo).

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4. CG MCSC Code 204 (PM Ammo) will obtain the required quotas through appropriate commands.

5. CG MCSC Code 204 (PM Ammo), upon receipt of notification that training quotas have been scheduled, will forward the necessary list of attendee's to DAC no later than 60 days prior to the class start date.

10007. RESPONSIBILITIES

1. Commander, Marine Corps Systems Command (CG MCSC). CG MCSC Code 204 (PM Ammo) will closely manage and monitor the training, and qualification/certification requirements and perform the following:

a. Review and make recommendations to all training curriculum listed in this chapter, and associated with ESO/ESS training.

b. Issue a Letter of Certification to USMC ESO's and explosives safety specialists upon completion of the mandatory training courses stating in this chapter.

c. Issue a Letter of De-Certification to USMC ESO's or explosives safety specialists who fail to maintain currency in training requirements without cause.

d. Serve as scheduling liaison between ESO/explosives safety specialists and instruction provider for all mandatory and refresher training courses.

e. Maintain a file of ESO/explosives safety specialists by name, installation, and training history, and screen file annually to determine specific training requirements.

2. Installation Commander

a. Appoint, in writing, qualified individuals to serve as ESO and/or explosives safety specialists.

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b. Revoke certification of ESO or explosives safety specialists who fail to satisfactorily perform their duties upon concurrence of CG MCSC Code 204 (PM Ammo).

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3. Installation Safety Directors. Ensure that newly appointed ESO's and explosives safety specialists have completed the requirements for certification within 18 months of assignment.

4. Installation ESO/Explosives Safety Specialists.

a. Forward copies of all training records and course completion certificates addressed in this chapter to CG MCSC Code 204 (PM Ammo) via the chain of command.

b. Maintain certification requirements and notify CG MCSC Code 204 (PM Ammo) and Safety Director of training necessities.

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CHAPTER 11

INSTALLATION EXPLOSIVES SAFETY PROGRAM REQUIREMENTS

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CHAPTER 11

INSTALLATION EXPLOSIVES SAFETY PROGRAM REQUIREMENTS

11000. BACKGROUND. Explosives safety is an integral part of each phase of ammunition life-cycle management. Effective program management requires that data be collected and analyzed at key points during this cycle. This data is useful in trend analysis, allocation of available resources, establishing resource requirements, identifying/correcting deficiencies, improving the overall process, and providing management with a snapshot in time of the effectiveness of the program. Data is collected and made available to management through a systematic cycle of inspections, reports, and records. This cycle of required inspections and reports, and their regulatory basis are described in this chapter.

11001. INSPECTION PROGRAM. Both periodic and random inspections will be conducted and documented to assess the effectiveness of the Explosives Safety Program, and monitor status of individual units compliance with Program requirements. The following are the minimum standards for an installation explosives safety program. Unless stated otherwise, inspections are performed and primarily documented by unit personnel. ESO's are responsible for reviewing all checklists and inspection documentation, providing follow-up reports as necessary, training personnel in the use of checklists as necessary, and ensuring ESO actions are documented for ESI review. All inspections will be performed utilizing an approved or locally developed checklist. Examples of checklists may be found in appendix D. Their use, and the use of electronic filing, is encouraged. These checklists may be modified to meet the needs of the installation provided all inspection requirements are met.

1. Magazine/Storage Facility Inspection. All locations/facilities used for long or short-term storage or handling of Munitions will be inspected at least annually by the ESO to ensure compliance with explosives safety standards. For inspection purposes, the term "magazine" includes all such areas (for example, aboveground magazines, earth covered magazines, and ready service lockers). The inspection shall include an examination of the facility or location, the surrounding area, and the material being stored. An SOP written in accordance

with NAVSEAINST 8023.11 series shall be developed for this inspection process. Magazines, magazine areas, and Munitions in storage shall be inspected as described in Chapter 11, Paragraph 9 of NAVSEA OP 5 Volume 1.

a. Storage inspections are inspections of specific characteristics of ammunition, performed on ammunition in storage; it is not an inspection of the characteristics of storage areas or facilities. Storage inspections verify that ammunition in storage is safe, and is not adversely affected by environmental conditions, handling, or ineffective inventory control.

(1) Storage inspections shall be performed annually (or more frequently if activity quality history indicates that adverse storage conditions exist) to each ammunition storage area (magazine, building, warehouse, "shop-stores," etc.). These inspections should be performed concurrently with magazine and magazine area inspections and/or local inventory audits/reviews whenever practical.

(2) An SOP shall be developed for storage inspection, and include those requirements listed in magazine and magazine areas that are appropriate for the storage activity. Storage, magazine and magazine area inspection requirements may be contained in a single SOP. Storage inspections shall include specific requirements found in chapter 11 of NAVSEA OP 5, Volume 1, and chapter 5 of NAVSEA TW010-AC-ORD-010.

b. The ESO shall inspect explosives operating buildings and facilities, to include ammunition handling areas, shipping & receiving facilities, holding yards, maintenance facilities, egress and flight equipment shops where Munitions operations are regularly conducted as often as necessary, depending on the hazard associated with the operation, but at least annually. Explosive operating buildings that are being used for non-explosive operations need not be inspected. If the buildings are to be reused for explosives operations, an inspection will be performed and the site approval reviewed for compliance with proposed operation.

c. Contingent on available manpower, Munitions storage and handling locations with high rates of activity and those located remotely from the main ammunition storage area should be

inspected on a more frequent basis as specified above. The ESO, in conjunction with unit personnel, shall determine the inspection frequency requirements for all locations. Unit personnel may perform these inspections utilizing the required inspection SOP and checklist. The ESO will review unit performed inspection documentation on a regular basis and document the review.

d. The purpose of magazine, magazine area, and storage inspections is to ensure safe storage conditions. ESO's will ensure that organizations responsible for the inspected facilities are informed of all unsafe conditions and that any work orders/repairs, which may be necessary, are generated by the responsible organization.

(1) A record of work order follow-ups will be maintained and monitored by the ESO.

(2) Any uncompleted work orders, not involving major construction/renovation, in excess of 90 days old will be reported by the ESO, in writing, to the installation commander with copies furnished to the unit commander and to the organization responsible for performing the repair.

e. Results will be documented and a summary report generated for the installation commander via the chain of command. Report will include the following elements:

- (1) Identify any adverse trends.
- (2) Recommendations for corrective action.
- (3) Identify repeat findings from previous inspection.
- (4) List any recommended/required work orders.
- (5) List all outstanding/uncompleted work orders.
- (6) Overall rating for storage facilities (Sat/Unsat).

f. Records of the inspections and actions taken to correct any identified deficiencies should be maintained in the safety office.

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2. Physical/Visual Inspection of Lightning Protection, Electrical Bonding/Grounding Systems. All facilities, locations, and equipment used to store, maintain, handle, or transport Munitions will require an inspection of all lightning protection, electrical bonding/grounding systems.

a. Systems will be tested upon installation; on new primary and secondary ground girdles, measurements of resistance to earth shall be made every month for the 1st year and at 24-month intervals as prescribed by NAVSEA OP 5, Volume 1. Tests will be recorded, and maintained by the installation facilities support organization, and reviewed by the ESO annually. Annual review will be documented by checklist, Memo for Record, or other suitable format. Unit nonconformance to test or record requirements will be reported by the ESO, via letter, to the installation commander with copies furnished to the responsible unit commander.

b. Visual inspections of lightning protection, grounding systems, and grounded components will be preformed at 6-month intervals and may be conducted concurrently with magazine inspections and results noted on inspection report or documented separately. Visual inspection criteria may be found in chapters 5, 6, 8, and appendix F of NAVSEA OP 5, Volume 1. Visual inspection requirements do not apply to permanent aircraft static grounds.

3. Minor Operational Site Inspection

a. Facilities such as unit arms rooms, security force armories, storage of inert or display Munitions areas, installation fire departments, shall be inspected at least annually by the ESO. Contingent on available manpower, these locations may be inspected on a more frequent basis as specified above.

b. The ESO, in conjunction with unit personnel, shall determine the inspection frequency requirements for all locations.

c. Unit personnel may perform more frequent inspections utilizing an approved inspection checklist.

d. Units will maintain a copy of the inspection checklist on file for 2 years. ESO's will review the unit inspection records, document the review, and make appropriate written report via the chain of command.

4. Fire Safety/Fire Protection Equipment Inspection

a. All locations/facilities involved in the storage, issue/receipt, transport, maintenance, and handling of Munitions will conduct regularly scheduled inspections for compliance with fire safety and fire protection equipment requirements. Guidance and inspection criteria may be found in chapter 4 of NAVSEA OP 5, Volume 1. ESO's will monitor units and fire departments to ensure regular inspections are conducted.

b. This monitoring may be performed in conjunction with other inspections, and will be documented with the inspection checklist or documented separately. Failure of units or fire departments to conduct regular inspections will be reported by the ESO, in writing, to the installation commander with copies furnished to the unit commander and to the organization responsible for performing the inspection.

5. Review of Qualification/Certification (Qual/Cert) Program. ESO's will, on an annual basis, review the installations Qual/Cert program.

a. ESO's will meet with representatives of units having personnel in the program, review records for completeness, and accuracy.

b. Ensure that the annual review by the certifying official is current.

c. Document reviews by inspection checklist with copies furnished to the unit and installation commander.

6. Conduct Annual Explosives Safety Awareness Training. ESO's will ensure that annual explosives safety awareness training for all installation personnel involved in the storage, transport, handling, maintenance, receipt/issue, and use of Munitions is conducted prior to their assignment to duties involving Munitions.

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a. Training will be documented via entries in individual training records.

b. The course will have a written syllabus. Use of training aids, visual aids, guest expert speakers (EOD, fire chief), and inert display items is encouraged. The following topics are recommended, but not all inclusive, for incorporation into the training syllabus:

(1) Statement/explanation of the explosives safety program goals.

(2) Explanation of hazard class/divisions.

(3) Storage compatibility groups.

(4) Fire/chemical hazard symbols, firefighting procedures, and evacuation distances.

(5) Review of storage, handling, and transport requirements.

(6) Review of sources of information on explosives safety, and requirements.

(7) Discussion of SOPs relative to safety warnings, cautions, equipment.

(8) Discussion of Qual/Cert Program.

(9) Discussion of procedures for handling MPPEH or other Munitions found on the installation.

7. Explosives Safety Self-Audit (ESSA). ESO's will conduct an ESSA on a periodic schedule. The ESSA is a formal program for installations to conduct periodic appraisals of ongoing Munitions operations to determine the current effectiveness of the explosives safety program. ESSA's emphasize the importance of a proactive approach to explosives safety issues, and the USMC fully supports this approach. However, guidance provided in NAVSEAINST 8020.14 series does not fully lend itself to USMC organization or operations. It is, therefore, necessary for CG MCSC Code 204 (PM Ammo), by the authority granted the designated USMC Explosives Safety Program manager to establish USMC

explosives safety policy, to modify and adapt this guidance to compliment the Marine Corps operational environment.

a. ESSA will be a formal written program, checklist format and content is optional, however it is highly encouraged that ESO's utilize the checklist found in NAVSEAINST 8020.14 series and adapt it to meet installation specific requirements. The ESSA program will include the following minimum elements:

(1) Establishing periodic reviews of all elements of the Munitions mission. These reviews may encompass existing inspection requirements established in this chapter or amplified requirements based on the needs and abilities of the command.

(2) Establishing a process to ensure inspection results are properly analyzed, unfavorable causes and trends are identified, corrective action is accomplished, and implement controls to preclude reoccurrence.

(3) The installation ESO in conjunction with unit personnel will perform periodic reviews of all elements of the Munitions mission to address the functional areas, audit methodology, process quality control, corrective action, and provide recommendations and solutions to ensure a comprehensive Explosive Safety Program is achieved. At the conclusion of the review, a final report of findings and recommended corrective actions will be prepared and provided to each organization inspected and the installation commander.

b. ESSA's may require more time to complete than a normal ESI due to availability of personnel, mission requirements, etc. Additional guidance on ESSA requirements is available in enclosure 5 of NAVSEAINST 8020.14 series.

#### 11002. FILES, RECORDS, AND REPORTS

1. Files, records, and reports are as important to a strong program as good inspections. They document program effectiveness, and are useful in trend analysis, justification for manpower and training requirements, as well as tracking follow-up and long-term corrective actions. Some records are mandatory, as they directly relate to ESI or other outside scrutiny. Others, although not mandatory, provide significant

assistance in program management. It is the ESO's responsibility to establish a means of maintaining associated documentation that will allow for rapid information retrieval and aid them in program management.

2. The following reports/records and retention intervals are minimum mandatory records to be maintained by all ESO's:

a. Annual Magazine/Storage Facility Inspection Reports. Retain for 3 years. These reports are required for ESI review and contain elements to support other areas such as, SOPs, site plans, and accountability.

b. Visual Inspection/Test of Lightning Protection and Electrical Grounding Systems. Visual inspection data shall be stored in a data file for retrieval for use as required for trend analysis or for use by inspection personnel. Retain copies of annual test report records review for 3 years. Required for ESI review.

c. Minor Operational Site Inspections. Retain for 2 years. These inspections contain elements for review by ESI, such as, storage authorization letters, Qual/Cert review, SOP review.

d. Fire Safety/Fire Protection Equipment Inspection. Retain for 2 years. This inspection contains elements subject to ESI review, such as, training, fire drills, response maps, and SOPs.

e. Hazards of Electromagnetic Radiation to Ordnance (HERO) Survey. Maintain current and last surveys. Subject to ESI review.

f. Log of Inert Training/Display Munitions. Log should contain nomenclature of the item, owning organization, location, and certification label number. Maintain perpetually, update quarterly. Subject to ESI review.

g. Department of Defense Explosives Safety Board (DDESB) Inspection Reports and Corrective Action Plans. Maintain current and last reports and responses.

h. ESI Inspection Reports and Corrective Action Plans. Maintain current and last reports and plans.

i. ESSA Inspection. At a minimum, maintain a copy of the current and previous ESSA reports. Subject to ESI review.

j. Ammunition Hazard (AMHAZ) Board Survey Results. Maintain the current and last survey reports and any corrective actions undertaken.

k. Explosives Safety Site Approvals. Site approvals will be maintained for each facility, as required by NAVSEA OP 5, Volume 1, for as long as the facility is used for storage, handling, manufacture, maintenance, or modification of Munitions. Should the facility be removed from service as a Munitions site, a site approval request to remove the explosives safety quantity distance (ESQD) arcs must be submitted. This final site approval will be archived not destroyed. Subject to ESI review.

l. Commanders Letters of Storage Authority. Storage authority, as permitted by NAVSEA OP 5, Volume 1 and this Manual, which the installation commander has granted will be maintained on file for each facility so authorized. Current copy will be maintained. Subject to ESI review.

m. Inventory of Storage Facilities Constructed prior to May 1967. NAVSEA OP 5, Volume 1, permits Munitions storage in these facilities without explosives safety site approval. It also requires that a written listing of these facilities and details be maintained. This Manual requires a more stringent approach mandating that site plans be submitted for all required facilities regardless of construction date. The schedule for submission of these site plans is at the discretion of the installation ESO in coordination with the installation facility planner. Care should be exercised in timing submittals to avoid overloading the approval channel. Subject to ESI review.

n. Comprehensive Installation Maps. Comprehensive installation maps, or set of maps, showing the location and ESQD arcs, storage/operating facilities and locations, explosives vehicle traffic routes, any easements and environmentally sensitive areas, and emergency evacuation routes. Maps will be reviewed annually for correctness and review documented by memorandum for record (MFR). Retain current and last MFRs. Physical area encompassed by ESQD arcs will be surveyed annually

for encroachment by non-ammunition related activities. Any encroachment will be reported to the installation civil engineers, installation commander, and the encroaching organization. All organizations involved will meet within 10 working days to resolve the encroachment problem. Upon resolution, ESO's will submit any necessary changes to the explosives site plans. Survey will be documented via the same MFR prepared for map review.

o. Annual Qual/Cert Program Review Report. Maintain for 2 years. Subject to ESI review.

p. Explosives Safety Awareness Training. Maintain and update syllabus as required. Maintain record of attendance rosters for 2 years.

11003. PUBLICATIONS AND REFERENCES. Installation ESO's must maintain a current library of reference publications sufficient to conduct research, determine requirements, and provide information upon request. Publications and references may be maintained electronically provided that personnel can access information when called upon to do so.

1. Additionally, these publications will be maintained in an up-to-date status with the latest changes/revisions.
2. Reviews will be conducted semi-annually to ensure latest changes/revisions have been incorporated.
3. Records of basic publication or change/revision orders/requests will be maintained until material is received.
4. A list of pertinent publications to maintain an effective explosives safety program is located in appendix C.

11004. RESPONSIBILITIES

1. Installation Commander. Installation commanders will ensure that the ESO has direct access to brief/address issues involving explosives safety or Munitions operations on board or affecting the installation.

2. Installation Safety Directors. Ensure that The ESO's primary duty is the management of the installations Explosives Safety Program. Assigning additional collateral duties to ESO's is highly discouraged, however, should additional duties be assigned, they shall not interfere with the ESO performing their primary duty.

3. Installation ESO

a. Manage and execute a robust explosives safety program in compliance with this order and current directives.

b. Conduct/ensure that all required inspections are preformed in accordance with this order and applicable directives, and that the results are properly documented.

c. Prepare/review SOPs, briefs, training plans, and all work requests that relate to explosives safety and Munitions operations.

d. Conduct explosives safety awareness training, and briefings as required or requested.

e. Ensure that all files, records, and reports are maintained, retained as required, and readily accessible.

f. Maintain a current publication and reference library of all directives associated with explosives safety and all Munitions operations performed aboard the installation. Publications/references may be maintained in paper printed media or electronic media (CD-ROM, internet).

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APPENDIX A

GLOSSARY OF TERMS

Ammunition	A contrivance charged with explosives, propellants, pyrotechnics, initiating composition or chemical for use in connection with defense or offense including demolitions, training, ceremonial or non-operational purposes.
Class V	The military class of supply that consists of ammunition and explosives. Class V(W) is ground ammunition accounted for by CG MARCORSSYSCOM (AM). Class V(A) is aviation ammunition accounted for by the Naval Ammunition Logistics Center (NALC).
Decision Document	The Department of Defense has adopted the term Decision Document for the documentation of removal or interim remedial action (IRA) and remedial action (RA) decisions at non-National Priorities List (NPL) installations, and sites at NPL installations at which removal or IRA decisions have been made. The decision document shall address the following: purpose, site risk, remedial action alternatives, public/community involvement, declaration, and approval and signature. A decision document for sites not covered by an interagency agreement or federal facility agreement is still required to follow a CERCLA response. All Decision Documents will be maintained in the installation Administrative Record and the installation's permanent environmental restoration files.
Deviation	A departure from an established explosives safety standard or rule.
Discarded Military Munitions (DMM)	Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance, military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of consistent with applicable environmental laws and regulations. (10 U.S.C. 2710(e)(2))
Event Waiver	Deviation approved on a case-by-case basis for a particular evolution, issued for a limited period to meet a specific, nonrecurring readiness or operational requirement that cannot otherwise be satisfied.
Exemptions	Deviations from mandatory explosives safety requirements approved for the purpose of long-term satisfaction of recurring readiness or operational requirements.
Explosive Accident	An unplanned explosive or fire involving an explosive material or

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	<p>system. This includes inadvertent actuation, jettisoning, release, or launching resulting in a fatality or injury to personnel, fire, explosion or damage to property.</p>
Explosive Hazard	<p>A condition where danger exists because explosives are present that may react (e.g., detonate, deflagrate) in a mishap with potential unacceptable effects (e.g., death, injury, damage) to personnel, property, operational capability, or the environment.</p>
Explosive Materials	<p>Refers to substances other than soil, such as wood, metal piping, or cloth, that contains sufficient explosive that there is a risk of detonation or deflagration.</p>
Explosives Emergency Response	<p>All immediate response activities by an explosives and munitions emergency response specialist to control, mitigate, or eliminate the actual or potential threat encountered during an explosives or munitions emergency. An explosives or munitions emergency response may include in-place render-safe procedures, treatment, or destruction of the explosives or munitions, and /or transporting those items to another location to be rendered safe, treated, or destroyed. Any reasonable delay in the completion of an explosives or munitions emergency response caused by a necessary, unforeseen, or uncontrollable circumstances will not terminate the explosives or munitions emergency. Explosives and munitions emergency responses can occur on either public or private lands and are not limited to responses at RCRA facilities. (Military Munitions Rule, 40 CFR 260.10)</p>
Explosives	<p>The term "explosive" or "explosives" includes any chemical compound or mechanical mixture which, when subjected to heat, impact, friction, detonation or other suitable initiation, undergoes a very rapid chemical change with the evolution of large volumes of highly heated gases which exert pressures in the surrounding medium. The term applies to materials that either detonate or deflagrate.</p>
Explosive Soil	<p>Mixtures of explosives in soil (e.g., sand, clay, loam) at concentrations such that the mixture itself is explosive.</p>
Explosives Safety Submission	<p>A document prepared to ensure that all munitions response actions taken based upon the evaluation of site-specific information fully consider the safe management, handling, storage, transportation, use, and destruction of the munitions that are the objective of the response.</p>
Land Use Controls (LUC)	<p>Physical, legal, or administrative mechanisms that restrict the use of, or limit access to, contaminated property in order to reduce the risk to human health or the environment. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and/or physical barriers to limit access to property, such as fences or signs. The legal mechanisms include restrictive</p>

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	<p>covenants, negative easements, equitable servitudes, and deed notices. Administrative mechanisms include notices, adopted local land use plans and ordinances, construction permitting, or other existing land use management systems that may be used to ensure compliance with use restrictions.</p>
Major Malfunction	<p>A malfunction that results in, or is potential capable of resulting in, personal injury or material damage.</p>
Malfunction	<p>Term applied to an explosive materiel or system when it fails to function in a manner for which it was designed. Malfunctions are categorized as either major or minor.</p>
Maximum Credible Event (MCE)	<p>The worst-case explosion is expected to occur as a result of the explosion of explosive soil or explosive materials. The MCE is based on the weight of the explosives present</p>
Military Munitions (Munitions)	<p>All ammunition products and components produced or used by or for the U.S. Department of Defense or the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy (DOE), and National Guard personnel. Term military munitions includes confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes and incendiaries used by Components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. The term, however, does include non-nuclear components of nuclear devices, managed under DOE's nuclear program, after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed.</p>
Military Range	<p>A designated land or water area set aside, managed, and used to conduct research on, develop, test, and evaluate military munitions and explosives, other ordnance or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusion areas. Military ranges also include bodies of water located within the boundaries of a military range (e.g., a stream, lake, or pond) or that are themselves a range (e.g., an offshore range in the Atlantic or Pacific ocean). Such water areas include all waters of the U.S. (as defined under the Clean Water Act) and those ocean waters extending out to 200 nautical</p>

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	miles from the U.S. coast. A military range may be a single site, or may be comprised of several sites.
Minor Malfunction	A malfunction that does not result in injury or materiel damage and for which the potential for injury or materiel damage is remote. This includes duds and misfires.
Misfire	Failure of a component to initiate following an intentional attempt to do so.
Mishap	An unplanned event, or sequence of events, that results in injury to personnel or damage to property as defined in MCO 5102.1.
Munitions Response	Response actions, including investigation, removal actions, and remedial actions, to address the explosives safety, human health, or environment risks presented by UXO, DMM, or MC.
Munitions with the Greatest Fragment Distance (MGFD)	The munition with the greatest fragmentation distance that is reasonably expected (based on research or characterization) to be encountered in any particular munitions response area (MRA) or munitions response site (MRS).
Non-DoD Ammunition	Munitions that is not procured by the DoD and that is not in support of a DoD mission.
Non-time Critical Removal Action	As defined by EPA guidance, a removal action where a planning period of more than 6 months exists before on-site action must begin after discovery of a release or a threatened release of a hazardous substance or pollutant or contaminant.
Operational Range	A military range that is currently in service and is being regularly used for range activities, or a military range that is not being currently used, but is still considered to be a potential range area, and that has not been put to a new use that is incompatible with range activities.
Public Access Exclusion Distance (PAED)	The PAED is defined as the greater of IBD (based on the fragmentation hazard distance or the NEW of the munition) or the One Percent Lethality Distance.
Real Property	Real estate owned by the U.S. and under control of the DoD. It includes the land, right title, and interest therein and improvements thereon. Rights and interest include leaseholds, easements, right-of-ways, water rights, air rights, and rights to lateral and sub adjacent support.
Remedial/Remediation Action	Those actions consistent with permanent remedy taken instead of

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Removal	<p>or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health, welfare, or the environment. The term includes, but is not limited to, such actions at the location of the release as storage; confinement; perimeter protection using dikes, trenches, or ditches; clay cover; neutralization; cleanup of released hazardous substances and associated contaminated materials; recycling or reuse; diversion; destruction; segregation of reactive wastes; dredging or excavations; repair or replacement of leaking containers; collection of leachate and runoff; on-site treatment or incineration; provision of alternative water supplies; any monitoring reasonably required to assure that such actions protect the public health, welfare, and the environment. The term includes the cost of permanent relocation of residents and businesses and community facilities where the President determines that, alone or in combination with other measures, such as relocation is more cost-effective and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition offsite of hazardous substances, or may otherwise be necessary to protect the public health or welfare. The term includes off-site transportation and off-site storage, treatment, destruction, or secure disposition of hazardous substances and associated contaminated materials. The cleanup or removal of released hazardous substances from the environment. Such actions may be taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 9604 (b) of this title, and any emergency assistance which may be provided under the Disaster Relief and Emergency Assistance Act [42 U.S.C. 5121 et seq.]. The requirements for removal actions are addressed in 40 CFR Sections 300.410 and 300.415. The three types of removals are emergency, time-critical, and non-time critical removals.</p>
Small Arms Ammunition	<p>Ammunition less than or equal to .50 caliber or shotgun ammunition less than or equal to 12 gauge.</p>
Time Critical Removal Action	<p>As defined by the EPA guidance, a removal action where on-site action must begin within 6 months of discovery of a release or a threatened release of a hazardous substance or pollutant or contaminant.</p>

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Unexploded Ordnance (UXO)	Military munitions that have been primed, fuzed, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, placed in such a manner as to constitute a hazard to operations, installations, personnel, or material and remain unexploded either by malfunction, design, or any other cause.
Waiver	Deviation from mandatory explosive safety requirements approved for the purpose of temporary satisfaction of recurring readiness or operational requirements, issued pending the completion of corrective measures to eliminate the need for the waiver.
Waste Military Munitions	For purposes of this guidance, a waste military munition is defined as any unused munition that was abandoned by being disposed of, burned, or incinerated, or treated prior to disposal or any used or fired munition that was recovered, collected, and disposed of by burial, land filling, or land treatment. A complete definition can be found in 40 CFR Part 266 – Subpart M.

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APPENDIX B

ABBREVIATIONS AND ACRONYMS

<b>TERM</b>	<b>LONG TITLE</b>
AA&E	Arms, Ammunition, and Explosives
AAA	Army Ammunition Activity
AAV	Assault Amphibious Vehicle
ACAT	Acquisition Category
ACTS	Assignment, Classification, and Travel System
AEDA	Ammunition, Explosives, and Other Dangerous Articles
AIN	Ammunition Information Notice
AMHAZ	Ammunition and Hazardous Materials
AOA	Aircraft Operating Area
ASF	Ammunition Storage Facility
ASL	Aviation Logistics Support
ASP	Ammunition Supply Point
ASU	Ammunition Storage Unit
AWR	Apportioned War Reserve
BATF	Bureau of Alcohol, Tobacco, and Firearms
BOE	Bureau of Explosives
CALA	Combat Aircraft Loading Area
CE	Conditional Exemption
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLF	Combat Logistics Force
CMC	Commandant of the Marine Corps
CNO	Chief of Naval Operations
CODR	Conventional Ordnance Deficiency Report
COG	Cognizance Code
COMCAB	Commander, Marine Corps Air Bases
CG MARCORSYSCOM	Commander, Marine Corps Systems Command
COMMARFORLANT	Commander, U.S. Marine Forces, Atlantic
COMMARFORPAC	Commander, U.S. Marine Forces, Pacific
COMMARFORRES	Commander, Marine Corps Forces, Reserve
COMNAVAIRSYSCOM	Commander, Naval Air Systems Command
COMNAVSEASYSYSCOM	Commander, Naval Sea Systems Command
COMNAVSUPSYSCOM	Commander, Naval Supply Systems Command
CONUS	Continental United States
CSS	Combat Service Support
DC	Deputy Commandant
DDA	Designated Disposition Authority
DDESB	Department of Defense Explosives Safety Board
DERP	Defense Environmental Restoration Program
DMM	Discarded Military Munitions
DoD	Department of Defense
DODIC	Department of Defense Identification Code

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DON	Department of the Navy
DOT	Department of Transportation
DRMO	Defense Reutilization and Marketing Office
DTR	Defense Transportation Regulation
DTS	Defense Transportation System
ECE	Environmental Compliance Evaluation
ED/CD	Emergency Destruct/Combat Disposal
EED	Electro-Explosive Device
EES	Environmental and Explosives Safety
EMR	Electromagnetic Radiation; Explosives Mishap Report
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ES	Exposed Site
ESI	Explosives Safety Inspection
ESO	Explosives Safety Officer
ESQD	Explosives Safety Quantity-Distance
ESS	Explosive Safety Submission
ESSO	Explosives Safety Support Office
FARP	Forward Arming and Refueling Point
FASP	Field Ammunition Supply Point
FSSG	Force Service Support Group
FSU	Field Storage Unit
FY	Fiscal Year
GSA	General Services Administration
HC/D	Hazard Class/Division
HERO	Hazards of Electromagnetic Radiation to Ordnance
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HQMC	Headquarters, U. S. Marine Corps
HR	Health Record
IBD	Inhabited Building Distance
ICP	Inventory Control Point
ICM	Improved Conventional Munitions
IL	Intraline
IM	Intermagazine
ITS	Individual Training Standard
JHCS	Joint Hazard Classification System
LAV	Light Armored Vehicle
LEPC	Local Emergency Planning Committee
LFORM	Landing Force Operational Reserve Material
LUC	Land Use Control
LVS	Logistics Vehicle Support
MAARS-II	Marine Ammunition Accounting and Reporting System-II
MARSO	Marine Ammunition Requirement Support Order
MCC	Material Condition Code
MCCDC	Marine Corps Combat Development Command
MCE	Maximum Credible Event
MCO	Marine Corps Order
MGFD	Munitions with the Greatest Fragmentation Distance
MHE	Material Handling Equipment
MILCON	Military Construction
MLA	Mission Load Allowance

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MLSR	Missing, Lost, Stolen or Recovered
MPF	Maritime Prepositioning Force
MPPEH	Material that May Present a Potential Explosive Hazard
MPS	Maritime Prepositioning Ship(s)
MR	[Military] Munitions Rule
MRIP	Munitions Rule Implementation Policy
MSC	Major Subordinate Command
MWR	Morale, Welfare and Recreation
NALC	Naval Ammunition Logistics Center
NAR	Notice of Ammunition Reclassification
NAVFACECOM	Naval Facilities Engineering Command
NAVORDSAFSECACT	Naval Ordnance Safety and Security Activity
NAVSAFCEN	Naval Safety Center
NAVSEAINST	Naval Sea Command Instruction
NAVSEASYSKOM	Naval Sea Systems Command
NEW	Net Explosive Weight
NSN	National Stock Number
NTCRA	Non-time Critical Removal Action
OB/OD	Open Burn/Open Detonation
OCONUS	Outside Continental United States
OPCON	Operational Control
OPNAVINST	Chief of Naval Operations Instruction
OSC	Operations Support Command
PES	Potential Explosion Site
PM	Program Manager
PMO	Provost Marshall Office
PTR	Public Traffic Route
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RO	Responsible Officer
ROD	Record of Decision
RSO	Range Safety Officer
SD	Safety Division
SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SIR	Serious Incident Report
SMCA	Single Manager for Conventional Ammunition
SOP	Standard Operating Procedures
SRC	Security Risk Code
TAV	Technical Assistance Visit
TCRA	Time Critical Removal Action
TECOM	Training and Education Command
TIR	Transaction Item Reporting
TTC	Type Transaction Code
USC	United States Code
UXO	Unexploded Ordnance
WMM	Waste Military Munitions
WRMR	War Reserve Materiel Requirement
WSESRB	Weapon System Explosives Safety Review Board

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APPENDIX C

RECOMMENDED PUBLICATIONS

The following is a list of explosives safety publications and instructions recommended to support a sound explosives safety program at Marine Corps installations. This list is not intended to replace the requirement for Technical Manuals or Marine Corps Orders. To obtain the latest series of the listed publications contact the cognizant releasing authority.

No.	Publication	Title
1	40 CFR	Code of Federal Regulations (CFR), Parts 264 Subpart EE and Part 266 of Subpart M
2	49 CFR	Code of Federal Regulations (CFR), Titles 172, 174, & 177
3	BOE 6000	Bureau of Explosives (BOE) Tariff Service, Hazardous Materials Regulations of the Department of Transportation
4	DoD Regulation P4500.9-R	Defense Transportation Regulation (DTR), Part II, Cargo Movement
5	MCO 1510.78	Individual Training Standards (ITS), for Ammunition and Explosive Ordnance Disposal Occupational Field, 23XX
6	MCO 3570.1	Policies and Procedures for Firing Ammunition for Training, Target, Practice, and Combat
7	MCO 3571.2	Explosive Ordnance Disposal (EOD) Program
8	MCO 4340.1	Reporting of Missing, Lost, Stolen or Recovered (MLSR) Government Property
9	MCO 5100.29 MCO 8010.1	Marine Corps Safety Program Class V(W) Planning Factors for Fleet Marine Force Combat Operations
10	MCO 8023.3	Handling, Qualification, and Certification Program for Class V Munitions and Explosive Devices
12	MCO 8025.1	Class V(W) Malfunction and Deficiency Reporting
13	MCO P4030.19	Preparing Hazardous Materials for Military Air Shipments
14	MCO P4400.150	Consumer Level Policy Manual
16	MCO P5090.2	Environmental Compliance and Protection Manual
17	MCO P5102.1	U.S. Marine Corps Ground Mishap Inventory Reporting Manual
18	MCO P8011.4	Table of Allowances for Class V (W) Material Peacetime
19	NAVAIR 00-80T-103	NATOPS Conventional Weapons Handling Procedures Manual Ashore
20	NAVFAC P-300	Management of Transportation Equipment
21	NAVFAC P-306	Operators of Construction Equipment; Testing and Licensing of
22	NAVFAC P-307	Management of Weight Handling Equipment; Maintenance Certification
23	NAVFACINST 11010.44	Shore Facilities Planning Manual
24	NAVSEA OP 1014	Origin and Necessity Ordnance Safety Precautions
25	NAVSEA OP 2173 Vol 1	Approved Handling Equipment for Weapons and Explosives

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No.	Publication	Title
26	NAVSEA OP 2173 Vol 2	Approved Handling Equipment for Weapons and Explosives
27	NAVSEA OP 3347	U.S. Navy Ordnance Safety Precautions
28	NAVSEA OP 3565 Vol 1	Electromagnetic Radiation Hazards
29	NAVSEA OP 3565 Vol 2 Pt 1	Electromagnetic Radiation Hazards
30	NAVSEA OP 3565 Vol 2 Pt 2	Electromagnetic Radiation Hazards
32	NAVSEA OP 4	Ammunition Afloat
35	NAVSEA OP 5 Vol 3	Ammunition and Explosives Ashore: Advanced Bases
36	NAVSEA OP 5, Vol 1	Ammunition and Explosives Ashore Safety Regulations for Handling, Storing, Production, Renovation and Shipping
37	NAVSEA SG-420-AP-MMA-010	Periodic Testing Arrangements for Ordnance Handling Equipment
38	NAVSEA SW010-AF-ORD-010	Identification of Ammunition
39	NAVSEA SW020-AC-SAF-010	Transportation and Storage Data for Ammunition, Explosives and Related Hazardous Materials, Volume 1
40	NAVSEA SW020-AC-SAF-020	Transportation and Storage Data for Ammunition, Explosives and Related Hazardous Materials, Volume 2
41	NAVSEA SW020-AC-SAF-030	Transportation and Storage Data for Ammunition, Explosives and Related Hazardous Materials, Volume 3
42	NAVSEA SW020-AF-ABK-010	Shipping Inspector's Manual for Ammunition, Explosives and Related Hazardous Materials
43	NAVSEA SW020-AG-SAF-010	Transportation Data for Ammunition, Explosives and Related Hazardous Materials
44	NAVSEA SW023-AG-WHM-010	On-Station Movement of Ammunition and Explosives by Truck and Rail Car
45	NAVSEA SW023-AH-WHM-010	Handling Ammunition, Explosives and Hazardous Materials with Industrial Materials Handling Equipment (MHE)
46	NAVSEA TW024-AA-ORD-010	Ammunition Unserviceable, Suspended and Limited Use
47	NAVSEAINST 8011.3	Small Arms Service Ammunition Allowance for Civilian and Military Security and Police Guards, Couriers and Agents
48	NAVSEAINST 8020.13	Emergency Response Procedures for Transportation Accidents or Incidents Involving Conventional Naval Ordnance
49	NAVSEAINST 8020.14	Shore Station Explosives Safety Inspections
50	NAVSEAINST 8020.6	Naval Explosives Safety Program
51	NAVSEAINST 8020.7	Hazards of Electromagnetic Radiation to Ordnance; Policies for Conduct of a Safety Program
52	NAVSEAINST 8020.9	Non-Nuclear Ordnance and Explosives Handling Qualification and Certification Program
53	NAVSEAINST 8023.11	Standard Operating Procedures for the Processing of Expendable Ordnance at Navy and Marine Activities
54	NAVSUP Manual, Volume V	Naval Supply Manual, Volume V, Transportation of Property
55	NAVSUP P-724	Conventional Ordnance Management Policy and Procedures
56	NAVSUP P-805	Navy and Marine Corps Conventional Ammunition Sentencing Receipt, Storage and Issue Sentencing, Vol 1
57	NAVSUP P-806	Navy and Marine Corps Conventional Ammunition Sentencing -

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58	NAVSUP P-807	OT/2E/2T Cog. Ammunition Segregation Sentencing, Vol 2 Navy and Marine Corps Conventional Ammunition Sentencing - Fleet Sentencing, Vol 3
59	NAVSUP P-808	Navy and Marine Corps Conventional Ammunition Sentencing - Visual Aids Vol 4
60	OPNAVINST 5102.1	Mishap Investigation and Reporting
61	OPNAVINST 5530.13	Department of the Navy Physical Security Instruction for Conventional Arms, Ammunition, and Explosives (AA&E)
62	OPNAVINST 5530.14	Department of the Navy Physical Security and Loss Prevention
63	OPNAVINST 5585.2	Military Working Dogs Program
64	OPNAVINST 8020.14/ MCO P8020.11	Department of the Navy Explosives Safety Policy
65	OPNAVINST 8000.16	Naval Ordnance Maintenance Management Program (NOMMP)
66	SECNAVINST 8020.3	Responsibilities for Issuance and Administration of (Waivers and Exemptions from DoD) Explosives Safety Standards
67	UM4400-124	SASSY Users Manual
68	UM4400-15	Organic Procedures for Supply
69	MCO P4400.150	
70	MCO P4400.151	

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APPENDIX D

INSPECTION CHECKLISTS

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<b>MAGAZINE INSPECTION</b>				
MAGAZINE NUMBER:	DATE:			
Magazine Location:				
Type Ordnance Stowed:				
Inspected By:				
Unit Representative:				
<b>SECTION A</b>				
Detailed magazine inspection procedures are contained in NAVSEA OP 5, Vol. I, specifically Chapter 11, paragraphs 11-9.1 through 11-9.3.12.				
Stowage compatibility requirements are contained in NAVSEA SWO20-AC-SAF-010				
A check mark in the "UNSAT" column of Section C requires a detailed description of the deficiency in the remarks section citing the specific paragraph number (i.e. 1.d(1)).				
Do not leave a line entry blank. If a line entry does not apply, write N/A in the "SAT" column.				
This log is to be filled in with ink only.				
Corrective action on discrepancies will be on a separate page of paper, citing specific paragraphs. If a work request is to be submitted, it will be attached with the completed inspection log.				
<b>SECTION B</b>				
<b>1. EXTERIOR</b>				
<b>REFERENCES:</b>				
(a) NAVSEA OP 5 Volume I Seventh Revision				
(b) SW020-AC-SAF-010				
(c) NAVSUP P-801				
(d) MIL-STD-129N				
INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
A. Are the fire and chemical hazard symbol or symbols that represent the most hazardous material in the magazine posted outside the magazine?	(a) Para 4-4.2.9			
B. Entrance roadway in good repair?	(a) Para 8-7			
C. Adequate firebreak, 50 ft. radius surrounding magazine is free of trash, debris, and other fire hazards?	(a) Para 4-1.10 & 4-1.10.7			
D. Vegetation maintained does not exceed 18"?	(a) Para 4-1.10			
E. Earth covering magazine intact?	(a) Para 8-2.5.5			
F. Earth covering barricade intact, blast wall undamaged	(a) Para 8-2.5.3 & 8-2.5.5			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
G. Primary lighting protection systems intact?	(a) Para 6-8 & 6-8.2.2			
H. Fences and other metal masses grounded as required?	(a) Para 6-6.3 & 6-6.3.2			
I. Ventilator in proper working condition?	(a) Para 8-2.3.5 & 11-2.5.2			
J. Are wire screens installed?	(a) Para 8-2.3.5			
K. Fire fighting equipment undamaged, filled, inspected and ready for use during handling operations?	(a) Para 4-1.5, 4-3.6 & 4-3.6.1			
L. Are the fire and chemical hazard symbols appropriate as to the contents of the magazine?	(a) Para 4-4.2.1, 4-4.2.2, 4-4.2.5 & 4-4.2.9			
M. Red flag at entrance to magazine area?	(a) Para 11-3.3			
N. Loading platform in excess of 4 ft provided with guard railing or properly painted?	(a) Para 8-4.4			
O. Loading platform clear of dunnage?	(a) Para 2-1.5 & 4-1.7			
<b>2. DOORS</b>				
A. Padlock and door open and close freely?	(a) Para 2-1.5.2 & 8-2.3.2			
B. Makes a tight seal when closed to protect against dust, rain, rodents etc. ?	(a) Para 8-2.3.2			
C. Metal doors connected to the secondary grounding system?	(a) Para 8-2.3.2			
<b>3. INTERIOR</b>				
A. Clean and free of dust, gravel, dirt, rodents, and other foreign matter to include all fire hazards?	(a) Para 2-1.5, 4-1.2.2, 4-1.7 & 11-2.8			
B. Excess dunnage, handling equipment, empty container, tools, and other similar material removed?	(a) Para 2-1.5, 4-1.7 & 11-2.8			
C. Deck free of stains caused by exudation of explosives?	(a) Para 2-1.5.6			
D. Deck free of oil, grease, or other material which may make it slippery?	(a) Para 2-1.5.6			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
E. Decks and bulkheads are free of major cracks and break and or drips or low spots that collect water or where explosives may lodge?	(a) Para 2-1.5.6 & 8-2.3.3			
<b>4. STOWAGE</b>				
A. Is the fire bill posted throughout the magazine area?	(a) Para 4-3.1.1			
B. Safety placards, precautions instructions, up to date concerning material stowed?	(a) Para 11-2.7.2			
C. Explosives stowage limits and type explosives legibly posted?	(a) Para 7-4.4 & 11-2.7.2			
D. Personnel and safety limits legibly posted?	(a) Para 7-7.2.a. & b			
E. Stowage Stacks?	(a) Para 11-2.6.2			
(1) Raised from the deck by metal dunnage (wooden dunnage allowable but not desired)?	(a) Para 4-1.26, 11-2.6.2.a & d			
(2) Dunnage/Stack is level and stable?	(a) Para 11-2.6.2.a			
(3) Inspection aisles clear and free of obstructions?	(a) Para 2-1.5.2 & 11-2.6.3			
(4) Minimum of 6" between the overhead, side and rear walls, and the stack. A front wall clearance of 2 feet shall be maintained 18" will be maintained between stacks (isles)?	(a) Para 11-2.6.3 For Storage of Smokeless Powder in magazines exceeding 1000 cubic ft see para 11-8.2.1			
(5) Non-Palletized loaded projectiles are to be stacked no higher than 72 inches and no wider than 2 boxes except for 8 inch projectiles?	(a) Para 11-8.4.1.f.2)			
(6) All potential hazards removed i.e.. nails, cut or loose banding straps, etc.?	(a) Para 2-1.5 & 11-2.8 & 11-3.1.1a			
(7) Containers/Items markings-NSN, type, lot number, etc. are legible?	(a) Par 11-1.4.1 (d) Para 5.6.1			
(8) Previously opened containers properly repackaged so that contents are not exposed?	(a) Para 11-1.4.1			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
(9) Partly filled boxes marked conspicuously "light box".	(a) Para 11-2.6.4 (d) Para 5.6.4.2f			
(10) Container/Pallet serviceable, free of dents or other physical damage?	(a) Para 10-2.2			
(11) Any spilled explosive material shall be cleaned up as soon as possible?	(a) Para 4-1.7.4, 4-1.8 & 11-2.8			
F. {Stowage} Explosive compatibility?	(b) Para 2-2.5 & Table 2-8			
<b>5. SAFETY EQUIPMENT</b>				
NOTE: The following equipment is accessible to personnel working in a magazine containing Group C chemical Ammunition (White Phosphorous).				
A. Water filled container is available for individual package immersion.?	(a) Par 11-8.13.6.a			
B. Personnel protective equipment--rubber gloves and ankle length rubber aprons?	(a) Para 11-8.13.6.b			
C. Gas mask available and in good condition?	(a) Table 4-2 notes 1,2 & 3			
D. One gallon bottle of water mixed with 5% sodium bicarbonate solution with bottle labeled to show contents and date mixed and changed every 3 months. _____ (date expires)?	(a) Para 11-8.13.6.c			
E. Is a set of band cutters available for removal of individual leakers from a pallet?	(a) Para 11-8.13.6.d			
F. Is there an adequate supply of water available, 5 gallon pail or equivalent and two sponges for treating affected body areas and flushing of the eyes?	(a) Para 11-8.13.6.f			
<b>6. SPECIAL CONSIDERATIONS</b>				
A. Verify lightning protection system has a current test documented and is within required parameters. Ensure test is scheduled if needed.	(a) Para 6-9.1.2 & 5-8.1			
B. Review any waivers, deviations, or exemptions for continued applicability and renewal status.	(a) Para 1-6			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
C. Verification of Explosives Safety Site Approval, if none exists institutes the submittal process.	(a) Para 8-1.2.1			
D. Unit is maintaining a current cross reference file of NAR's, AIN's, and OHF clearances.	(c) Para 2-1.1.2			

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<b>READY SERVICE LOCKER INSPECTION</b>				
READY SERVICE LOCKER NUMBER:	DATE:			
RSL Location:				
Type Ordnance Stowed:				
Inspected By:				
Unit Representative:				
<b>SECTION A</b>				
Detailed RSL inspection procedures are contained in NAVSEA OP 5, Vol. I, specifically chapter 11, paragraphs 11-9 through 11-9.1.2.				
Stowage compatibility requirements are contained in NAVSEA SWO20-AC-SAF-010.				
A check mark in the "UNSAT" column of Section C requires a detailed description of the deficiency in the remarks section citing the specific paragraph number (i.e. 1.d(1)).				
Do not leave a line entry blank. If a line entry does not apply, write N/A in the "SAT" column.				
This log is to be filled in with ink only.				
Corrective action on discrepancies will be on a separate page of paper, citing specific paragraphs. If a work request is to be submitted, it will be attached with the completed inspection log.				
<b>SECTION B</b>				
<b>1. EXTERIOR</b>				
<b>REFERENCES:</b>				
(a) NAVSEA OP 5 Volume I Seventh Revision				
(b) SW020-AC-SAF-010				
(c) MIL-STD-129N				
INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
A. Are the fire and chemical hazard symbol or symbols that represent the most hazardous material in the magazine posted outside the magazine?	(a) Para 4-4.2.9			
B. Entrance roadway in good repair?	(a) Para 8-7			
C. Adequate firebreak, 50 ft. radius surrounding RSL is free of trash, debris, and other fire hazards?	(a) Para 4-1.10 & 4-1.10.7			
D. Vegetation maintained does not exceed 18"?	(a) Para 4-1.10			
E. Ventilators in proper working condition?	(a) Para 8-2.3.5 & 11-2.5.2			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
F. Are wire screens installed on ventilators?	(a) Para 8-2.3.5			
G. Primary lighting protection systems intact?	(a) Para 6-8 & 6-8.2.2			
(1) A minimum of 2 ground rods installed (25 ohms or less) on portable magazines over 25 sq. ft.?	(a) Para 5-4.1 & 6-8.2.2.1			
(2) Ground rods placed in separate corners or at opposite ends for small groups less than 250 feet in perimeter.	(a) Para 6-8.2.2.2.a.b.c			
j. Fire fighting equipment undamaged, filled, inspected and ready for use.	(a) Para 4-1.5 & 4-3.6.1			
k. Is the firefighting/Chemical direction symbol appropriate to the contents of the RSL. (ie. Apply no water)?	(a) Para 4-4.2.1, 4-4.2.2, 4-4.2.5 & 4-4.2.9			
<b>2. DOORS</b>				
A. Padlock and door open and close freely.	(a) Para 2-1.5.2 & 8-2.3.2			
B. Makes a tight seal when closed to protect against dust, rain, rodents, etc..	(a) Para 8-2.3.2			
C. Metal doors connected to the secondary grounding system.	(a) Para 8-2.3.2			
<b>3. INTERIOR</b>				
A. Clean and free of dust, gravel, dirt, rodents, and other foreign matter to include all fire hazards.	(a) Para 2-1.5, 4-1.7 & 11-2.8			
B. Excess dunnage, handling equipment, empty container, tools, and other similar material removed.	(a) Para 2-1.5, 4-1.7 & 11-2.8			
C. Deck free of stains caused by exudation of explosives.	(a) Para 2-1.5.6			
D. Deck free of oil, grease, or other material which may make it slippery.	(a) Para 2-1.5.6			
E. Atmosphere dry and properly ventilated, free abnormal odors such as alcohol and other chemicals.	(a) Para 11.8.1.2.d			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
F. Decks and bulkheads are free of major cracks and break and or drips or low spots that collect water or where explosives may lodge?	(a) Para 2-1.5.6 & 8-2.3.3			
<b>4. STOWAGE</b>				
A. Is the fire bill posted within the ready service locker.	(a) Para 4-3.1.1			
B. Safety placards, precautions instructions, up to date concerning material stowed.	(a) Para 11-2.7.2			
C. Explosives stowage limits and type explosives legibly posted.	(a) Para 7-4.4 & 11-2.7.2			
D. Personnel and safety limits legibly posted.	(a) 7-7.2.a & b			
E. Are explosives stored compatible?	(b) Para 2-2.5 & Table 2-8			
F. Stowage Stacks:				
(1) Raised from the deck by metal dunnage.	(a) Para 11-2.6.2.a., d & 4-1.26)			
(2) Dunnage/Stack is level and stable.	(a) Para 11-2.6.2.a			
(3) No visible corrosion on containers.	(a) Para 11-1.4.1.			
(4) Containers are not subject to moisture or dampness.	(a) Para 11-1.4.1			
(5) All potential hazards removed i.e. nails, cut or loose banding straps, etc..	(a) Para 2-1.5, 11-2.8 & 11-3.1.1a			
(6) Containers/Items markings--NSN, type, lot number, etc. are legible.	(a) Para 11-1.4.1 (c) Para 5.6.1			
(7) Previously opened containers properly repackaged so that contents are not exposed.	(a) Para 11-1.4.1			
(8) Partly filled boxes marked conspicuously box".	(a) Para 11-2.6.4 (c) Para 5.6.4.2f			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
(9) Container/Pallet serviceable, free of dents or other physical damage.	(a) Para 10-2.2			
(10) Any spilled explosive material shall be cleaned up as soon as possible.	(a) Para 4-1.7.4, 4-1.8 & 11-2.8			
(11) Free of dust, dirt, corrosion, and other foreign material.	(a) Para 2-1.5.1 & 11-2.8			
<b>5. SAFETY EQUIPMENT</b>				
A. Is Personnel protective equipment required, available (White Phosphorous)?	(a) Para 2-4 & 11-8.13.6			

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<b>INVENTORY MANAGEMENT</b>				
<b>1. UNSERVICEABLE MATERIAL</b>				
<b>REFERENCES:</b> (a) NAVSUP P-724 (b) NAVSUP P-805/TW010-AC-ORD-010 (c) DOD 5100.76 (d) NAVSUP P-807/TW010-AC-ORD-030 (e) NAVSEA OP 5, Volume 1 (f) NAVSUP P-801 (TWO24-AA-ORD-010) (g) OPNAVINST 8015.2 (h) MCO P4400.150 (Series)		(i) MCO P4400.151 (Series) (j) MCO P8011.4H (k) MCO 8020.10A (l) MCO 4340.1 (m) UM 4400.15 (n) UM 4400.124 (o) OPNAVINST 5530.13B (p) MIL-STD-129N (q) DOD 4000.25-2-M (r) DOD 4140.1-R		
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Has segregation of fleet return material placed in Condition Code (CC) K been completed within 45 days after receipt?	(a) Para 3.3.4.n			
B. Is serviceable and unserviceable material stored on the same pallet?	(b) Para 5-1.9 (d) Para 3-7			
C. Is unserviceable/unstable ammunition held without disposal actions taken?	(a) Para 5.6.1 & 5.6.6 (e) Para 2-1.4.10 & 11-2.2.1a			
D. Has material annotated with lot/serial number "unknown" been identified within 30 days of receipt?	(a) Para 2.5.7			
E. If material has lost its identification does the holding activity handle the unidentified material in the proper manner?	(b) Para 3-7.2 & 5-1.11 (d) Para 3-6.4 & 3-6.5 (e) Para 2-1.4.9, 11-1.1.1, 11-2.2.1.a.3, & 11-10			
F. Does ammunition found to be unsafe, hazardous or potentially hazardous due to non-conforming conditions get recorded and reported?	(b) Para 3-7, 4-1.13 & 5-1.11			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
<b>2. PROGRAM MANAGEMENT</b>				
A. Is all received ammunition subjected to a receipt inspection prior to any subsequent processing?	(a) Para 3.3.4 (b) Para 4-1.3			
B. Are NSN/NALCs, quantities, units of issue and serial/lot numbers clearly marked on all unit packs, intermediate containers, and unpacked items?	(e) Para 11-1.5.1.b, (p) Para 4.2.1			
C. Does the physical location, condition code, lot/serial number, NIIN and quantity of items match the official record?	(a) Para 4.1.5.c (g) Para 6.d			
D. Does each pallet, container, box, etc. have a correct and complete MCC tag?	(b) Para 3-5 & 5-1.8 (d) Para 3-5			
E. Are all storage containers/boxes, etc. properly secured and sealed?	(b) Para 3-6 & 5-1.12 (d) Para 3-9 (e) 11-1.5.1 & 11-7.8.4.d			
F. On material other than Condition Code (CC) A are reasons and defect codes indicated on the Material Condition Code (MCC) tag?	(b) Para 5-1.8 (d) Para 3-5			
G. Are barcode labels applied to ammunition as required?	(b) Para 5-1.8			
H. If storage plans are used, do they provide correct asset visibility in all magazines?	(e) Para 11-2.6.1			
I. Are requirements for ammunition and explosives stored in containers being observed?	(e) Para 11-1.5.1, 11-2.6.4 & 11-7.8.4			
J. Are requirements for empty containers being met?	(b) Para 3-6.3.1 & 5-4 (e) Para 11-1.6			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
K. Do ordnance procedures assure identification and control of all energetic materiel, ordnance, and explosives at the activity?	(a) Para 4.1.5.c			
L. Does the inventory management program identify and prioritize older stocks of ordnance and energetic materials for issue or use?	(e) Para 11-1.2			
M. If commercial explosives are being stored in magazines do inventory records indicate the date of manufacture of the materials?	(e) Para 11-7.12.8			
N. Are physical inventories scheduled, performed and documented by the station records?	(a) Para 6.2.2			
<b>3. NOTICE OF AMMUNITION RECLASSIFICATION (NAR)</b>				
A. Is the latest edition of NAVSUP P-801(TWO24-AA-ORD-010) on hand?	(a) Para 5.9.1 (e) Para 2-1.4.10			
B. Have NAR, AIN, and OHF files in numerical sequence, and cross-references been established addressing each DODIC/NALC?	(a) Para 5.9.6.g, 5.9.7.b & 5.9.10 (f) Para 2-1.1.2			
C. Are NARS processed within three working days of receipt and documented (to include readdressing, assets reviewed, updating stock records, re-tagging material, filing NARS, etc.)?	(a) Para 5.9.6, 5.9.7, & 5.9.10 (f) Para 2-1			
D. Is a surveillance program similar to the Navy NAR Program in use at activities storing ammunition not covered by the Navy NAR program?	(f) Page I			
<b>4. INVENTORY ACCURACY</b>				
A. Does each stratum of station inventory conform to the sampling plan accuracy goals established by OPNAV?	(g) Para 9.c			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
B. Are Periodic Lot Reports (PLR) submitted as required.	(a) Para 2.5.11			
C. Has the command designated an Inventory Accuracy Officer to validate quality in ordnance processes such as receiving and issuing material, monitoring physical inventories and/or conducting samples as required?	(a) Para 6.2.2.a			

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<b>INVENTORY MANAGEMENT MARINE CORPS GROUND CLASS V(W)</b>				
<b>1. AMMUNITION ACCOUNTING</b>				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Are ammunition/NSN Lot Number Records (NAVMC 10774s) properly prepared and maintained for all ammunition assets when required?	(h) Para 7002.5.e (m) Para 09010.1, 09011, 25010.1, 25011 & Figures 9-7, 25-6, and 25-7 (n) Part III, Section 10 pars 10.2, 10.2.1, 10.1.1.C and Figure 3-65			
B. Is the ammunition lot number recorded on all accounting documents; e.g., issues, receipts, and adjustment transactions?	(m) Para 09010.2 & 25010.2 (n) Part III, Section 10, par 10.2			
C. Is a physical inventory conducted at least annually and recorded on the NAVMC 10774/ mechanized record for all ammunition held?	(h) Para 7002.4(i), & (j) (m) Para 09010.3 & 25010.3 (n) Part III, Section 10, par 10.2c			
D. Are unaccountable quantities of ammunition made the subject of a missing, lost, stolen or recovered (M-L-S-R) report to the Commandant of the Marine Corps?	(a) Para 2.4.10 (h) Para 7002.6.c and 7006 (l) Enclosure (2) and par 5.b.1-6 (n) Part III, Section 6, par 6.11b			
E. Is the latest edition of, NAVSUP P-801 (FORMERLY TW024-AA-ORD-010) (NAR Manual) on hand?	(a) Para 5.9.7b & 5.9.10 (e) par 2-1.4.10			
F. Have NAR, AIN, OHF and cross-reference files been established in numerical sequence for each DODIC/NALC?	(a) Para 5.9.7.b & 5.9.10 (f) Para 2-1.1.2			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
G. Are NARS processed within three working days of receipt (to include readdressing, assets reviewed, updating stock records, retagging material, filing NARS, etc.)?	(f) Para 2-l			
H. Are inactive or filled NAVMC 10774/Mechanized records and supporting documentation maintained in a completed history file for three years?	(j) Para 1001.2			
I. Is security ammunition properly recorded as on hand on appropriate NAVMC 10774s/mechanized listings and a subcustody given using Equipment Custody Receipts (NAVMC 10359)?	(k) Para 5.c.1 (m) Para 09001.2g & 25001.2g (n) Part III, Section 10, pars IO.I.Ib(7), 10.2b and 10.1.1.c			
J. Is the correct condition code posted to the Master Asset Listing?	(i) Para 4002.1 (m) Para 09010.2 Figure 9-7			
K. Do on hand quantities agree with the balance records reflected on the Master Asset list of Class V?	(i) Para 4002.1 (n) Part III, Section 10, Para IO.I.Ib(7)			
L. Are transactions which affect the ammunition accounting records processed in a timely manner?	(i) Para 3002.1			
M. Is initial and annual screening of personnel who account for, maintain, receive, and distribute AA&E conducted and accompanied by a Unit diary entry?	(h) Para 7002.4.f (o) 0206 b and c			
N. Is the unit storing ammunition that is in excess of authorized quantities?	(k) Para 5.c.1			
O. Is serviceable and unserviceable material being stowed on the same pallet?	(b) Para 5-1.9 (d) Para 3-7			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
P. Are stocks of small arms ammunition held by the unit stored in accordance with current regulations?	(e) Para 7.4.5 table 7-22 (k) Enclosure (2), Para 4 (m) Para 09001.2f & 25001.2f (n) Part III, section 10, par 10.1.1b(6) (o) Chap 2			
Q. Are NSN/NALCs, quantities, units of and serial/lot numbers clearly marked on all unit packs, intermediate containers, and unpacked items?	(e) Para 11-1.5.1.b, II-8.1.1.j (p) MIL-STD-129N, Para 4.2.1			
R. Are all storage containers/boxes, etc, properly secured and sealed?	(b) Para 3-6 & 5-1.12 (d) Para 3-9 (e) Para 11-1.5.1 & 11.7.8.4.d			
S. Are all transactions that affect the accountable balance vouchered?	(m) Para 09010.2 & 25010.2 (n) Part III, Section 10, par 10.2			
T. Are issues and receiving procedures adequate to ensure checks of documentation, stock identity, quantity, condition, units of issue, markings on outgoing shipments, and verification of input to location system?	(i) Para 3002.6b			
U. Are monthly inventories of Ammunition and Explosives conducted and documented at the consumer-level?	(h) Para 7002.4.D (o) Para 2-A.(6)			
V. Is the unit using NAVMAC form 11381 to document all expenditures of ammunition?	(h) Para 7002.4.O			
W. Does the unit have a designated AA&E Officer?	(h) Para 7002.4.d (o) Para 0602.f.2			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
X. Has the command designated an Inventory Accuracy Officer to validate quality in the ordnance processes such as receiving and issuing material, monitoring physical inventories and/or conducting samples as required?	(a) Para 6.2.2.a			
Y. Are expenditure reports and turn-in documents for unexpended assets submitted to the unit S-4 or designated record holder?	(h) Para 7002.6.c.3 (o) Para 0602.f.2			
Z. Does the physical location and quantities of items match the official record?	(a) Para 4.1.5.c			
AA. Are Unit A&E Audit and Verification Officer auditing/validating Unit Class V(W) Expenditure Reports, NAVMC 11381?	(h) Para 7002.5.a			
BB. Are Unit AA&E Officers conducting annual AA&E Awareness Training for Unit Personnel?	(h) Para 7002.4.H (o) Para 0204 and 0602.f.(1)			
Command Inspected:				
Building No.				
Type of Ready Service/Handling Location:				
Adequacy of Qualification/Certification Program:				

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<b>LIGHTNING PROTECTION</b>				
<b>REFERENCES:</b> (a) NAVSEA OP 5 Volume I Seventh Revision (b) DoDINST 4145.26-M				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Has a grounding system test plan been established for visual inspection and electrical testing of primary and secondary grounding system components?	(a) Para 5-8.1, 5-8.3 & 5-8.3.2.a.b.c			
B. Are the proper test procedures used for lightning/grounding systems?	(a) Para 5-8-2			
C. Is test equipment specifically designed for earth ground system testing?	(a) Para 5-8-2.4			
D. Does the overall grounding system test plan identify the responsibilities for maintaining and updating specific test plans, conducting the tests, recording the test results, reviewing the test results, and scheduling corrective actions?	(a) Para 5-8.3.2.a.b.c			
E. Are lightning protection/ ground systems tested, inspected, and records maintained as required?	(a) Para 5-8.1 & 6-9.1			
F. Is the installed lightning protection/ground system tested for electrical resistance and continuity upon installation (and monthly during first year) and at least every 24months?	(a) Para 5-8.2.2			
G. Are ordnance ground systems visually inspected at least every six months to ensure connections are secure and free from paint, corrosion, or foreign materials?	(a) Para 5-5.4.5.1			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
H. Are portable/installed ground cables visually inspected prior to each use?	(a) Para 5-5.4.5.1 & 5.9.7			
I. Are portable/installed ground cables tested for electrical continuity 12 months prior to each use?	(a) Para 5-9.7.3			
J. Are conductive floors inspected and tested at the time of installation and 24 months thereafter? Are records maintained for the last 5 cycles?	(a) Para 5-5.3.1.2 (b) Chap 12, Para F5, 6 & 7			
K. Are conductive shoes tested every three months?	(a) Para 5-5.3.2.2 (b) Chap 3, par L			
L. Is all metallic equipment properly bonded/grounded and grounding facilities well maintained?	(a) Para 6-6.2 (b) Chap 12, Para F2			
M. Are repairs made as necessary to obtain proper resistance within the system?	(a) Para 6-9			
N. Are ordnance handling, operating, and storage facilities/areas provided with lightning protection as required?	(a) Para 6-3 (b) Para C-12.5			
O. Has specific criteria been established for terminating ammunition and explosives operations at the approach of a thunderstorm?	(a) Para 6-10			
Command Inspected:				
Building No:				
Adequacy of Lightning Protection Program:				

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<b>MWD CANINE EXPLOSIVE SCENT KIT</b>				
<b>REFERENCES:</b>				
(a) MCO 8023.3				
(b) NAVSEA OP 5 Volume I Seventh Revision				
(c) T.O. 11A20-16-7				
(d) MIL-STD-129N				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Are personnel in explosive handling operations qualified and certified?	(a) 4a (b) 2-3.2			
B. Is there an activity surveillance program established. Is the program conducted on a monthly basis?	(b) 11-8.15.10 & 11-8.15.8h			
C. Are inspections performed as required?	(b) 11-8.15.10 (c) WP 050 00 Para 3			
(1). Receipt Inspections	(b) 11-8.15.10 (c) WP 050 00 Para 3.1			
(2). Periodic Inspections.	(b) 11-8.15.10 (c) WP 050 00 Para 3.3			
(3). Pre-Use/Preassembly Inspections.	(b) 11-8.15.10 (c) WP 050 00 Para 3.8			
(4). Returned Munitions Inspections.	(c) WP 050 00 Para 3.6			
D. Do Inventory records and the explosive containers indicate the date of manufacture for the dynamite and water gel explosives?	(b) 11-8.15.8f			
E. Do markings on outer container include NSN, DODIC, Nomenclature, and DOT marking?	(b) 11-1.4.1 (c) WP 010 00 Para 11a (d) 5.6.1			
F. Are individual metal containers identified by a number and labels which include nomenclature, DODIC, Qty, and N.E.W.?	(c) WP 050 00 Para 11b			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
G. Are all explosive materials stored within the M19A1 container designated for items?	(c) WP 010 00 Para 11c			
H. Are stored items protected from adverse climatic conditions; moisture, humidity, heat, direct rays of sun, etc.?	(b) 11-8.15.10 (c) WP 040 00 Para 11a			
I. Are all explosive fragments generated from handling turned over to EOD for disposal?	(c) WP 040 00 Para 11b			
J. Does dunnage provide for stacking of kit a minimum of two inches from the floor?	(c) WP 040 00 Para 9			
K. Are stacks arranged to permit free circulation of air?	(b) 11-2.6.2a (c) WP 040 00 Para 7e			
L. Are damaged containers repaired/replaced as soon as possible?	(b) 11-1.4.1 & 11-8.15.8g (c) WP 040 00 Para 5e			
M. Do wooden boxes display any signs of contamination and if so are they disposed of by burning?	(b) 11-8.15.8g (c) WP 040 00 Para 5c			
N. Does sawdust packing show any signs of leaking explosives, dampness or wetness?	(b) 11-8.15.9			
O. Does commercial dynamite or TNT display any evidence of deterioration, exudation or crystallization?	(b) 11-8.15.10			
P. Does commercial dynamite in storage exceed 18 months since manufacture date?	(b) 11-8.15.10f (c) WP 040 00 Table 1			
Q. Does M19A1 can containing smokeless powder have one half-inch holes drilled in opposite corners of the lid to allow for ventilation?	(c) WP 010 00 Para 10-2-1b			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
R. Do personnel wear rubber or plastic gloves when handling or inspecting dynamite?	(b) 11-8.15.10a			
REMARKS:				
Command Inspected:				
Building No.				
Type of Ready Service/Handling Location:				
Adequacy of Program:				

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<b>AUNITION/EXPLOSIVES ASSOCIATED EQUIPMENT</b>				
<b>REFERENCES:</b> (a) NAVSEA OP 5, Volume 1, Seventh Revision (b) DODINST 4145.26-M (c) SWO23-AH-WHM-010 (d) MCO P11262.2 (e) NAVFAC P-307 (f) SG420-AP-MMA-010 (g) MCO 8020.10				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Is only authorized/approved equipment used for all operations involving weapons, ammunition and explosives?	(a) Para 10-3.1, .3, (c) Para 1-1			
B. Have modifications to ordnance handling equipment been approved by NAVAIRSYSCOM, DIRSSP and/or WPNSTA Earle?	(a) Para 10-3.2 (c) Para 1-3			
C. Is material handling equipment (MHE), i.e., forklift trucks, transporters, etc., of the proper type for the hazard involved?	(c) Chap 5, Table 5-2			
D. Is the MHE properly painted?	(c) Para 2-1.3			
E. Are fire extinguishers readily available during MHE operations?	(a) Para 4-3.6.1 (c) Para 4-7.3			
F. Are hooks used in handling ammunition "moused" or with safety latches to prevent accidental unhooking?	(a) Para 10-1.1.6			
G. Are all mechanical guards being used?	(c) Para 4-4			
H. Is maintenance and repair on MHE, OHE and WHE conducted only by authorized personnel utilizing applicable instructions, maintenance requirements cards, and/or NAVFAC P-307 depending on type of handling equipment?	(a) Para 10-5.3.1, & 10-6.1a (c) Para 6-4 & 6-7a (e) Para 2-1			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
I. Are operators of Tactical lifting equipment performing daily inspections of their assigned equipment?	(d) Para 1001.2			
J. Is the annual condition inspection of tactical lifting equipment being conducted?	(d) Para 1001.7			
K. Has the certifying officer for safety and reliability of all tactical load lifting equipment been designated in writing?	(d) Para 1001.8			
L. Are all tactical load lifting equipment marked properly?	(d) Para 1001.11			
M. Are lifting equipment hooks on tactical load lifting equipment inspected annually for ware of swivels and pins?	(d) Para 2002			
N. Are operation checks, and an annual certification, being conducted on hoists, winches and structural metal components of tactical load lifting equipment? Are these checks/certifications recorded properly?	(d) Para 2004 & 2005			
O. Is all handling/associated equipment being inspected/tested as required?	(a) Para 10-5.3.2, & 10-6.1 (c) Para 6-2, 6-3 & 6-8 (e) Chapter 3 WPNSTA Earle ltr 8021 Ser C11- RAR/C0073 of 22 May 90			
P. Is such equipment (MHE, attachments, lifting equipment, etc.) properly identified to indicate name of testing facility, test expiration date, and safe working load?	(a) Para 10-5.3.5 (b) Para 6-8.1 & .2			
Q. Do operators inspect MHE and complete MHE Inspection Form and attach to equipment prior to starting equipment?	(c) Para 6-5			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
R. Is MHE used for ammunition handling identified as to safe working load (SWL), UL type, weight test date, and vehicle weight?	(c) Para 2-1.4			
S. Are cranes, hoists, and lifting equipment, used for explosives handling, load tested and certified annually?	(a) Para 10-6.1 (e) Para 3.4.1			
T. Are the proper ordnance handling equipment allowance levels being maintained at stations/facilities?	(c) Para 1-10 & 1-11 NAVSEAINST 10490 (series)			
U. Are inspection requirements for ordnance lifting equipment (applicable Maintenance Requirements Card (MRCs)) being performed?	(a) Para 10-5.3.1			
V. Do type EX MHE have a six inch blue diagonal stripe painted in a 45-degree angle (top right to bottom left) along both sides and on the rear?	(c) Para 2-1.4g			
W. Is battery charging only done in areas designated specifically for that purpose (forbidden in magazines or other spaces where ammunition and explosives are present)?	(a) Para 10-4a & 10-4c(2) (c) Para 4-7			
X. Are there operational showers and eyewash fountains in battery charging areas?	(a) Para 10-4c(1)			
Y. Are smoking or other extraneous sources of ignition prohibited in battery charging areas?	(a) Para 4-1.6			
Z. Fork tines have been inspected within the last 12 months.	(c) Para 6-6			
AA. MHE license is valid for three years and is annotated with "Explosive Operator MHE" "Must Hold Current Medical Certificate"	(c) Para 3-3.1 (g) Para 2014.1d			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
BB. OHE is weight tested by a certified facility.	(a) Para 10-5.4.3.2 (f) Para 2-2			
Command Inspected:				
Building No.:				
Type of Ready Service/Handling Location:				
Adequacy of Qualification/Certification Program:				

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<b>QUALIFICATION/CERTIFICATION PROGRAM</b>				
<b>REFERENCES:</b> (a) NAVSEA OP 5, Volume 1, Seventh Revision (b) MCO 8023.3 series				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Has the Commanding Officer or Officer in Charge designated a Board Chairman for the Qualification and Certification Board?	(b) 5.a & 6.b			
B. Are the Certification Board Members designated in writing by the Commanding Officer or Officer in Charge?	(b) 5.a & 6.b			
C. Are members of the Certification Board E-6 or above certified and qualified for all tasks under consideration?	(b) 5.c			
E. If sufficient technical expertise in any given area is not available from within the command, has outside assistance been requested/obtained?	(b) 5b(4)			
F. Does the Certification Board understand the requirements of the certification levels QA, I, SO, TL, and TM?	(b) 5d			
G. Is training received to support the certification documented in the individuals training record?	(b) 3.c & 5.t			
H. Does documented training substantiate certification levels by work task code and family type of explosives?	(b) 3.c & 5.t			
I. Are certifications documented using the format shown in enclosure (2) and the definitions/guidelines contained in enclosure (3) of MCO 8023.3.	(b) 3.c			
J. Are applicable certification levels/work task indicated?	(b) Encl (2) & (3)			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
K. Did the individual being certified sign the form where indicated to acknowledge his certification level?	(b) Encl (3)			
L. Did the Chairman of the Board sign where indicated?	(b) Encl (3)			
M. Is the date of certification or review valid (within 12 months)?	(b) 5.q(2)			
N. If re-certification has been accomplished, did the individual being re-certified and the Chairman (certifying authority) sign and date the form?	(b) Encl (3)			
O. Are transferred personnel's certification validated by the board chairman if not recertified?	(b) 5.q(4)			
P. Has no more than 180 days elapsed between certification and actual performance in the work task for which certified?	(b) 5.q			
Q. Have any certifications been revoked? If so, was the revocation documented as a page 13 service record entry?	(b) 5.s			
R. Are operators of power operated handling equipment (cranes, winches, hoists, forklifts, pneumatic nailers) certified as explosive drivers and qualified/certified in the movement of explosives families concerned?	(a) 12-3.2.6c (b) Encl (1) Para 2			
Command Inspected:				
Building No.				
Adequacy of Qualification/Certification Program:				

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<b>MOTOR VEHICLE TRANSPORTATION</b>				
<b>REFERENCES:</b> (a) NAVSEA SW020-AF-ABK-010 (b) CFR 49 (c) NAVSEA OP 5 Volume I Seventh Revision (d) SW020-AC-SAF-010				
Date:				
UNIT:			AMMO TECH:	
INSPECTED BY:			DRIVER:	
VEHICLE NUMBER:			TRAILER NUMBER:	
INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
A. Is Medical certificate valid/current?	(a) Para 2-2.3			
B. Is civilian license/ID card valid/current?	(a) Para 2-2.1			
C. Is the driver of right age (18 on base, 21 off base) and experience?	(a) Para 2-2.4			
D. Is motor vehicle identification card (SF-46) annotated Explosive Driver-Must Hold A Current Medical Certificate?	(a) Para 3-2.1			
E. Is the DD 626 valid?	(a) Para 3-3.2 & Appex C			
F. Is DD 836 provided in case of breakdown (fire, accident, etc.) for off-station moves?	(a) Para 3-4.3			
G. Does vehicle have proper fire extinguisher?	(a) Para 4-2.4(a) (c) Para 12-6.3.7			
H. Is DD 836 correct as to content being transported?	(a) Para 3-4.3			
I. Is ammunition compatible for transportation?	(a) Para 4-5.8 (b) 177.848 (d) Table 2-7			
J. Is ammunition secured as not to slide, fall or shift during movement?	(a) Para 4-5.9			
K. Is weight properly distributed, but is not overweight?	(a) Para 4-6.1.b			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
L. Are appropriate placards applied to vehicle?	(a) Para 4-7 (b) 172.504 (c) 12-6.3.6			
M. Are placards legible, visible or obscured by dirt or other matter?	(a) Para 4-7.2 (b) 172.516(c)			
N. Is Explosive driver observing and obeying all road signs?	(a) Para 5-2.6.a			
O. Are armed guard(s) provided for ammunition being transported on or off station?	SW020-AG-SAF-010 Table 8-1 DTR Manual Chap 205 Para O.6			
P. Has the explosive driver completed the 4 hour refresher training within 24 months?	(a) 2-3.1.1a			
Q. Are copies of Chapter 5, 9, Appendix C of SW020-AF-ABK-010 and SF 091 placed in each vehicle?	(a) Forward # 1			

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<b>STANDARD OPERATING PROCEDURES</b>				
<b>REFERENCES:</b> (a) NAVSEAINST 8023.11 (b) NAVSEA OP 5, Volume 1, Seventh Revision				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Has the activity issued an instruction which documents the activity's process for executing reference ?	(a) 10.a(2)			
B. As of 13 March 1992, are all new SOPs and major changes to SOPs for ongoing ordnance processes at the activity been developed, approved and maintained IAW reference (a)?	(a) 10.a(3)			
C. As of 13 March 1994, do all active processes at the activity have SOPs in accordance with reference?	(a) 10.a(3)			
D. Has the SOP been validated? All validations will be documented. If possible, inert materials will be used for validations.	(a) Definitions of Basic Terms			
E. Does the SOP contain a Record of Approval, listing personnel who developed and reviewed the SOP? Is there a space for the Commanding Officer's approval?	(a) Format Content Step 1			
F. Does the SOP contain the Process Supervisor's Statement?	(a) Format Content Step 2			
G. Does the SOP contain the Workers Statement?	(a) Format and Content Step 3			
H. Does the SOP contain Step-By-Step procedures?	(a) Format and Content Step 4			
I. Does the SOP contain a Building or Site Diagram? It must show the location of all safety-related items with respect to the work station.	(a) Format Content Step 5			
J. Does the SOP contain Equipment Lists?	(a) Format Content Step 6			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
(1). Processing Equipment List. Including approved tools, equipment and supplies.	(a) Format Content Step 6(a)			
(2). Safety Equipment List. Including PPE, and systems.	(a) Format Content Step 6(b)			
K. Are Hazard Control Briefings included in the SOP? Are records of hazard control briefings maintained?	(a) Format Content Step 7			
L. Does the SOP contain Emergency Response and Contingency Plans?	(a) Format Content Step 8			
M. Does the SOP address Security?	(a) Format Content Step 9			
(1). Maintain physical security, accountability and disposition control for expendable ordnance, hazardous materials, etc.	(a) Format Content Step 9			
(2). Prevent unauthorized disclosure of classified information.	(a) Format Content Step 9			
N. Have SOP Development and Change Procedures, as specified in reference (a), and paragraph 2-1.1.1 of reference (b) been complied with?	(a) Development and Change Procedures 1 & 2 (b) 2-1.1.1			
O. Has Hazard Analysis and Control been used in preparation of the SOP?	(b) 2-1.2			
Command Inspected:				
Building No.:				
Type of Ready Service/Handling Location:				
Adequacy of Qualification/Certification Program:				

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<b>FACILITIES FLIGHT EQUIPMENT AND SEAT SHOPS</b>				
<b>REFERENCES:</b> (a) NAVSEA OP 5, Volume 1, Seventh Revision				
<b>* Annotate in the remarks column where the discrepancy was found, Flight Equipment (F/E) or Seat Shop (S/S).</b>				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>*SAT</b>	<b>*UNSAT</b>	<b>REMARKS</b>
A. Are sprinklers in place and operational where explosives are stored overnight? NOTE: For new facilities only older facilities must have an alarm monitoring during off-duty hours and limited to 25lbs NEW	(a) Para 7-12.12			
B. Are correct fire symbols displayed outside storage site?	(a) Para 4-4.2.9 & 7-12.12			
C. Are personnel limits posted?	(a) Para 7-7.2			
D. Are explosive limits posted?	(a) Para 7-4.4.1.2			
E. Are facilities where explosives are handled or stored properly site approved?	(a) Para 8-1.2.1			
F. Do explosives stored exceed approved NEW?	(a) Para 7-4.4			
G. Is static ground connected properly? Structural steel or ground rods. Not to gas, steam, or air lines.	(a) Para 5-5.3			
H. Does primary door exit open outward and is it provided with panic hardware?	(a) Para 7-12.12			
I. Is access to door unobstructed and is the door in good working order?	(a) Para 2-1.5.2			
J. Are appropriate fire extinguishers available and are they properly maintained?	(a) Para 4-3.6			
K. Is an approved fire bill posted?	(a) Para 4-3.1.1			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
L. Are workspaces kept scrupulously clean and orderly at all times?	(a) Para 2-1.5.1			
M. Is food or drink, except for water coolers or dispensers, present in the area where explosives are handled or stored?	(a) Para 2-4.11			
Command Inspected:				
Building No.				
Type of Ready Service/Handling Location:				
Adequacy of Qualification/Certification Program:				

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<b>FACILITIES EXPLOSIVE ORDNANCE DISPOSAL (EOD)</b>				
<b>REFERENCES:</b>				
(a) NAVSEA OP 5, Volume 1, Seventh Revision				
(b) DODINST 4145.26-M				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Are crew/personnel shelter windows secured and made of Poly Carbonate material minimum 1/2 inch thick or equivalent?	(a) Para 13-2.2.3b & 13-3.2.4(b) (b) C.15.2.1			
B. Are there no direct viewing ports in crew shelter?	(a) Para 13-2.2.3b & 13-3.2.4(b)			
C. Do demolition demonstration and routine EOD operation areas meet the requirements for detonation sites?	(a) Para 13-3.2.1			
D. Does the ground within the immediate vicinity of the burning pad not exceed a 10 degree grade? Is burning done on a dirt surface only (concrete, gravel, or cinder surface plots shall not be used)?	(a) Para 13-2.2.1b			
E. Are burning grounds a minimum of 1,250 feet away from administrative, housing areas, and non-ammunition related operations?	(a) Para 13-2.2.1a(2) (b) C.15.4.1.1			
F. Is an area 300 feet square free of all long grass and undergrowth and cleared so that a flatbed of sand or dirt remains? Is vegetation and other combustible material removed within a radius of 200 feet from burning pad?	(a) Para 13-2.2.1(d)			
G. Has crew shelter been approved by NOSSA?	(a) Para 13-3.2.4(b)			
H. Is the crew shelter separated from the point of detonation in accordance with Table 13-3 of NAVSEA OP 5, Vol. 1?	(a) Para 13-3.2.4(b)			
I. Do detonating sites conform to Table 13-3 NAVSEA OP 5, Vol. 1?	(a) Para 13-3.2			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
J. Is all vegetation, including dry grass, leaves, and other combustible materials, removed within a radius of 500 ft. or firebrand distance, whichever is greater?	(a) Para 13-3.2.1			
K. Is an emergency area or shelter, e.g., 4-ft. hole or 4-ft. earthen embankment available to provide personnel protection from high velocity fragmentation?	(a) Para 13-3.2.4(b)			
L. Are demolition training ranges properly sited?	(a) Para 13-3.2.2 & Table 13-4			
M. Are the demolition range restrictions complied with?	(a) Table 13-4			
N. Has a barricade been constructed ten feet from the detonation point for 0 to 1.25 pound training ranges?	(a) Table 13-4, Note d, & Fig. 13-1			
O. Has a barricade been constructed ten feet from the detonation point for 2.5 to 5.0 pound training ranges? If not, has an exception to this requirement been authorized by the activity Commanding Officer?	(a) Table 13-4 Note D			
P. Are rendered safe procedures used for emergency destruction developed by NAVEODTECHDIV?	(a) Para 13-1.5			
Q. Are SOPs developed/used for routine disposal operations?	(a) Para 13-1.2.1			
R. Are waivers for demolition/disposal approved and granted by NOSSA (may not be granted by Commanding Officer)?	(a) Para 13-1.6			
S. Are established station orders, SOPs or regulations for the operation of the burning/ detonation on site?	(a) Para 13-2.2.2			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
T. Are prescribed procedures specific to the disposal of materials or items by burning/detonation posted at the burning/detonation site?	(a) Para 13-3-2.3			
U. Are SOPs covering the specific procedures for disposition of items to be disposed of by burning available to personnel conducting operations?	(a) Para 13-2.3.1			
V. Is a wind velocity instrument at the burning ground?	(a) Para 13-2.2.7 (b) C.15.5.3			
W. Are materials which are authorized to be disposed of by burning/detonation specifically identified and characteristics known?	(a) Para 13-2.1 & 13-3.1			
X. Are materials awaiting destruction stockpiled closer than 500 feet from an active burning pad or intraline distance from detonation site?	(a) Para 13-2.2.9 & 13-3.2.10 (b) C.15.3.6			
Y. Is the material restricted to that which will be disposed of that day?	(a) Para 13-2.2.9			
Z. Are disposal operations secured during electrical storms?	(a) Para 13-2.2.7 & 13-3.2.8 (b) C.15.4.2.2.8			
AA. Is burning/detonation done during daylight hours only? Are operations completed 30 minutes before personnel leave the burning point?	(a) Para 13-2.3.1(m) & (n) & 13-3.3.1(c) & (f)			
BB. Is firefighting equipment standing by or available within 5 minutes?	(a) Para 13-2.2.4 & 13-3.2.5 (b) C.15.4.1.3			
CC. Is telephone or two-way radio (with station network, emergency and firefighting) communication available?	(a) Para 13-2.2.5 & 13-3.2.6			

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DD. Is sufficient and suitable protection for personnel provided (clothing and shelter)? Is a minimum of two fire blankets provided	(a) Para 13-2.2.3b & 13-3.2.4(b) (b) C.15.2.1			
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
EE. Has DDA authorized destruction of unserviceable ammo/explosives and other dangerous articles? Note: Marine Corps activities are specifically prohibited from conducting disposal operations of hazardous waste, of any condition code, unless specifically directed by MARCORSSYSCOM (AM). Routine EOD training, demilitarization, inerting or emergency destruction do not require prior authorization, unless authorized allowances are exceeded. Refer to MCO P8011.4H for special allowance request procedures.	(a) Para 13-1.1			
FF. Are guards, safety signals, road blocks, and warning signs used to keep unauthorized personnel away? Is a red (BRAVO) flag prominently displayed and/or siren sounded during burning operations?	(a) Para 13-2.2.6 & 13-3.2.7			
GG. Are operators (of the burning operation) equipped with conductive safety-toe shoes, fire retardant outer garments, and head gear?	(a) Para 13-2.3.1(e)			
Command Inspected:				
Building No.:				
Type of Range (EOD, Training, Demo) and Location:				
Adequacy of Qualification/Certification Program:				

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<b>FIRE STATION</b>				
<b>REFERENCES:</b> (a) NAVSEA OP 5, Volume 1, Seventh Revision (b) NAVSEA OP 3565 Volume 2				
<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
A. Is a fire map showing buildings, magazines and other hazardous storage areas posted in a conspicuous place in the Fire Station?	(a) Para 4-3.2			
B. Does the fire map show buildings, magazines, outside storage areas (i.e., truck or railcar holding areas, container pads, loaded barges) where hazardous materials (ammunition /explosives) are stored?	(a) Para 4-3.2			
C. Are the Class/Divisions of ammunition/explosives in storage accurately depicted on the fire map? Use data from ammunition storage report or observations made during inspection.	(a) Para 4-3.2			
D. Is the information on the fire map kept up to-date by information supplied by the Ordnance Department at regular intervals or when ever conditions change?	(a) Para 4-3.2			
E. Can the Fire Department determine by glancing at the fire map, the type of fire it will have to fight and the types of protective equipment required?	(a) Para 4-3.2			
F. Can Fire Department personnel explain what the Class/Divisions and Chemical symbols represent and how to respond to fires involving each?	(a) Para 4-3, Figure 4-2 & Table 4-1			
G. Can Fire Department personnel explain the purpose of the Bravo (red) flag? (Personnel and explosives are present.)	(a) Para 10-1.1.12 & 11-3.3			

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INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
H. Are sprinkler system wet tests conducted annually? A 30 day tolerance period taking into account production requirements is allowed.	(a) Para 4-3.9.15			
I. Are Fire Department personnel aware of required emergency withdrawal distances from fires involving ammunition/explosives?	(a) Para 4-5.1.4 & Table 4-4)			
J. Are Fire Department personnel aware of HERO restrictions associated with their mobile and portable radio transmitters?	(b) Para 1-5.3.2 & Table 2-3			

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<b>ARMORIES AND GUARD FORCES</b>				
<b>REFERENCES:</b> (a) NAVSEA OP 5, Volume 1, Seventh Revision (b) MCO 8011.4H (c) MCO 8020.10A (d) NAVSUP P-801				
UNIT:			BUILDING NUMBER:	
INSPECTED BY:			UNIT REPRESENTATIVE:	
INSPECTION CRITERIA	REFERENCE	SAT	UNSAT	REMARKS
B. Is the unit authorized to store limited quantities of Class 1.2.2 (limited to DoDIC DWBS for a Qty of 8) 1.3 and 1.4 ammunition by the Installation Commander?	(c) Para 5007			
C. Does the quantity of Class 1.3 and 1.4 service ammunition held by the unit exceed the NET Explosive Weight (NEW) authorized to be stored locally?	(c) Para 5007			
D. Is/are the lot number(s) of locally stored ammunition being checked against incoming NAR's?	(a) 2-1.4.11 (c) Para 5007 (d) 2-1.1.2			
E. Is the ammunition properly stored in accordance with current directives?	(a) 11-2			
F. Are building spaces kept clean at all times?	(a) 2-1.5.1			
G. Are combustible materials properly stored?	(a) 4-1.7.2			
H. Is smoking allowed in armory, if so are areas designated in writing by Commanding Officers, at specified times and under specific conditions?	(a) 4-1.6 & 4-1.6.2			
I. Is approved fire fighting equipment available for use?	(a) 4-1.5			
J. Are armorers familiar with the fire hazards, fire fighting equipment and appropriate action to take if a fire emergency develops?	(a) 4-1.1			

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<b>INSPECTION CRITERIA</b>	<b>REFERENCE</b>	<b>SAT</b>	<b>UNSAT</b>	<b>REMARKS</b>
K. Are operations and equipment so arranged that all persons have unobstructed exit paths?	(a) 2-1.5.2			

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APPENDIX E

EXPLOSIVES SAFETY SUBMISSION GUIDANCE

Cover Page. Provide the following information on the cover page:

1. Title of the ESS
2. Installation conducting the removal action and removal project number (if any).
3. Point-of-contact and contact information of the office responsible for the preparation of the ESS.

Inside cover page. Provide a list of organizations; include contractor support involved in the preparation of the ESS. Provide the name and all contact information for primary points-of-contact.

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1.2	Site Location
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1.4	Removal Depth
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2.2	Amount and Type of MEC
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11.0 After Action Report

1. Background

a. Provide general background information on the installation or site where the intrusive activities are to occur.

b. Provide a brief explanation of the purpose and scope of the ESS.

c. Provide a brief explanation of why MEC removal is required at this time.

d. State the current and anticipated future land use restrictions. This will aid in determining the required removal depth.

1.1. Site Background

a. Provide a summary of the nature and extent of on-site contamination.

Additionally, identify any off-site contamination that originated from the MEC site.

b. Identify any environmentally, culturally, or archeologically significant locations on the site.

c. List all known MEC clearance activities, and their results, that have occurred on site.

d. Provide a geophysical survey of the contaminated property. Special attention should be given to those factors that would effect response activities or facilitate off-site migration of the contamination.

e. Provide meteorological information for the site.

f. Identify the prevalent vegetation and its effect on the removal process.

g. Identify any non-ordnance hazards (i.e., poisonous snakes, poison oak, steep slopes, high temperature).

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h. Identify any additional site-specific requirements or characteristics (i.e., remote location, no potable water on site, 4-wheel drive required).

i. Identify any improvements that have been made to the site since the last response activity.

j. Identify any adjacent property or activities that might be impacted by the clearance operation.

1.2. Site Location

a. Provide a regional or state map showing the installation's location.

b. Provide a map showing the location of the MCE site in relationship to the installation.

c. Outline the MEC site boundaries by key features, GPS coordinates, or grid coordinates.

1.3. Land Use Restrictions

a. State the anticipated future land use and any land use restrictions.

b. State the extent to which the land could be safely used without further response activities.

c. If implementing Land Use Controls (LUCs) as a component of a munitions response, the installation shall:

(1) Provide documentation of mechanisms in place to manage and maintain the integrity of any LUCs.

(2) Demonstrate that LUCs are incorporated into the existing land use management processes of the locality or the installation. One specific example is that a munitions-related LUC must be included on an installation's master plan.

(3) Describe the process to review and evaluate the effectiveness of the LUC and the frequency of these reviews. At a minimum, if conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), these reviews must occur at least every five years.

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1.4. Removal Depth. Identify the appropriate clearance depths based on future land use and any other pertinent land use restrictions. Removal depth should be site specific, based on the type of MEC encountered and existing soil conditions.

Note: The maximum penetration depth can be calculated using a number of different tools. One such tool is the Conventional Weapons Effects Program (CONWEP). The CONWEP program is available from the U.S. Army Corps of Engineers, Waterways Experiment Station, Additionally; the Protective Structures Automated Design (PSAD) system is also available from the Corps of Engineers.

1.5. Start and Completion Dates. Identify the estimated start and completion dates of response activities. Intrusive response activities will not begin before the ESS is formally approved.

2. Munitions and Explosives of Concern (MEC)

2.1. Reasons for MEC

a. Provide a summary outlining why MEC is found at the site. This summary should be based on a current Archives Search Report (i.e., Installation Archive,; range control, EOD) and individuals having first hand knowledge.

b. If there are no records identifying MEC on the site; provide a summary describing the events leading up to the discovery of MEC.

2.2. Amount and Type of MEC

a. Provide a list, in table format, of what MEC expected to be found at the site.

b. This list should be by nomenclature and Department of Defense Identification Code (DODIC).

c. This list should be based on local records search and preferably on-site inspections.

d. For explosive soils, the Maximum Credible Event (MCE), defined as the concentration of explosives multiplied by the

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total weight of the contaminated soil, will be used. For example, 1000 lbs of soil containing 15% trinitrotoluene (TNT) has an MCE of 150 lbs. When concentrations vary within the site, a weighted average, or other valid mathematical model will be used to determine the MCE.

e. The term MCE also applies to explosively contaminated buildings slated for clean-up or dismantling. Identifying the MCE for contaminated buildings will be handled on a case-by-case basis and the rationale for how the MCE was determined must be included in the ESS.

f. Identify the methods to be used to reduce the explosives concentrations below 10% by weight (i.e., soil blending) and the methods that will be used to reduce the explosives hazards (e.g., wetting the soil prior to blending).

g. Provide a general description and status of other nearby MEC areas that are not covered by the ESS. Indicate whether or not these areas are to be remediated at a later date.

2.3. Munitions With the Greatest Fragmentation Distance (MGFD)

a. Identify the MGFD expected to be encountered. This munition will be used to determine explosives safety distances.

b. If during the response activity an item with a greater fragmentation distance is encountered; work shall be suspended until an amendment to the ESS can be submitted through the appropriate chain of command for approval. The amendment will include the new MGFD, by nomenclature and DODIC, and the revised Quantity-Distance (QD) for explosives safety.

3.0. Frost Line/Munitions Migration

a. Identify the site-specific frost line.

b. Describe the surveillance procedures to be used for MEC that is above the frost line but below the proposed clearance depth.

c. Describe other conditions, such as flooding or erosion that might cause the movement of MEC.

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d. Describe the surveillance procedures to be used for MEC that might be affected by other conditions such as flooding or erosion.

4.0. Clearance Techniques

4.1. Site Preparation

a. Describe any site preparation activities that will be performed prior to response activities beginning (i.e., controlled burns, brush cutting, marking of boundaries).

b. Identify the requirement for a UXO Specialist or EOD qualified individual to escort all survey personnel while on the site.

c. Clearly identify and mark site boundaries.

d. Describe how the site will be marked with warning signs in accordance with 6055.0-STD to prevent unauthorized personnel from entering the site.

e. Describe control measures to ensure unauthorized or unescorted personnel are not permitted on the site.

f. Clearly identify any administrative areas outside of the explosives safety distances for use by project personnel.

g. Identify intentional detonation and burning sites.

Note: List any DDESB-approved engineering controls that may be used under specified conditions to reduce the required distances. These engineering controls are found in DDESB Technical Paper No. 15, Approved Protective Construction, dated February 2, 2001.

h. Identify the location of any magazine that will be used to store demolition materials.

Note: Non-DoD munitions being stored in a DoD magazine require a waiver from CGMARCORSYSCOM. Refer to MCO P8020.10A for Non-DoD munitions waiver request process.

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i. If the demolition materials will be stored in a non-DoD facility, provide the following information:

- (1) The explosives site plan or equivalent documentation.
- (2) The manufacturer, model, and type of magazine (e.g., portable, earth covered).
- (3) The rated net explosive weight limit for the magazine for each applicable hazard division.
- (4) The presence and type of lighting protection.
- (5) The presence and type of fire protection system.

Note: In addition to the above listed requirements, the storage of commercial explosives are governed by Bureau of Alcohol Tobacco and Firearms (BATF) regulations found in 29 CFR part 55, Subpart K-storage.

#### 4.2. Detection Methods

- a. Identify the types of detection methods that will be used in the response activities (e.g., visual, magnetometer, ground penetrating radar).
- b. Identify the detection equipment that will be used by make and model number.
- c. Identify the selection criteria used to determine the detection technology and equipment.
- d. Describe the detection capabilities of the equipment that will be used. Include a statement that the equipment will detect the smallest anticipated munition to the required clearance depth. (e.g., "The Mark 32 Magnetometer can detect a 20MM projectile to a depth of one foot." Assuming the smallest munition expected to be encountered is the 20MM and the specified removal depth is one foot.)
- e. Identify any local conditions that would limit or impede detection capabilities (e.g., heavy ground cover, highly mineralized soil).

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4.3. Recovery and Disposal Operations

- a. Identify the contractor's BATF explosives dealer license or user permit or other appropriate licensing documentation, if applicable.
- b. Identify any state license held by the contractor for the possession, storage, or use of explosives, if required by state law.
- c. Identify the contractor's Department of Transportation (DOT) hazardous materials transporter number if they are shipping hazardous material.
- d. Identify the contractor's hazardous waste transporter number, if applicable.
- e. Describe removal team member qualifications and individual assignments.
- f. Describe the level of protection that will be used by each member of the removal team.
- g. Describe the method used to ensure the entire site is methodically cleared and how this is to be accomplished.
- h. Describe how information will be compiled at the end of the work day to ensure there is no duplication of removal effort, no areas are inadvertently missed, or the information is not lost.
- i. Describe the Quality/Assurance (Q/A) processes used to verify the effectiveness of the clearance activities.
- j. Describe the Q/A Pass/Fail criteria and how the areas that failed the Q/A process will be corrected.
- k. Describe the daily on-site validation tests that are to be performed on each piece of detection equipment before the start of each workday. This procedure is designed to verify the capabilities of both the equipment and the operator before beginning daily activities.

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l. Identify the applicable storage, handling, transportation requirements for demolition materials and recovered MEC that is safe to store.

m. Describe the procedures and equipment used when dealing with buried anomalies.

n. Identify the demolition procedures to be used in disposing of MEC found on site.

o. Identify the qualifications of the personnel who will be conducting the demolition operations.

p. Describe the engineering controls, if any that are to be used during demolition operations to reduce explosives safety distances.

q. Identify the safety and command and control procedures that will be used to ensure that only essential personnel are on site during demolition operations and that all personnel are accounted for when conducting demolition operations.

r. Identify the exclusion zones that will apply to footprint areas (i.e., blow-in-place, munitions collection points, and consolidated detonations) if they are required. The exclusion zones for these areas will be the same as for intentional detonation sites.

s. Describe procedures that will be used to block all access routes to the demolition area during explosive operations.

t. If confined detonation devices are to be used provide the specification for the particular model being used.

u. If the munitions will be disposed of by alternate methods (e.g., bioremediation) indicate the effectiveness of the response, length of time required, and the number of personnel involved.

v. Address any requirements to conduct post operations clearance activities.

4.4. MEC Scrap Explosives Hazards

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a. Identify the requirement to have the Senior UXO Safety Specialist (SUXOS) certify the MEC scrap free of explosive hazards.

b. Describe procedures for handling MEC scrap with an explosives hazard.

c. Describe procedures for those items certified free of explosives hazards to ensure that uncertified items will not accidentally commingling.

d. Identify procedures for removing MEC scrap from the site.

e. Describe MEC scrap final disposition of the.

5.0. Alternative Disposition Technique

a. If disposal by open detonation is not permitted on site, provide the following information:

(1) Type disposition (e.g., confined detonation, bio-response, open burning).

(2) Describe duration of process.

(3) Describe additional required equipment or personnel.

(4) Describe additional residue to dispose of after using the alternative disposition method.

b. If MEC is to be removed from the site fully describe the handling, transportation, and storage requirements.

c. Ensure the disposal or treatment site where the MEC is being taken can accept items from off-site.

6.0. Technical Support. Identify all technical support that will be required from local or state officials (e.g.: Fire Department, EOD, Military Police, Public Affairs, local law enforcement, local newspaper or radio station).

7.0. Stakeholder/Public Involvement

a. Outline the procedures to ensure public involvement.

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b. Provide a list of all opportunities that were provided for stakeholder and public review and comment.

c. Provide a list of all non-USMC participants.

8.0. Maps. Provide the following maps in support of the ESS.

a. Activity maps showing the area or areas at which the munitions response is planned. These maps will include the following:

(1) MEC areas covered by the submission.

(2) Nearby MEC areas not covered by the submission.

(3) Proposed MEC removal depth for each MEC area. Supporting narrative will be provided in section 1.5.

(4) The existing and planned use of each MEC area. Supporting narrative to be provided in section 1.4.

(5) Any locations and/or structures used for the storage of demolition materials and/or recovered MEC.

(6) Location and exclusion zone of any intentional detonation or burning sites to include areas at which contained detonation technology may be used.

(7) Ownership and land use of the adjacent properties which may affect or be affected by the project. Supporting narrative to be provided in section 1.1.

(8) Operations that may adversely impact the project (i.e., businesses, residences, and traffic routes).

b. Quantity-Distances (QD). QD's may be shown on the activity map. However, more than one map may be required for clarity. The QD should be shown on a map with a scale of 1:400. A smaller scale can be used if the distances can be accurately shown. If unscaled maps are used, then the actual distances on the maps must be labeled. QD maps will show the following:

(1) Each MEC area to be cleared.

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(2) Any location and/or structure used to store explosives materials or recovered MEC.

(3) The QD arcs for all sited facilities on the activity map.

(4) The exclusion zone for any designated intentional detonation or burning areas.

(5) The inhabited Building Distance (IBD). This is the minimum distance required to protect facilities and personnel not involved with the explosives activities.

(6) Public Traffic Route (PTR). This is the minimal permissible distance between the explosive site and public highways or railroad lines. Supporting narrative to describe the protection measures taken to control risk of unintentional public exposure within the exclusion zone (e.g., evacuation of buildings, blocking transit routes) to be provided in section 4.1.

(7) Intraline (IL) Distance. IL distance provides the minimum amount of protection to activities associated with the explosives operation.

(8) Intermagazine (IM) Distance. This is the minimum distance between explosive sites to prevent one explosive site from simultaneously detonating an adjacent one.

Note: The Quantity-Distance is based on the MGF<sub>D</sub> and is never less than 1250 feet.

c. Soil sampling maps. For MECs involving explosive soils, provide a map outlining the area sampled and the location and depths of sampling points. In the supporting narrative identify analytical methods used (i.e., field screening, laboratory analysis), concentrations of explosives for each sampling point, and significant environmental or legal considerations.

#### 9.0. Magazines

a. Identify any storage facilities that are within the QD arc.

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b. Identify where required demolition materials will be stored.

c. Identify the amount of demolitions that can be stored by hazard classification and net explosive weight.

d. Identify the maximum storage, by net explosives weight, of any magazine to be used in storing demolition materials.

10.0. Amendments and Corrections. During the course of the clearance operation conditions may change. Many of these changes will require formal notification of and formal approval by the DDESB via the CG MARCORSYSCOM.

a. Amendments require formal approval by the DDESB via the CG MARCORSYSCOM and all intrusive operations must cease until the formal approval is received. Examples of a change that would require an amendment include:

(1) A change in the planned land usage that affects the proposed response plan.

(2) A change in the clearance depth.

(3) The land use controls change for any reason.

(4) MEC is found at a depth greater than the proposed clearance depth.

b. Corrections are changes that do not affect the clearance operation. Many corrections are administrative in nature. Inform the DDESB via the CG MARCORSYSCOM for information purposes only.

11.0. After Action Report. At the conclusion of the project, the installation or agency performing the response will prepare an After Action Report. A copy will go to each office that reviewed the ESS.

a. The After Action report must be approved by CG MARCORSYSCOM and the DDESB. This certificate must be included in the Administrative Record for the site. If the subject property will be disposed of by the General Services Administration, this certificate must accompany the report of excess (SF 118) to the General Services Administration.

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b. The after action-report will include the following information:

(1) A summary of the information about the site, the investigation, and the response action.

(2) A list of munitions found at the site, the investigation, and the depth.

(3) The relative effectiveness and any limitations of the technologies used during the munitions response and the effects on residual risk relative to that originally projected.

c. Include maps showing:

(1) Areas from which munitions were removed.

(2) Areas within an MRS where a removal was not performed for any reason.

(3) The known or reasonably anticipated end use of each area.

d. Describe any LUC or IC that was implemented and the areas to which they will be applied.

e. Address provisions for long-term management or long-term stewardship and, when appropriate, provide the schedule for any periodic or recurring reviews.

f. Identify plans for any on-going safety awareness programs for the MEC site.

g. Describe any on-going UXO safety education programs if applicable.

h. Provide the rationale for any deviations from the approved ESS, to include their impact on residual risk, land use restrictions, etc.

i. Document the location where information regarding this response has been archived.

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APPENDIX F

ESS PREPERATION CHECKLIST

ITEM	COMPLETED	COMMENTS
Background		
Site Background		
Land Use Restrictions		
Removal depth		
Start & Completion Dates		
Reasons for MECs		
Amount and Type of MEC		
MGFD		
Frost line/Ordnance Migration		
Site Preparation		
Detection Methods		
Recovery & Disposal Operations		
MEC Scrap Explosives Hazards		
Alternative Disposal Technique		
Technical Support		
Stakeholder/Public Involvement		
Maps		
Magazines		
Amendments & Corrections		
After Action Report		

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APPENDIX G

UXO WORK EXPERIENCE LEVELS

<b>Position Description</b>	<b>Notes</b>	<b>Minimum Years of EOD/OE experience (Note 4)</b>	<b>Special Requirements</b>
OE Safety Officer	1,2 & 5	8 Years	Experience in all phases of OE remediation and applicable safety standards. Will be directly hired by and work for the prime contractor and must report directly to the project manager or someone higher in the contractor's organization. Will not be involved in any removal or investigation tasks
OE Quality Control Specialist	1,2 & 5	8 Years	Experience in all phases of OE remediation and transportation, handling and storage of ordnance and explosives materials. Will be directly hired by and work for the prime contractor and must report directly to the project manager or someone higher in the contractor's organization. Will not be involved in any removal or investigation tasks.
Senior OE Supervisor	1,2, & 5	10 Years	Significant experience in all aspects of OE remediation. 10 years experience in supervisory positions.
OE Technician III	1,2 or 3 & 5	8 years	Prior military EOD or commercial experience.
OE Technician II	1,2 & 5 or 3 & 5	NA or 3 years	Prior military EOD experience or Experience in OE remediation or range clearance operations. Plus specific project or ordnance training.
OE Technician I	3 & 5	0	Successfully completed approved course of instruction to this skill level.

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OE sweep Personnel	Equipment & site specific training	NA	Equipment and site specific training.
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APPENDIX H

REMOVAL DEPTHS

1. Establishing a depth. The preferred method to establish a removal depth is to first estimate the OE depth using site-specific information, particularly data from surface and intrusive sampling. For impact areas, as an alternate method to estimate OE depth in the absence of site-specific information is to use a maximum penetration source document. This method can be used if site characterization information is deemed inadequate. One such document is the Conventional Weapons Effects Program (CONWEP), a computer program that can predict projectile penetration depths. It is available to U.S. government agencies from the U.S. Army Waterways Experiment Station, ATTN: CEWESS-SS-R, 3909 Halls Ferry Road, Vicksburg, Mississippi 39180, and commercial (601) 634-2668.

2. Changing the depth. The proposed removal depth is approved via the Explosives Safety Submission. However, after the removal has actually begun, the removal depth may be changed based on actual conditions encountered. For example, when MEC is consistently found at less than the approved removal depth, the removal depth may be reduced. Such modifications will be submitted as an amendment to the approved OE safety submission.

3. Frost line vs. removal depth. At some sites, MEC can be located down to or below the frost line.

a. In determining the removal depth, the risk assessment must consider the frost line. A phenomenon known as frost heave can move the object to the surface during the freeze and thaw cycles. Frost line depths can be obtained from your supporting facility engineers.

b. In cases where MEC is not cleared to at least the depth of the frost line, the safety submission must address the plan and procedures for performing geophysical surveys and maintenance for the life cycle of the site. The purpose of these surveys is to monitor the site for upward migration of OE.

4. Default removal depths. When site-specific information is not sufficient to determine removal depths, the following default removal depths may be used for interim planning

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purposes. These defaults are guidelines based on the projected end use of the land. The depths are based on a 1992 U.S. Army sponsored study of cleanup at Jefferson Proving Grounds and a 1975 U.S. Army Corps of Engineers study. Both considered the risk to land users from residual ammunition and explosives. The depths are not arbitrary in that they represent a minimum risk to users when the land is cleared to that depth.

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APPENDIX I

RECOMMENDED REFERENCES FOR DEVELOPMENT OF AN ESS

No.	Publication	Title
1	10 USC 2701	Defense Environmental Restoration Program
2	Code of Federal Regulations, Volume 29 Part 55 Subpart k	Storage
3	Code of Federal Regulations, Volume 29 Part 1910.120	Hazardous Waste Site Operations and Emergency Response.
4	Code of Federal Regulations, Volume 40 Part 266 Subpart M	Military Munitions
5	Code of Federal Regulations, Volume 40 Part 300	The National Oil and Hazardous Substances Pollution Contingency Plan (NCP).
6	DoD 4145.26M	DoD Contractors Safety Manual for Ammunition and Explosives (September 1997)
7		DoD and EPA, Management Principles for Implementing Response Actions at Closed, Transferring, and Transferred (CTT) Ranges, Interim Final (7 March 2000)
8		Office of the Deputy Under Secretary of Defense (Installations and Environment) Management Guidance for the Defense Environmental Restoration Program (September 2001)
9	42 U.S.C. 9601 et seq.	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended,
10	10 U.S.C. 2701	The Defense Environmental Restoration Program,
11	29 USC 651 et seq	The Occupational Safety and Health Act
12	42 U.S.C. 6901 et seq	The Resource Conservation and Recovery Act (RCRA), as amended,
13	OPNAVINST 8020.15/MCO 8020.13	Explosives Safety Review, Oversight, and Verification of Response Actions Involving Military Munitions
14	DoD 6055.9-STD	DoD Ammunition and Explosives Safety Standards
15	DDESB Letter	DDESB-KO Guidance for Clearance Plans
16	NAVSEA OP 5 Volume 1	Explosive Safety Ashore
		The following U.S. Army Corps of Engineer's Guidance Documents are not applicable in all cases, however, they provide a great deal of information on all aspects of UXO clearance activities and will prove valuable when reviewing work plans.
17	OE-001.1	Type I (EE/CA) work Plan
18	OE-005-01.01	Type II work Plan
19	OE-005-02.01	Technical Management Plan
20	OE-005-05A.01	Geophysical Prove-Out (GPO) Plan and Report
21	OE-005-03.01	Explosives Management Plan
22	OE-005-04.01	Explosives Siting Plan
23	OE-005-06.01	Site Safety and Health Plan
24	OE-005-07.01	Location Surveys and Mapping Plan

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25	OE-005-08.01	Work, Data, and Cost Management Plan
26	OE-005-09.01	Property Management Plan
27	OE-005-10.01	Environmental Sampling and Analysis Plan
28	OE-005-11.01	Quality Control Plan
29	OE-005-12.01	Environmental Protection Plan
30	OE-005-13.01	Investigative Derived Waste Plan
31	OE-005-14.01	Geographic Information Systems (GIS) Plan
32	OE-015.01	Accident/Incident Reports
33	OE-025.01	Personnel work Standards
34	OE-030.01	Site Specific final Report
35	OE-040.01	Disposal Feasibility Letter Report
36	OE-045.01	Report/Minutes, Record of Meeting
37	OE-055.01	Telephone Conversations/Correspondence Records
38	OE-060.01	Conventional Explosives Safety Submissions (ESS)
39	OE-080.01	Monthly Status Report
40	OE-085.01	Project Status Report
41	OE-100.01	Institutional Analysis and Institutional Control Plan
42	OE-110.01	Recurring Review Plan
43	OE-010.01	Engineering Evaluation/Cost Analysis (EE/CA) Report
		<b>Note:</b> Electronic copies of Army Corps of Engineers publications can be found at
		<a href="http://www.usace.army.mil/inet/usace-docs">http://www.usace.army.mil/inet/usace-docs</a>