

OPNAVINST 8020.14B
18 Jul 2022

**U.S. NAVY
EXPLOSIVES SAFETY
MANAGEMENT PROGRAM
POLICY MANUAL**



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

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N4L
18 Jul 2022

OPNAV INSTRUCTION 8020.14B

From: Chief of Naval Operations

Subj: U.S. NAVY EXPLOSIVES SAFETY MANAGEMENT PROGRAM POLICY
MANUAL

Ref: See Appendix A

1. Purpose. To provide policy and assign responsibilities for managing the U.S. Navy Explosives Safety Management Program (ESMP), as required by references (a) through (d). This instruction is a complete revision and should be reviewed in its entirety.

2. Cancellation. OPNAVINST 8020.14A.

1. 3. Scope and Applicability. The ammunition and explosives (AE) manufacturing, testing, handling, maintenance, developing, demilitarization, munitions response, disposal, transportation, storage and use of conventional ordnance ashore and afloat is inherently hazardous. Therefore, it is imperative that a safety program designed to minimize the potential explosives hazards be aggressively pursued at all levels. The policies and processes contained in this instruction are applicable to:

a. All U.S. Navy commands. This manual implements and amplifies the mandatory AE safety standards of references (a) through (d) as established by the Secretary of Defense (SECDEF), the SECNAV, DoD Explosives Safety Board (DDESB) and the applicable environmental requirements of reference (e).

b. Tenant commands of other military services, Government agencies and contractor operations located on Navy commands and installations.

c. Navy units who are tenants on other military service or foreign host nation installations. Navy commands that are tenants aboard another military service or foreign host nation installation must adhere to the Service's or host nation installation's explosives safety criteria when the explosives safety criteria are more restrictive.

d. Navy commands operating on foreign soil must follow host-nation, applicable multinational or U.S. explosives safety standards, whichever are more protective, unless standards applicability is mandated by international agreement established by the combatant commander. In the event no explosives safety process has been established, Navy commands must adhere to this instruction and other applicable Navy explosives safety related instructions and manuals.

4. Definitions. See Appendix C.

5. Records Management.

a. Records created as a result of this instruction, regardless of format or media, must be maintained and dispositioned per the records disposition schedules located on the Department of the Navy (DON) Assistant for Administration, Directives and Records Management Division portal page at <https://portal.secnav.navy.mil/orgs/DUSNM/DONAA/DRM/Records-and-Information-Management/Approved%20Record%20Schedules/Forms/AllItems.aspx>.

b. For questions concerning the management of records related to this instruction or the records disposition schedules, please contact the local records manager or the OPNAV Records Management Program (DNS-16).

6. Review and Effective Date. Per OPNAVINST 5215.17A, OPNAV N4L will review this instruction annually around the anniversary of its issuance date to ensure applicability, currency and consistency with Federal, Department of Defense (DoD), Secretary of the Navy (SECNAV) and Navy policy and statutory authority using OPNAV5215/40 Review of Instruction. This instruction will be in effect for 10 years, unless revised or cancelled in the interim and will be reissued by the 10-year anniversary date if it is still required, unless it meets one of the exceptions in OPNAVINST 5215.17A, paragraph 9. Otherwise, if the instruction is no longer required, it will be processed for cancellation as soon as the need for cancellation is known following the guidance in OPNAV Manual 5215.1 of May 2016.

7. Forms and Information Management Control. Forms and information collection requirements are provided in reference (a) which may be obtained from <https://www.secnav.navy.mil/doni/default.aspx>.



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Releasability and distribution:

This instruction is cleared for public release and is available electronically only via DON Issuances website, <https://www.secnav.navy.mil/doni/default.aspx>.

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CHAPTER 1
EXPLOSIVES SAFETY MANAGEMENT PROGRAM POLICY AND OVERSIGHT

2. Purpose. To establish Navy ESMP policy and assign management oversight responsibilities as required by references (a) through (d).

3. Scope and Applicability. The policies and processes contained in this instruction are applicable to:

a. All U.S. Navy commands. This manual implements and amplifies the mandatory AE safety standards of references (a) through (d) as established by the Secretary of Defense (SECDEF), the SECNAV, DoD Explosives Safety Board (DDESB) and the applicable environmental requirements of reference (e).

b. Tenant commands of other military services, Government agencies and contractor operations located on Navy commands and installations.

c. Navy units who are tenants on other military service or foreign host nation installations. Navy commands that are tenants aboard another military service or foreign host nation installation must adhere to the Service's or host nation installation's explosives safety criteria when the explosives safety criteria are more restrictive.

d. Navy commands operating on foreign soil must follow host-nation, applicable multinational or U.S. explosives safety standards, whichever are more protective, unless standards applicability is mandated by international agreement established by the combatant commander. In the event no explosives safety process has been established, Navy commands must adhere to this instruction and other applicable Navy explosives safety related instructions and manuals.

e. Contracts for AE.

(1) Operations on Navy installations and other Navy-controlled property. These contracts must require compliance with references (b) and (f). Chapter 19 provides additional guidance on Navy contractor AE operations.

(2) Navy contracts and agreements including AE support for Navy government-owned, contractor-operated (GOCO) facilities awarded, amended or modified one year or more after this instruction is issued must require compliance with references (b) and (g) through (j) at a minimum. Navy explosives safety regulations outlined by reference (f), specific to site planning and deviations must be adhered to; additional Navy explosives safety regulations and associated local requirements will apply if included in contract requirements.

f. Conventional components of nuclear weapons systems and warheads, such as rocket motors, separation charges and igniters as they affect or are affected by storage (e.g., lightning

protection, hazards of electromagnetic radiation to ordnance (HERO), hazard compatibility and explosives safety quantity distance (ESQD) criteria).

3. Background. The SECDEF established basic explosives safety standards and minimum ESQD criteria to be observed by DoD components in the performance of operations involving AE. These standards and criteria apply to U.S. military, civilian and contractor personnel involved in management and operations involving the manufacturing, assembly, testing, ordnance assessment, siting, handling, transportation and storage of DoD AE. The policy also applies to the handling, storage and use of non-DoD, commercial and foreign AE when in custody of a Navy activity or occurs on Navy property.

4. Policy.

a. Per reference (d), the Navy must establish and maintain an effective ESMP that will:

(1) Provide the maximum possible protection to people, property and operations from potential damaging effects of a mishap involving DoD military munitions.

(2) Minimize exposures consistent with safe and efficient operations by exposing the minimum number of essential or non-essential personnel for the minimum amount of time to the minimum amount of explosives.

b. Naval Ordnance Safety and Security Activity (NOSSA), as the DON technical authority for explosives safety, will establish and implement guidance, processes and procedures to manage and execute the Navy ESMP.

c. Reference (k) amplifies this DON policy and provides mandatory technical direction and procedures, including ship design requirements and standards, for the safe handling, stowage and use of all AE afloat.

d. Each activity entrusted with the use or responsibility to develop, test, manufacture, maintain, store and stow, handle, transport, dispose or demilitarize of AE must establish and maintain a viable ESMP.

e. Every installation responsible for developing, testing, manufacturing, maintaining, storing and stowing, handling, transporting, disposing or demilitarizing of AE must appoint an explosives safety officer (ESO) per reference (f). The ESO must serve as the primary point of contact for all aspects of the Navy ESMP on the installation. ESO responsibilities are identified in reference (f).

(1) When tenant command ESOs are present at locations where there is an installation ESO, the installation ESO must oversee compliance of the tenant command's ESMP.

(2) The installation ESO must have direct access to installation and tenant leadership necessary to implement and enforce the installation's ESMP. The installation commanding officer (CO) should provide the ESO the authority to halt unsafe operations and direct root cause analysis as part of corrective action. If the ESO designated for the installation is employed by a tenant or other Navy organization, the ESO must maintain direct access to the installation CO.

(3) Navy installation and command ESOs must not be assigned collateral duties that may interfere with performing their ESO duties. The duty of an ESO is recognized as an inherently governmental position.

(4) The ESO must not serve in a subordinate capacity to the installation or command ordnance and weapons department officer in order to preserve independent explosives safety oversight.

(5) Reference (f) provides specific responsibilities and duties of region, installation and command ESOs. The installation CO may delegate ESO responsibilities to tenant commands; however, the installation CO must acknowledge the risk of delegation in formal documentation such as inter-service support agreements, memorandum of agreement, memorandum of understanding or an instruction, per references (f) and (l) and retain ultimate responsibility for the overall safety of the installation.

f. An installation CO, is responsible for establishing formal documentation of explosives safety roles and responsibilities as defined in reference (f) for tenants that manage AE.

g. Installation tenant commands with an arms, ammunition and explosives (AA&E) requirement will assign a command explosives safety representative, who will coordinate and collaborate with the installation ESO on explosives safety requirements and ensure compliance with reference (f) and this instruction.

h. Navy tenants operating on other DoD component installations that are expected to adhere to installation regulations must do so under formal agreement such as inter-service support agreement, memorandum of agreement or memorandum of understanding. Conflicts between installation and Navy regulations must be addressed and if necessary, will be resolved at Deputy Chief of Naval Operations, Fleet Readiness and Logistics, Director, Logistics (OPNAV N4L) and Assistant Secretary of the Navy, Energy, Installations and Environment (ASN EI&E) for final resolution. Service component explosives safety offices will be involved in the resolution process.

i. Navy-owned contractor-operated properties where AE is managed must have a Navy ESO designated by the Navy program office responsible for oversight. The assigned ESO must complete all required training per reference (f) and develop and oversee a formal ESMP per this instruction.

5. Responsibilities. An effective ESMP is dependent upon command implementation at all levels. The responsibilities identified herein are major aspects of an effective ESMP, but are not to be considered as all-inclusive.

a. ASN EI&E. Per reference (a), ASN EI&E has the responsibility to ensure that the DON has an ESMP in place. ASN EI&E will:

(1) Issue secretarial exemptions or certifications when operational necessity requires deviations from the requirements of reference (b).

(2) Delegate authority to OPNAV N4L to accept risks for Navy activities that need to deviate from explosives safety criteria for a requirement that meets the threshold of being a strategic or compelling operational necessity.

b. Chief of Naval Operations (CNO). OPNAV N4L acts as the Navy executive board member to the DDESB. OPNAV N4L, through the Deputy Chief of Naval Operations, Ordnance Supply Chain Operations Branch (OPNAV N4L11) must, per references (a) and (m):

(1) Nominate two qualified individuals to serve as the Navy's members (one primary and one alternate) and liaison with the DDESB on all matters affecting the Navy contained in references (b) through (d).

(2) Issue policy and procedures and monitor implementation of the Navy ESMP and the AA&E physical security program.

(3) Communicate with the DDESB and other military services, to include the U.S. Coast Guard, when under operational control of the Navy, on matters relevant to the Navy ESMP.

(4) Provide Navy representation to the DDESB, joint staff and other joint forums where explosives safety policy is discussed.

(5) Approve, deny or endorse requests for deviations to explosives safety and AA&E physical security criteria contained in references (f), (k) and (n) or deviations of such criteria or standards established under the authority of ASN or OPNAV.

(6) Approve or deny requests for storage and handling of non-DoD, commercial and foreign AE afloat.

(7) Assign NOSSA, via Commander, Naval Sea Systems Command (COMNAVSEASYSCOM), to serve as the Navy technical authority for explosives safety and function as the principal authority on all matters related to U.S. Navy ordnance handling, storage and transportation safety policy worldwide.

(8) Provide an observer to the Weapon System Explosives Safety Review Board (WSESRB), other joint service weapons safety working groups and Regional Explosives Safety Review Board (RESRB) as required.

(9) Designate an explosives safety career program manager per reference (a).

c. COMNAVSEASYSCOM must:

(1) Manage and administer the technical authority functions of the Navy ESMP and support OPNAV N4L11 in management of the Navy ESMP.

(2) Per reference (o), assign NOSSA to serve as the Navy technical authority for explosives safety and function as the principal authority on all matters related to U.S. Navy ordnance storage, handling and transportation safety policy worldwide.

(3) Publish appropriate documents necessary to provide direction and procedures for amplifying Navy policy on explosives safety.

d. Commander, Naval Safety Command (COMNAVSAFECOM) must:

(1) Develop, formulate and issue Navy safety and risk-related policies and directives guidance for Navy safety programs per reference (l).

(2) Collect explosives and ordnance mishap reports and analyze data with emphasis on cause and statistical trends.

(3) Collect, store and disseminate safety information.

(4) Provide membership to the WSESRB.

(5) Submit explosive mishap report analysis and resolution reports to OPNAV N4L11 and NOSSA annually by 31 December for the previous fiscal year. Copies will be provided to echelon 2 commands.

e. Commander, Navy Installations Command (CNIC) must:

(1) Manage and administer installation explosives safety programs at established regions and installations.

(2) Guide and assist Navy region commands and installation commanders with implementing the policies and procedures contained in this instruction.

(3) Support the installation and facility planning, construction of, sustainment and repair for new or existing AE related facilities including operations in proximity to existing ESQD arcs.

f. Naval Facilities Engineering Systems Command (NAVFACENGSYSCOM) must:

(1) Develop criteria, standards and regulations for facilities, structures and ranges designed for AE operations.

(2) Coordinate with and submit to NOSSA, site approval requests for installation and facility planning for AE and related facilities or operations in proximity to existing ESQD arcs. Ensure compliance of required explosives safety submissions (ESS) and explosives safety deviations. This responsibility applies to all Navy owned property to include GOCO activities that manage AE.

(3) Provide technical representation to RESRB.

g. NOSSA must:

(1) Serve as the DON technical authority and hold the DON technical warrant for explosives safety in support of COMNAVSEASYSYSCOM's responsibilities, per reference (o).

(2) Provide qualified individuals to serve as the Navy's subject matter experts to the DDESB.

(3) Communicate with the DDESB for the Navy with respect to explosives safety technical advice, explosives safety related reports and investigations, explosives safety site plans, munitions response ESS, ordnance environmental issues, AE hazard classification, AA&E physical security and transportation, ordnance electrical safety, lightning protection and grounding, insensitive munitions, explosives safety training, HERO, electromagnetic radiation hazards (RADHAZ) ashore and electrostatic discharge (ESD).

(4) Provide technical expertise, criteria, interpretation and guidance to the office of the Chief of Naval Operations (OPNAV) and Navy commands on matters involving explosives safety, AA&E physical security, handling and transportation and storage of AE.

(5) Provide representation to joint service and multi-national working groups or teams, as appropriate.

(6) Establish and manage DON programs for weapons system safety, explosives safety training, hazard classification, lightning protection and grounding, ordnance electrical safety, HERO, RADHAZ ashore, ESD and insensitive munitions.

(7) Establish and maintain the WSESRB to review all weapon platforms and weapon system acquisition programs as the DON designated technical authority for weapons system safety.

(8) Provide safety guidance and independent comprehensive reviews on the ability of new DON acquisition and afloat platform programs to safely handle and stow AE.

(9) Establish DON criteria for explosives safety ashore and afloat.

(10) Publish instructions, manuals and other publications that provide technical direction and procedures to amplify DoD and navy policy on explosives safety.

(11) Establish and manage Navy programs as they pertain to AE for transportation and shipboard weapons integration explosives safety.

(12) Establish, maintain and manage the RESRB to review all infrastructure related explosives safety issues in support of the Navy's ESMP as the DON designated technical authority for explosives safety. Provide the board chairperson and technical representative(s) for the Navy RESRB.

(13) Provide formal technical review and resolution of all Navy explosives safety site plans worldwide, where explosives are stored, handled or maintained prior to approval or endorsement to DDESB for approval.

(14) Provide explosives safety planning support to new or established Navy installations or property to ensure that new facility construction meets explosives safety criteria.

(15) Serve as the Navy's point of contact for technical explosives safety and ordnance environmental matters involving other DoD components, Federal agencies, foreign services and other public and private agencies.

(16) Review requests for deviations (waivers, exemptions and secretarial exemptions and certifications) from established explosives safety and AA&E physical security criteria and endorse or provide technical advice to OPNAV N4L11 on these requests.

(17) Approve or deny requests for storage and handling of non-DoD, commercial and foreign AE ashore.

(18) Manage explosives safety and ordnance environmental aspects of the Navy munitions response and material potentially presenting an explosive hazard (MPPEH) programs.

(19) Manage ordnance environmental program and provide ordnance environmental technical support to OPNAV N4L, Deputy Chief of Naval Operations, Fleet Readiness and Logistics, Director, Installations (OPNAV N4I) and Navy commands.

(20) Provide Navy point of contact for and oversight of AE personnel qualification and certification (QUAL/CERT) requirements.

(21) Manage the Navy's explosives safety compliance program.

(22) Provide OPNAV N4L11 an annual brief on the status of the Navy's ESMP, including analysis of any trends, by 31 December for the previous fiscal year.

(23) Provide a quarterly brief on the status of explosives safety site approvals to OPNAV N4L11.

(24) Provide afloat magazine certification.

(25) Manage, develop and provide oversight of the Navy's explosives safety specialist community management plan and designate a career program manager on behalf of OPNAV N4L per reference (a).

h. Commanders, COs and Officer in Charge (OIC):

(1) Must take action to fully implement the policies, guidance and procedures within this instruction.

(2) Per references (f) and (l), the installation CO or OIC, as appropriate, is directly responsible for explosives safety to include all tenant activities, personnel and risk to all installation infrastructure and must analyze and characterize the explosives hazard risk associated with site plans that do not violate explosives safety criteria (e.g. glass hazards, lack of adequate lightning protection, storage of hazard class/division (HC/D) 1.4 materials as identified in reference (f). For Navy properties not assigned a CO, the OIC or designated operator of the Navy property is responsible for compliance with the explosives safety requirements outlined in references (b) and (f) by all organizations and personnel on that property.

(3) Host COs must ensure awareness and compliance with the additional applicable environmental requirements pertaining to AE by Federal, State and local governments per references (e) and (l).

i. Navy Contracting or Procurement Officers and other Contracting Offices. Navy contracting and procurement personnel that issue or manage contracts for Navy properties involving AE management must include this instruction as a reference and requirement for explosives safety management, in addition to references (b), (f), (i) and (j).

j. Navy Explosives Safety Council (ESC).

(1) The ESC will be comprised of senior subject matter experts from major commands responsible for developing, implementing and overseeing various aspects of the Navy's ESMP. Principal voting members will include the representatives from the organizations mentioned in subparagraphs 5j(1)(a) through 5j(1)(i) of this chapter.

- (a) OPNAV N4L11 (Chair).
- (b) Commander, U.S. Fleet Forces Command (COMFLTFORCOM) N41.
- (c) Commander, U.S. Pacific Fleet (COMUSPACFLT) N4.
- (d) CNIC N3.
- (e) Commander, Naval Special Warfare Command (COMNAVSPECWARCOM).
- (h) Director, Strategic Systems Programs (DIRSSP) SP-252.
- (i) CO NOSSA N00.

(2) The Chair and full-time members are responsible for ensuring that ESC objectives are achieved. The ESC will:

(a) Act as a forum to gather input for review and update to the Navy's Explosives Safety Policies and procedures which may affect the Navy's ESMP.

(b) Oversee the adoption of appropriate risk management policies and procedures to manage, to the extent possible, all facets of the Navy's ESMP as it applies to current operations and future operational environments.

(c) Develop guidelines for formulating explosives safety standards that can be used to gauge the posture of the Navy ESMP.

(d) Review explosives mishaps and incidents, explosives safety inspections (ESI) and ongoing explosives safety initiatives to evaluate impact to existing policies, programs and investments.

(e) Review proposed or enacted updates to DoD and joint service explosives safety policy and provide requisite feedback to the initiating agency.

(f) Propose updates to DoD or joint service explosives safety policy and champion proposal to the initiating agency.

(g) Review and provide recommendations on DDESB actions to the Navy DDESB board member.

CHAPTER 2
DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD

1. Purpose. To provide guidance and policy for supporting and communicating with the DDESB.

2. Background. Per reference (c), the mission of the DDESB is to provide SECDEF and the Service Secretaries objective advice on matters concerning explosives safety in an effort to prevent hazardous conditions to life and property from the explosive mishaps and environmental effects of DoD munitions. The DDESB explosives safety regulations, reference (b), is binding upon the Navy and is subject to periodic review by the DDESB and Navy. The five primary responsibilities of the DDESB related to this instruction are to:
 - a. Establish AE safety standards for all DoD components ashore by providing guidance for AE manufacturing, testing, handling, maintenance, developing, demilitarization, munitions response, disposal, transportation and storage.

 - b. Implement and monitor AE explosives safety standards outlined in reference (b) through periodic on-site evaluations.

 - c. Review and site approve potential explosion site (PES) and exposed sites of facilities used to manufacture, store, handle, maintain or dispose of AE material.

 - d. Review and analyze reports stemming from major mishaps.

 - e. Review and approve munitions response ESS for the execution of munitions responses for munitions and explosives of concern potentially belonging to or used by DoD components on all sites, whether on or off DoD property.

3. Policy.
 - a. Evaluation. The DDESB evaluates DoD components' ESMP to ensure compliance with reference (d). OPNAV N4L11 will liaison with the DDESB to determine which Navy commands should be evaluated. When notified of a DDESB evaluation site visit, commanders of Navy commands (or the senior Navy representative) must facilitate arrangements with DDESB representatives and follow evaluation procedures as defined in reference (d).

 - b. Site Plan Review and Approval.
 - (1) All Navy projects requiring DDESB approval must be forwarded to the DDESB, via NOSSA per procedures defined in references (f), (p) and chapter 9 of this instruction.

(2) In cases where NOSSA determines that a hybrid site approval is required, a deviation authorization from established explosives safety criteria is required prior to submission to DDESB.

c. Communicating with the DDESB.

(1) All Navy official correspondence intended for the DDESB must be routed via the appropriate chain of command (COC) and NOSSA to OPNAV N4L11. Direct correspondence with the DDESB is not authorized unless directed or approved by OPNAV N4L11. Written communication initiated by the DDESB and addressed to any Navy command, must be re-addressed to OPNAV N4L11.

(2) Direct communication by telephone, facsimile or e-mail with DDESB staff members is not authorized unless initiated by a DDESB staff member; or approved by the Navy member or alternate member to the DDESB. No Navy presentation is to be made to the chairperson or staff members of the DDESB without prior approval of the DDESB Navy member or alternate member. All such presentations should be attended by one of these officials unless attendance is specifically declined.

CHAPTER 3
WEAPON SYSTEM EXPLOSIVES SAFETY REVIEW BOARD

1. Purpose. To define the responsibilities of the DON WSESRB with respect to the introduction of new or modified conventional weapons, weapon systems, operational prototypes and integrated weapon capabilities into service, per references (q) through (t), DoD Directive 5000.1 of 9 September 2020 and SECNAVINST 5000.2F.
2. Background. CNO established the WSESRB to ensure that required explosives safety criteria are incorporated in the design of weapon systems or explosive systems.
3. Policy.
 - a. The WSESRB is the DON designated independent authority on weapon systems safety. Its members are representatives of the systems commands. The chairperson and permanent secretariat are from NOSSA. WSESRB members may seek assistance in technical documentation review and may request attendance of technical experts at WSESRB meetings as deemed appropriate. CNO may provide ex officio members as desired. Procedures for conducting a WSESRB must be developed and issued by COMNAVSEASYSKOM.
 - b. WSESRB safety oversight includes the following weapons or weapon system components when they are used, handled, stored, tested on or transported by a naval unit, regardless of item origin: energetic systems, weapons (including user aspects of non-lethal weapons), directed-energy weapons (DEW), weapon devices and integrated capabilities (software, firmware, hardware or procedures) that manage and control weapons.
 - c. All weapon system programs inclusive of all detect, control and engage elements (integrated or remote), regardless of acquisition category (ACAT) status or source, must conduct a WSESRB before proceeding to low rate initial production, deployment or fielding. WSESRB approval is required for any shipboard testing of developmental weapons or weapon systems.
 - d. Systems commands must obtain a WSESRB recommendation for any changes, alterations, product improvements, engineering change proposals, ordnance alterations or ship change documents to previously approved weapon systems (including software or firmware) that can affect the safety of the platform, AE, weapon, combat system or other related systems. This requirement includes non-developmental and non-ACAT programs.
 - e. The milestone decision authority, program executive officer (PEO) and program manager (PM) must obtain WSESRB recommendation and concurrence during system safety plan development and implementation as one of the exit criteria for a program completing an acquisition phase and advancing to the next acquisition phase or cycle.

f. PEO and PM must obtain WSESRB recommendation and concurrence for all non-developmental or commercially available ordnance items, weapons or control systems, to include foreign weapons. These items or systems must satisfy the same weapon system safety and weapon-related environmental requirements as developmental items. This includes all interface elements required to adapt the items for DON use.

4. Joint Service Weapons Safety Review (JSWSR).

a. The WSESRB is the DON designated independent authority on weapon systems safety. As such, the WSESRB is responsible for supporting all joint Service weapons safety reviews. The WSESRB Chair will Co-Chair JSWSR reviews along with the other Service weapon safety authorities. WSESRB members for JSWSRs will be selected from the WSESRB Secretariat and the Navy systems commands as appropriate. Procedures for obtaining and conducting a JSWSR review can be found in references (q) and (r).

b. JSWSR safety oversight responsibility includes energetic systems, weapons to include user aspects of non-lethal weapons, DEW, weapon devices and integrated capabilities (software, firmware or hardware) that manage and control weapons used, handled, stored or tested on or by a Service unit regardless of origin of the item.

c. All Joint Service weapon system programs inclusive of all detect, control and engage elements (integrated or remote), regardless of ACAT status or source, must conduct a JSWSR before proceeding to low rate initial production, deployment or fielding. As stated in paragraph 3c, specific WSESRB approval is required for any shipboard testing of Joint Service developmental weapons or weapon systems.

d. Any weapon, weapon system or munition that obtains a JSWSR review and concurrence, per references (q) and (r) must have met the requirements of obtaining a WSESRB review and concurrence per reference (s), noting any restrictions imposed by the Navy as part of that review and concurrence.

e. Criteria for determining whether a weapon, weapons system or munition should obtain a JSWSR in lieu of a WSESRB review are provided in subparagraphs 4e(1) through 4e(3):

(1) All weapons, DEW and weapon systems development, acquisition and test and evaluation programs when two or more DoD components will be using the weapon or laser system.

(2) Weapons, DEW or weapon systems are inclusive of all detect, control and engage elements (integrated or remote), regardless of ACAT status or source.

(3) Those fielded legacy systems (weapon, laser or other appropriate system) that were not originally joint Service systems, but which have become joint through multi-DoD component use.

CHAPTER 4
REGIONAL EXPLOSIVES SAFETY REVIEW BOARD

1. Purpose. Provide policy, procedural guidance and assignment of responsibilities for the RESRB.

2. Background.

a. The Navy ESMP focuses on three core component areas to maintain a safe ordnance environment: criteria development, assessments and compliance validation.

b. The RESRB functions as an advisory group within the core component areas of assessment and compliance.

3. Policy.

a. The RESRB should consist of senior explosives safety professionals knowledgeable in explosives safety, mission execution and planning with representatives from: NOSSA (chairperson and technical representative(s), OPNAV N4L11, cognizant Navy component commander (NCC), the region Commander, Naval Facilities Engineering Systems Command (COMNAVFACENGYSYSCOM), region and installation command. The RESRB may be augmented by personnel who are knowledgeable in ordnance environmental issues or other personnel at the request of the chairperson.

b. All regions will be reviewed on a 2 year cycle. A special RESRB may be requested to address new deviations or modifications to existing deviations, regardless of assigned schedule. The special RESRB will be coordinated via the region and installation.

c. Commands having no significant explosives operations, explosives safety facility siting issues or waivers or deviations may request exclusion from a scheduled RESRB review from the chairperson.

d. Hybrid site approvals will be evaluated by the RESRB for compliance and continuation.

e. Region commanders will serve as the local coordinator for reviews and site visits, where applicable. Typically, the regional explosives safety program manager is the coordinator for the regional commander.

4. Responsibilities.

a. OPNAV N4L will issue an annual review scheduled for the current and following calendar year. The schedule will be issued in January and address Navy geographic regions rather than specific commands.

b. NOSSA will:

(1) Issue notifications to all commands in the geographic region 90 days prior to the scheduled review, identifying those scheduled for on-site reviews and those required to provide briefings at a central location based on the OPNAV N4L issued schedule.

(2) Issue a convening order 30 days prior to the review providing a final schedule and requesting input on significant issues.

(3) Coordinate all RESRB reviews.

(4) Provide a chairperson and technical representative(s).

(5) Maintain NOSSAINST 8020.20A, on the policy and procedures for the RESRB program.

c. The Chairperson will:

(1) Provide recommendations on all existing or proposed deviations to explosives safety criteria and significant problem areas presented by the commands.

(2) Certify that the conditions of each secretarial certification are being met and that continuation is required.

(3) Provide OPNAV N4L11 and major commands involved with a final summary report following the completion of each review.

d. The RESRB will:

(1) Assist planning initiatives for emerging fleet requirements respective of current explosives safety criteria.

(2) Support NCC risk decisions when required for deviations at enduring or contingency locations in the preparation or validation of munitions risk management assessments (MRMA) per reference (u).

(3) Provide guidance for the development of new deviations, modifications to existing deviations and the cancellation of existing deviations.

(4) Provide support during the deployment of the automated site-planning tool to installations and regions.

(5) Evaluate protective construction requirements during construction of explosives facility or facilities within inhabited building distance of explosives facilities.

(6) Support fleet or installation evaluation of the impact of new weapons systems and platforms on existing Navy infrastructure during the weapons system acquisition process.

(7) Review explosives safety waivers, exemptions, secretarial certifications and problem areas, to achieve balance between operational readiness and safety criteria.

(8) Evaluate status of deviation corrective actions.

(9) Assess the status of meeting the Navy's mandate to site all AE facilities and ESs by 31 December 2021.

(10) Observe effectiveness of current explosives safety criteria, as it relates to explosives and ammunition, through observation and discussion with installation personnel.

(11) Adjudicate findings and advise NCCs, Navy regions, installations and tenant commands on issues identified during DDESB ESMP and Joint Staff Integrated Vulnerability Assessment evaluations of the Navy;

(12) Provide visibility of explosives safety problems to senior leadership.

CHAPTER 5
EXPLOSIVES SAFETY COMPLIANCE PROGRAM

1. Purpose. To define policy, assign responsibilities and provide guidance for maintaining Navy explosives safety compliance through the utilization of technical assistance, inspections, self-assessments and periodic reviews.

2. Background. Investigative reports from mishaps involving AE often provide possible methods of interrupting the chain of events which led to the explosive incident. Most reports identify that the root cause of the incident could have been avoided had the activity or individuals involved been effectively trained, inspected, supervised or followed prescribed procedures. Per reference (d), the Navy must implement DoD component-level explosives safety standards consistent with references (b) and (c) to ensure effective explosives safety management while meeting mission requirements. References (f), (k), (v) and (w) and this instruction serve as a means to ensure that commands are aware of explosives safety criteria, apply lessons learned, transfer information, communicate problem areas to higher authority and determine the root causes leading up to any explosives-related incident or mishap. Having trained and experienced ordnance personnel in pertinent key staff positions is critical to interrupting event chains which could lead to explosive incidents.

3. Policy.

a. The Navy must establish and maintain an effective method to validate explosives safety compliance per the requirements of references (b) through (d). This includes a means to inspect, review and assess installations, naval vessels, commands and Navy contractors providing AE-related products and services.

b. All Navy commands will be inspected periodically per reference (v) for shore commands or reference (w) for afloat commands.

c. Navy shore and afloat commands must conduct annual self-assessments of their ESMPs per references (t) and (u) to evaluate and ensure compliance with references (f) and (k) and ensure site approval compensatory measures are enforced and documented in standard operating procedures (SOP).

d. A shipboard explosives safety inspection (SESI) must be conducted at least once every 36 months and ESI 18 to 30 months or as directed by reference (k). SESIs and ESIs are conducted to validate that an established and effective ESMP is in place and to provide an objective third party review of compliance with references (f), (k), (v) and (w) and other applicable explosives safety related criteria.

e. Base and facility closings or transfers:

(1) Explosives storage facilities being transferred from Navy control must have a closeout ESI. For facilities being removed from DoD control, a closeout ESI must be included as part of the explosives safety site approval cancellation request submitted to the DDESB.

(2) The host (installation or region) ESO will inspect and request removal of ESQD arcs for facilities where AE was once used and stored prior to that facility being used for a different purpose.

(3) NOSSA is to be notified when a former AE facility is planned for demolition per reference (x).

4. Responsibilities.

a. NOSSA is responsible for conducting:

(1) ESIs of Navy shore commands.

(a) Navy GOCOs and other Navy sites where AE is handled or stored may be subject to an ESI in coordination with property managers; however, other means to inspect, review, access and assess these unique facilities may be warranted and authorized in lieu of a standard ESI.

(2) SESIs of all Navy ships identified in SECNAVINST 5030.8C.

b. COs and OICs must ensure self-assessments are conducted per references (v) and (w) as applicable.

c. ESOs will oversee all management aspects of their ESMP.

CHAPTER 6
ELECTRICAL SAFETY PROGRAMS ASSOCIATED WITH ORDNANCE AND
AMMUNITION AND EXPLOSIVES OPERATIONS

1. Purpose. To provide policy and assign responsibilities for protecting AE from electromagnetic environmental effects.
2. Background. Electromagnetic radiation (EMR) from radio and radar transmitting equipment, static electricity and lightning pose a significant threat to people, fuel and ordnance.
3. Policy.
 - a. Per reference (y) all electrical and electronic systems, subsystems and equipment, including ordnance, ordnance systems, ordnance support equipment and material containing electrically initiated devices (EID), must be compatible in their intended electromagnetic environment) without causing or suffering unacceptable mission degradation. Furthermore, reference (y) states hazards of electromagnetic radiation to personnel (HERP), hazards of electromagnetic radiation to fuel (HERF) and HERO must be mitigated prior to conducting any military exercises or operations. RADHAZ activities program, which includes HERF, HERP and HERO, must include the characterization of the operational electromagnetic environment, ordnance and munition system testing, the creation and implementation of a HERO emission control (EMCON) bill and RADHAZ control measures and the retention of susceptibility data.
 - b. NOSSA will perform periodic HERO surveys per references (z) and (aa). All AE items must be evaluated and certified for ESD per reference (ab) and any AE item containing an electro explosive device or EID must be evaluated and certified for HERO prior to deployment or release for service use.
 - c. Per reference (z), periodic HERO ship surveys and ashore RADHAZ surveys are required to mitigate HERO RADHAZ.
 - d. Afloat commands must have a NOSSA certified HERO EMCON bill per references (k), (z) and (aa).
 - e. Ashore commands must have a NOSSA certified HERO EMCON bill and if applicable, supported by NOSSA certified RADHAZ Control Measures per references (l), (z) and (aa). RADHAZ surveys must be coordinated with and conducted as an installation-wide effort.
 - f. Afloat and ashore commands must objectively address naturally occurring hazards such as lightning and electrostatic accumulation and ensure all AE facilities and AE operations comply with references (f) and (k).

4. Responsibilities.

a. COMNAVSEASYSCOM must:

(1) Through NOSSA, provide and manage comprehensive DON wide HERO, ordnance electrical safety, lightning protection and ESD programs that provide policy, standards and oversight for all naval ordnance commands and for naval ordnance and weapon system acquisition programs as required by references (y), (z), (aa) and (ab).

(2) Provide HERO certification of all DON ordnance and materiel containing EIDs, ESD certification for all DON AE and compile all DON HERO and ESD certification data.

(3) Provide engineering resources and expertise necessary to conduct periodic HERO surveys for installations and commands ashore and forces afloat and develop and provide HERO EMCON bills to mitigate risks affiliated with HERO during the conduct of operations.

(4) Provide engineering expertise regarding lightning protection and ordnance electrical safety. Determine concurrence for lightning protection exceptions and deviations to policy per reference (f).

b. All ashore and afloat Navy commands responsible for managing AE must:

(1) Provide resources and engineering services to establish and maintain systems and procedures to address Lightning Protection, Ordnance Electrical Safety, electrostatic and EMR controls for ordnance and ordnance facilities as a means to mitigate and minimize the impacts of electromagnetic environmental effects as prescribed in reference (f).

(2) Establish and maintain an effective HERO safety program per references (z) and (aa).

(3) Ensure that personnel working with or near radars, antennae and transmitters that can affect ordnance safety are trained on the effects of EMR.

(4) Notify NOSSA of any installation or removal of an electromagnetic radiating system (i.e., radars, transmitters and antennae) fixed and mobile equipment. For shore activities, all new transmitters and antenna installations will be submitted for HERO review per references (x) and (y).

c. COs and OICs of installations must:

(1) Request NOSSA to conduct RADHAZ surveys of their respective installation or activity per references (l), (z) and (aa). Ensure tenant commands are included as part of an installation-wide RADHAZ survey to ensure that all electromagnetic radiating devices (radar,

communication systems and antennae) are accounted for when assessing areas used for AE operations.

(2) Ensure all facilities used in AE operations are equipped with adequate lightning warning systems, lightning protection, ordnance electrical safety, bonding, grounding and surge suppression systems to divert electrical energy away from AE per reference (f).

(3) Request concurrence for exception to lightning protection requirements per reference (f) through NOSSA.

CHAPTER 7
ORDNANCE TRANSPORTATION SAFETY

1. Purpose. To provide Navy AE transportation policy.
2. Background. The Navy AE transportation policies are established to comply with reference (aa). Shippers and receivers of AE play a critical role within the transportation process to ensure adequate controls are in place to manage the hazards and risks associated with AE transportation.
3. Policy.
 - a. All Conveyances.
 - (1) Navy activities will transport AE as required by Federal and State laws and regulations and DoD policies.
 - (2) All Navy commands will ensure that AE offered for transportation is identified properly, hazard classified, packaged, marked and labeled utilizing references (f), (k) and (ac) through (ad).
 - (3) Military standards and weapons requirements, where appropriate, will be followed when preparing, packing and shipping AE material.
 - (4) To ensure compliance with reference (ac), shippers will validate that AE being transported is properly manifested and packaged for movement per reference (ad) and NAVSEA SW020-AC-SAF-010, Rev. 19, 1 August 2016.
 - b. Motor Vehicle Transportation.
 - (1) All motor vehicle carriers transporting ammunition, explosives and related HAZMAT in interstate commerce must comply with the regulations of the Department of Transportation. Safety requirements governing interstate transportation may be imposed by the individual states and by municipalities through which shipments must move. Navy vehicles transporting AE are subject to Navy regulations and all safety regulations applicable to commercial carriers. Per reference (ad), a copy of reference (ae) will be maintained in the vehicle and complied with whenever AE is being transported.
 - (2) Motor vehicle conveyances must be inspected prior to AE being loaded, per reference (b). Upon receipt, an inspection will be conducted to determine if AE was damaged during transit.
 - (3) A Navy activity that authorized HAZMAT for transportation must provide an emergency response telephone number, monitored at all times by a person who is either

knowledgeable of the HAZMAT being shipped or has immediate access to a person who possesses such knowledge and information, as required by reference (ac), section 172.604.

c. Water Trans-Shipments. Navy activities transporting AE or related HAZMAT to a waterside port for follow-on movement using either a naval or merchant vessel must adhere to guidance contained in references (f), (k), (z), (ac), (ae) and DTR 4500-9R Part II, Cargo Movement, May 2014.

d. Air Transportation. Navy activities shipping AE via aircraft will ensure that the requirements described by 14 CFR, NAVSUP P-505, Preparing Hazardous Materials for Military Air Shipments, 9 October 2020, International Air Transport Association Dangerous Goods Regulations and the International Civil Aviation Organization Technical Instructions for the Safe Transport of Dangerous Goods by Air, are followed.

e. Railroad Transportation. Navy activities must follow reference (af) and NAVFAC P-301, Navy Railroad Program Management, August 2018 whenever a need exists to move AE by rail.

CHAPTER 8
PERSONNEL QUALIFICATION AND CERTIFICATION

1. Purpose. To establish a Navy qualification and certification program for personnel who handle AE.

2. Background. Explosives mishap investigation reports show that causative factors typically include improper handling, inadequate supervision, mechanical and design problems and acts of nature. To minimize the probability of mishaps, the potential for personnel errors must be controlled through training (qualification) coupled with a management process designed to prevent inadequately trained personnel from performing AE jobs and tasks (certification).

3. Policy.
 - a. OPNAV N4L will establish and maintain a qualification and certification program for personnel assigned to AE jobs and tasks. This program will incorporate the elements identified in subparagraphs 3a(1) through 3a(4) of this chapter:
 - (1) Responsibility for implementing a qualification and certification program.
 - (2) Specific jobs and tasks requiring qualification and certification.
 - (3) Minimum standards of personnel competency in terms of training, proficiency, level of supervision and safety assurance necessary for safe and successful performance of the job or task.
 - (4) Methods of documenting personnel qualifications and certifications necessary to perform the job or task.
 - b. CO, NOSSA will:
 - (1) Serve as the conduit for formal communications regarding official program policy, guidance and execution across the Navy in support of OPNAV N4L11 objectives.
 - (2) Staff and assign a qualification and certification program manager.
 - c. Qualification and certification program manager, NOSSA will:
 - (1) Serve as the Navy's subject matter expert and technical program manager, providing support to commands with effective policy and implementation of the Navy's qualification and certification program and the implementation of the Navy's electronic Advanced Skills Management (ASM) Program, focusing efforts on continued product improvement, which reflect the needs of Navy.

(2) Maintain Navy qualification and certification management policy documents, focusing efforts on efficiency and policy improvement objectives.

(3) Advise and assist Navy COs and senior site managers in developing and maintaining effective qualification and certification training programs.

(4) Provide guidance and assistance to Navy inspectors and auditors, ensuring qualification and certification compliance in conjunction with investigations, shore station ESIs and SESIs.

(5) Provide OPNAV N4L11 with Navy-wide resource requirements and annual reports.

(6) Evaluate the Navy AE qualification and certification posture and develop cost effective improvements as needed.

(7) Maintain and analyze statistical data on Navy AE qualification and certification matters and monitor AE qualification and certification program objectives to ensure compliance with regulatory policies.

d. Qualification and certification programs for Navy personnel are delineated in reference (ag). Compliance and consistency must be strictly monitored and enforced to assure minimum risk for Navy personnel.

(1) Compliance will be validated during periodic inspections (ESI and SESI), external command audits and explosives safety self-assessments.

(2) Amplification through local instructions beyond standardized training plan development is not authorized. Unique requirements for a special or separate qualification or certification instructions must be approved by OPNAV N4L11.

(3) The use of applicable OPNAV qualification and certification forms is required by all commands establishing a Navy qualification and certification program.

(4) ASM has been approved for use as the electronic management information system for the qualification and certification program. If ASM cannot be used due to operational considerations or network limitations, other electronic information management systems may be used if the system meets all of the requirements of reference (ag). Prior to use of an electronic information system other than ASM, OPNAV N4L11 must be notified via letter through the appropriate COC and NOSSA. The notification letter must include a declarative statement that the alternative system meets all the requirements of this instruction. Contractors are not subject to this requirement. Contractor records may be maintained either manually or electronically.

CHAPTER 9
EXPLOSIVES SAFETY SITE APPROVALS

1. Purpose. To provide policy, guidance and assign responsibilities for the management of real property as it pertains to explosives safety.
2. Background. Per reference (b), the Military Services are required to submit explosives safety site approval requests to the DDESB for review and approval. Reference (b) also requires installations to maintain current installation maps showing approved ESQD arcs or risk-based evaluation distances and site approvals that are reconciled with the installation's master plan. References (f), (p) and NAVFACINST 11010.45A provides Navy guidance and information regarding the automated site planning tool.
3. Policy.
 - a. The installation CO is responsible for obtaining an explosives safety site approval:
 - (1) Prior to starting new construction for facilities within ESQD arcs or otherwise covered by explosives safety criteria.
 - (2) Prior to modification of existing facilities within ESQD arcs or otherwise covered by explosive safety criteria.
 - (3) Prior to starting new explosives operations not previously sited.
 - (4) Prior to change of mission or modifying existing explosive operations where there will be an increased risk, such as increasing the sited explosive limits or changing the HC/D.
 - (5) When NOSSA indicates a new site approval needs to be requested due to discovery of explosives safety violations or changes to explosives safety criteria.
 - b. Limited exceptions to these requirements for explosive safety site approval are provided in reference (b) and (f).
 - c. Explosives safety site approval documentation must be maintained in permanent records by the Navy activity owning the property where the facility or operation was sited.
 - d. NOSSA must review and approve the siting rationale for a proposed facility before contracts are awarded for design and construction of new or modified facilities that require:
 - (1) Protective construction or administrative controls resulting from noncompliance with ESQD criteria,

(2) An explosives safety deviation or

(3) A barricaded intraline (K9) relationship.

e. Risk acceptance for explosives hazards that do not require a deviation as allowed by DDESB TP-26 (e.g., glass hazards, lack of adequate lightning protection and storage of HC/D 1.4 within intermagazine distance from PESs) must be documented and submitted by the installation CO to CO NOSSA as supporting information for site approval requests.

f. In addition to DDESB, NOSSA is authorized to grant explosives safety site approvals and impose limitations and restrictions on the use of a facility when the conditions annotated in subparagraphs 3f(1) through 3f(4) of this chapter exist.

(1) Storage of and operations involving limited quantities of HC/D 1.2.2, HC/D 1.3 and HC/D 1.4 material for reasons of operational necessity. Limited quantities are not to exceed 40 pounds net explosives weight (NEW) for HC/D 1.2.2, 1000 pounds NEW for HC/D 1.3 and 3000 pounds NEW of HC/D 1.4.

(2) Handling of HC/D 1.3 and HC/D 1.4 material (\leq 300 lbs. NEW) necessary for ships security and safety of life at sea.

(3) No additional risk is imposed to personnel or existing facilities.

(4) Where reference (b) authorizes service-level approval of the explosives site approval request.

g. NOSSA is responsible for issuing guidance on technical and documentation requirements for the explosives safety site approval processes and incorporating compensatory measures as required.

h. NOSSA must be provided the opportunity to review and recommend restrictions on proposed leasing of Navy property within 110 percent of inhabited building distance from a PES or increases the number of vehicles or pedestrians passing through existing ESQD arcs. For competitive leasing actions, the explosives safety review of the proposed lease should be conducted prior to public advertising so that appropriate restrictions can be incorporated into the description of suitable use for the parcel or facility.

i. Navy installations must maintain current installation maps and master planning documents that show approved ESQD arcs and explosives safety land-use restrictions. The installation CO is responsible for ensuring that these documents are kept current and available to tenant commands.

CHAPTER 10
DEVIATIONS FROM EXPLOSIVES SAFETY REQUIREMENTS

1. Purpose. To provide policies and assign responsibilities and guidance for requesting, reviewing, approving and cancelling explosives safety deviations within the Navy.

2. Background. There are several kinds of waivers and exemptions: those used in the weapons system process acquisition and those used in AE facility lifecycle with regard to explosives safety ashore. The acquisition process for acceptance or mitigation of risk, during the life-cycle management of a weapon, weapon system or component is codified in reference (t). For explosives safety ashore, SECDEF has authorized the Service Secretaries to grant deviations to governing explosives safety requirements to maintain the readiness of U.S. military forces in situations where full compliance with the DoD AE safety policies cannot be observed. Such deviations are to be granted only for strategic or other compelling reasons.

3. Policy.
 - a. The Navy must establish and maintain a system for developing, reviewing, approving, monitoring and renewing or cancelling explosives safety deviations per references (b) and (c).

 - b. SECNAV has delegated the authorities annotated within subparagraphs 3b(1) through 3b(3) of this chapter.
 - (1) ASN EI&E retains the approval authority for SECNAV explosives safety certifications and special case exemptions (e.g., the Navy's combatant ship exemption).

 - (2) Authority for approving navy explosives safety waivers and exemptions has been delegated through references (a) and (m) to OPNAV N4L.

 - (3) OPNAV N4L, Commander, U.S. Fleet Forces Command (COMUSFLTFORCOM) (N41), Commander, U.S. Pacific Fleet (USCOMPACFLT) (N4); Commander, U.S. Naval Forces, Central Command (N41) and Commander, U.S. Naval Forces, Europe/Commander, U.S. Naval Force Africa (COMUSNAVEUR-NAVAF) (N45) are permitted to approve explosives safety event waivers for a period not to exceed 1 year and must not be issued for the same operation at the same location on a recurring basis without the scenario being evaluated for application of a site approval or a longer term deviation.

 - c. The Navy delegated approving officials for acquisition associated waivers and exemptions at contractor-owned, contractor-operated facilities are the applicable OPNAV warfare sponsors for the Navy. All deviations involving acceptance of risk will be accepted and administered by the component acquisition executive for high risks, PEO for serious risks and PM for low risks. Reviews must be conducted as required by reference (t).

- d. Navy delegated approving commands must take responsibility for and assume all risks from a potential explosive mishap.
- e. A Navy command must initiate a request for explosives safety deviations via the appropriate operational COC whenever a Navy explosives safety standard cannot be met per references (f) and (k).
- f. All explosive safety deviation requests will be forwarded to OPNAV N4L11 via NOSSA for review, monitoring and retention for CONUS locations and to the appropriate combatant commander for OCONUS locations.
- h. Explosives safety deviation submissions must be submitted per references (f), (k) and (p). If the request involves an operation that was evaluated using an operational risk management assessment, per reference (ah), it must be included in the request.
- i. Naval Facilities Engineering Systems Command regional activity must ensure that accurate facility documentation and maps are prepared using enterprise data and are submitted as part of the request package. NOSSA will perform a technical review of the request before submitting for final review and approval to the risk decision authority.
- j. When a request for a deviation is made, the host Navy command must obtain an operational necessity endorsement from submitting activity's flag officer certifying the need for the deviation based upon strategic or compelling reasons.
- k. Tenant commands will notify and inform the host command or base operating support – integrator (BOS-I) if the circumstances surrounding the need for the deviation and assist in the preparation of the deviation request submission. The host command or BOS-I will submit deviation request to include a statement of concurrence. If the host or BOS-I are not in the chain-of-command for the submission, the deviation submission will include a statement of concurrence from the affected command.
- l. The regional commands must provide the area concurrence endorsement for the deviation generated by an installation.
- m. The submitting activity, with concurrence of the host command, must identify the resources necessary to eliminate or mitigate the risk identified for the deviation.
- n. The submitting activity must have a corrective action plan for deviations, when applicable (explore every option available to include new construction or alternate location). The submitting activity must clearly state the reason why an alternative for the deviation is not feasible, how continuing the exemption is in the best interest of the Navy or where significant impairment of the U.S. defense posture would result if the exemption was disapproved or discontinued.

o. The conditions or activity that are under waiver or exemption will be strictly controlled and regulated by the installation CO to preclude additional operations or conditions which might compromise the basis of the originally approved deviation.

p. Waivers and exemptions will be cancelled on their expiration date. When a waiver or exemption is no longer needed, the activity must request cancellation via the same submission process used to obtain the deviation, per reference (f).

q. An ASN EI&E explosives safety Secretarial exemptions and certification do not have an expiration date. However, the RESRB must review each ASN EI&E exemption and certification for continued necessity during its scheduled reviews of an activity. The host Navy installation must endorse the request from the submitted activity to cancel of the secretarial exemption or certification per reference (f).

r. Event waivers submitted per references (f) and (k) are approved deviations on a case-by-case basis for particular evolutions. They are issued for a limited period not to exceed 1 year to meet a specific readiness or operational requirement which cannot otherwise be satisfied. The request and a statement regarding acceptance of risk must be submitted by DoD naval message.

s. Requests for waivers of hot work restrictions and cold iron requirements for ships will be submitted to the fleet commander via the COC for approval per reference (f). In port, requests must include the concurrence of the regional commander and installation CO or designated representative.

t. Waivers for hot work or cold iron authorizations are canceled upon completion of the evolution for which they were issued or at the end of the specified time and date of the waiver.

u. Review and recommendation for continuation or cancellation of an explosives safety deviation will be accomplished as part of the RSERB review. RESRB chairperson may recommend continuation of the deviation if still required in the RESRB report to OPNAV N4L.

v. Deviation requirements at GOCO locations. Any need to deviate from DoD and DON explosives safety policies or procedures must be approved at the level of authority outlined in references (b), (f) and (i).

w. Deviations required at overseas locations. Functional combatant commanders and Service component commanders delegated risk acceptance decision authority by a geographic combatant commander, under the scope of reference (u) can approve operations that do not meet the criteria of references (b) and (f). In these cases, Navy commands acting as the executive agent or BOS-I will prepare deviation requests per reference (f), Appendix I, satisfying the requirements of reference (u), unless operations occur at contingency locations or enduring locations that do not have established explosives safety programs.

(1) Risk acceptance for operations at enduring locations with established explosives safety programs. Requests will be submitted to the component commander, via NOSSA, for approval following the procedures defined in reference (f). The need to continue these operations should be evaluated per reference (u).

(2) Operations at contingency locations and enduring locations that do not have established explosives safety programs. Navy Commands acting as the BOS-I or executive agent, will request support in developing a MRMA from NOSSA. The composition of an assessment team should be established by NOSSA and the resulting MRMA should be submitted to NOSSA through the operational COC for validation of operational requirements and evaluation, prior to submission to the component commander for approval. Operations that exceed 24 months must be re-evaluated to determine if conditions have changed to the extent that the MRMA need to be re-issued or when there is a change in executive agent or BOS-I Commander.

CHAPTER 11
BERTHING OF EXPLOSIVES LADEN SHIPS AT U.S. NAVY CONTROLLED ACTIVITIES

1. Purpose. To establish explosives safety standards for berthing ships and vessels containing AE at U.S. Navy activities.
2. Background. ESQD and risk assessment standards issued by the DDESB and published in reference (f) require that AE being handled, stored or maintained must be kept under the supervision of the Military Services and meet minimum distances from inhabited buildings, passenger railroads, public highways, ships and other facilities and property.
3. Policy.
 - a. The requirements of this chapter apply to all U.S. Navy port facilities and berthed ships and vessels, regardless of registry, containing AE. When outside the United States, comply with host-nation, multinational or U.S. explosives safety standards, whichever are more stringent unless standards applicability is mandated in an international agreement established by the combatant commander.
 - b. The Navy must apply the DoD ESQD standards published in reference (f). Additional restrictions may be imposed by OPNAV N4L or NOSSA for continental United States locations and the NCC of outside the continental United States locations to help control and protect personnel, equipment and in selecting locations for required facilities along the waterfront. Commercial ports with explosive limits published in reference (ai) are not valid explosive locations for cargo ammunition ships and may not be used without a valid explosives safety site approval.
 - c. AE stored in shipboard magazines, launchers or ready service lockers, which are to be used solely in support of the ship's mission by installed shipboard weapons systems or by embarked aircraft and forces, are exempt from the application of ESQD requirements except when it is being handled or is in the process of being stowed per ASN (EI&E) memo of 19 Oct 2005, Secretarial Acceptance of Risk Associated with Ammunition Stored in Combatant Ship's Magazines. This is known as the Combatant Ship Exemption. The exceptions annotated in subparagraphs 3c(1) and 3c(2) apply.
 - (1) If a hatch on a fleet ballistic missile submarine is opened for any operation related directly to the missile (i.e., loading or maintenance), the total NEW of all missiles aboard must be applied to the pier or wharf NEW limit.
 - (2) AE stowed outside of designated ship's magazines, launchers or ready service lockers should be considered cargo ammunition. In such cases, the total NEW of all exposed AE aboard the ship should be used to calculate berthing requirements as specified in this chapter.

d. Amphibious warfare ships carrying landing force operational reserve material, mission load allowances and standard training package AE in appropriately designated storage spaces in support of the ships' mission are exempt from ESQD criteria except during handling evolutions, provided the AE is stored under the conditions delineated in reference (k).

e. Berthing of auxiliary ships (i.e., modular cargo delivery system ships, lighter aboard ships, barges, maritime prepositioning force ships and point-to-point AE shipments carried in Military Sealift Command or commercial vessels) with cargo AE onboard is governed by ESQD requirements of references (b) and (f). These ships must only be berthed or moored at site-approved areas with adequate ESQD arcs. AE aboard to support the ship's organic weapons systems is not counted toward the cargo load and is exempt from ESQD arcs under the combatant ship exemption. Per Deputy ASN EI&E memo of 18 Dec 2013, Secretarial Acceptance of Risk Associated with Ammunition and Explosives Stored Aboard Military Sealift Command Cargo Ammunition Ships, dry cargo and ammunition ship (T-AKE), fast combat support ship (T-AOE) and submarine tender (AS) class ships storing limited amounts of HC/D 1.2.2, 1.3 and 1.4 material do not create ESQD arcs provided the restrictions annotated within subparagraphs 3e(1) through 3e(3) are met.

(1) NEW does not exceed 400 pounds HC/D 1.2.2 material, 2,500 pounds of HC/ D 1.3 material and mission essential quantities of HC/D 1.4 material.

(2) HC/D 1.2.2 material is stored in the ship's main cargo holds.

(3) HC/D 1.2.2 and HC/D 1.3 material are stored in different cargo holds.

f. With the exception of hospital ships, berthed Navy or foreign combatant ships will not be considered exposed sites, from waterfront explosives handling operations. ASN EI&E accepts the associated risk as part of the combatant ship exemption.

g. Commanders and COs ashore must maintain the senior officer present afloat instructions for ports providing berthing for AE-laden ships and barges. The instructions must contain a detailed plan of actions to be taken when confronted with an emergency situation that can involve or affect the ship or barge. The instructions must include specific details for coordination between the ship and support commands. Additionally, senior officer present afloat instructions will contain guidance on the handling of AE at civilian shipyards in their area.

h. All ships carrying AE into a naval shipyard, other than safety of life at sea, small arms security ammunition and concussion grenades stored per references (f) and (k), must have the shipyard commander's authorization to enter the shipyard. When a commercial shipyard is involved, authorization must be granted by the cognizant supervisor of shipbuilding.

i. Specific regulations that support navy policies are provided in references (f) and (k).

j. Additional berthing requirements listed in reference (f) apply when a waiver is issued to permit deviation from ESQD requirements for ships and vessels carrying cargo ammunition.

k. Foreign registered vessels.

(1) General guidance regarding procedures for foreign registered vessels entering a U.S. controlled port is contained in OPNAVINST 3128.10G.

(2) All foreign registered vessels carrying AE should be directed to use a Navy port if available.

(3) In the event a Navy port is not available, the port master should make every provision possible to provide berthing for an AE laden ship that must provide adequate security and the necessary safe separation distance from other vessels, HAZMAT sites or PES.

(4) All foreign naval vessels moving or handling AE while in port should be moored at an explosives site approved berth, wharf or anchorage capable for the amount of exposed AE.

(5) Any foreign vessel carrying AE not in direct support of the ship, embarked force or assigned aircraft is considered to be a cargo ammunition ship. These ships must be moored at an explosives site approved pier, wharf or anchorage capable of supporting the total NEW of both the ship's embarked AE and any exposed AE.

CHAPTER 12
HANDLING AMMUNITION AND EXPLOSIVES IN PORT

1. Purpose. To establish the explosives safety standards which govern the handling of AE in port. Specific regulations supporting these policies are provided in references (f) and (k).
2. Background. Ammunition handling operations in port create unique circumstances by virtue of the increased risk imposed on personnel not directly involved with the AE handling evolution and infrastructure. This risk must be thoroughly assessed, mitigated wherever possible and strictly controlled to minimize hazards and to maximize safety.
3. Policy. AE handling must be permitted in those specific locations authorized by site approvals or approved deviations.
 - a. AE logistics movements at Navy ports will be conducted per reference (f). Maintenance movements and weapons systems operability tests as applied to the combatant ship exemption are to be conducted internal and inside the skin of the vessel so as not to generate an ESQD arc. When maintenance moves are required outside or external to the skin of the vessel they must be conducted within the condition established by the senior officer present afloat instruction at an authorized pier, wharf or berth approved for the HC/D and NEW of the explosives being handled or moved. HERO EMCON will be instituted and the passage or access of non-essential personnel onboard the ship prohibited.
 - b. The handling of AE in port will be permitted only in those specific locations authorized by site approval or deviation and under the conditions and requirements established in order to assure a proper explosives safety environment during such handling. Each site approval or deviation must establish an explosive limit for each authorized handling pier, berth, wharf, point or location, based on the HC/D of material being handled. Commercial ports with explosive limits published in reference (ai) are not valid AE handling locations.
 - c. Hot work may not be performed at an ammunition terminal pier while any form of AE handling evolution is underway at the same pier or wharf, unless specifically permitted by reference (f).
 - d. Transportation routes must minimize exposure of personnel and property. Appropriate security for each movement must be provided.
 - e. Per reference (e), intentionally dumping or disposing of munitions at sea is prohibited except to safeguard life or safety of the ship.

CHAPTER 13
MANAGEMENT OF MATERIAL POTENTIALLY PRESENTING AN EXPLOSIVE
HAZARD

1. Purpose. To provide policy and guidance for the management and disposition of MPPEH.

2. Background. The potential for MPPEH to present an explosive hazard is the single characteristic that distinguishes it from other DoD material. MPPEH can be grouped into five broad categories based on material type. These categories include military munitions and munitions debris, range-related debris, other debris, munitions containers and packaging material and munitions-related facilities and equipment. The explosives safety status of MPPEH must be determined and documented by qualified and authorized personnel prior to release from Navy control. MPPEH, after it is inspected, is either determined to be material documented as safe (MDAS) or material documented as an explosive hazard (MDEH).

3. Policy.
 - a. Manage MPPEH in a manner that supports operational readiness and mission requirements, per reference (aj); in compliance with supply chain material management policies, per DoD Instruction 4140.01 of 6 March 2019; explosives safety standards, per DoD Instruction 4140.62 of 2 August 2015, references (b) and (ak); and environmental requirements, per DoD Directive 4715.1E of 19 March 2005, DoD Instruction 4715.06 of 4 May 2015, 40 CFR 266.M and DoD Instruction 4715.23 of 24 October 2016.

 - b. Ensure contracts or other legal agreements require compliance with the MPPEH requirements contained in references (j) and (ak) by all non-DON entities that possess, manage, process or disposition MPPEH, MDAS or MDEH for the Navy.

 - c. Ensure that MPPEH is not transferred within or released from Navy control unless its explosives safety status has been determined and documented as either MDAS or MDEH.

 - d. Ensure that a chain of custody is established and maintained for MDAS and MDEH to prevent misidentification or commingling with other materials. If the chain of custody is compromised for MDAS or MDEH, the material must then be managed as MPPEH again.

 - e. Ensure that only designated qualified and authorized personnel who have completed the training required by reference (f) determine and document the explosives safety status of MPPEH as either MDAS or MDEH.

 - f. Comply with other requirements, such as trade security, demilitarization and environmental requirements that may apply to MPPEH, MDAS or MDEH.

g. Require Navy shore installations and ships to include on-site contractor support that managing MPPEH, MDAS and MDEH to develop written procedures per references (f) and (k), respectively, at a minimum.

h. Require Navy GOCOs and non-DON entities that manage MPPEH, MDAS and MDEH to develop and follow written procedures per references (j) and (ak), at a minimum.

CHAPTER 14
INERT, PRACTICE AND SERVICE AMMUNITION

1. Purpose. To define policy for management of inert, practice and service ammunition under navy control.
2. Background. Ammunition not properly identified and controlled as being inert can cause mishaps, which may result in the loss of life, personal injury, property damage or false alarms. Proper identification and control of ammunition is critical to maintaining an effective ESMP.
3. Policy.
 - a. Inert, practice and service ammunition must be identified, managed and controlled per references (f), (k), (ag) and (al). Records must be maintained cradle to grave to document final disposition.
 - b. Only inert ordnance items certified as being completely free of explosive material or ordnance items manufactured inert, may be used for classroom training, training aids and display. Both are controlled and managed per references (ag) and (al).
 - c. Inert ordnance items must not contain hazardous substances such as batteries, high pressure vessels or other devices such as spring loaded high tension assemblies which may cause injury unless a valid training requirement exists and controls are in place to minimize the probability of mishap.
 - d. Ordnance items fired for demonstrations, ceremonies, public functions and patriotic occasions must be of the service or practice type which presents the minimum safety risk.
 - e. All PMs, PEOs and their agents must ensure that sufficient inert ordnance items are procured to support the Naval Education and Training Command and fleet training requirements.
 - f. Only inert ordnance items may be used while in port or at anchor during shipboard weapon system loading or arming drills per reference (ag).
 - g. Classroom training and loading drills must be conducted with certified inert ordnance items per reference (ag).
 - h. Per references (f) and (k), only authorized personnel will certify ordnance items as inert.
 - i. Inerting ordnance items while afloat is not authorized.

j. Commands, including naval museums, must maintain a record of all ordnance items under their cognizance that have been certified inert or procured as inert per references (f) for shore commands and (k) for afloat commands.

k. Service ammunition contains explosive material and is intended for combat use or operational training. It must not be used in lieu of inert ammunition without formal approval, via message or letter, from the applicable type commander (TYCOM) per reference (ag).

l. Ammunition that is manufactured specifically for display purposes, empty or with inert material installed does not require inert certification. Examples are cut-aways, items manufactured via digital printers, replicas or models that are not to scale. In addition, ammunition that has been inerted by a manufacturing or maintenance facility designated by the ammunition program manager does not require certification. All other ammunition that has had explosive material removed and left empty or replaced with inert material will be certified inert per reference (f).

m. Three-Dimension (3-D) Replicas.

(1) 3-D items are designed to replicate ordnance items and explosive devices for display, training and testing purposes and should not be considered ammunition. 3-D printed items of any material, designed to mimic the characteristics of individual parts or whole munition items including explosives related devices or hazards, only simulate the presence of explosive hazards; and should therefore be readily identifiable to prevent misidentification.

(2) 3-D printed items should be clearly marked and accounted for by the owner via logbook or recorded by electronic means. The manufacturer or owner will maintain accountability of the item via:

- (a) Item description.
- (b) Assigned local serial number.
- (c) Manufacturer's or owner's official name.
- (d) Item location.
- (e) Final disposition.

(3) Data may be maintained electronically provided all requirements identified in paragraphs 3m(2)(a) through 3m(2)(e) are met. Electronic signatures are authorized.

CHAPTER 15
EXPLOSIVES SAFETY ON NAVY OPERATIONAL RANGES

1. Purpose. To define policy for explosives safety on Navy operational ranges where military munitions are being or have been used per references (b), (am) and (an).
2. Background. The Navy has a responsibility to sustain the highest levels of readiness to meet mission requirements while protecting the public and operating in an environmentally responsible manner. The Navy must use and manage operational ranges in a manner that minimizes safety hazards and risks and ensures long-term sustainability.
3. Policy. It is Navy policy to use and maintain operational ranges in a manner that supports national security objectives while limiting to the extent practical the potential for explosives mishaps and the damaging effects to personnel, operational capability, property and the environment.
4. Responsibilities.
 - a. Navy Commanders, COs and OICs both ashore and afloat (as applicable), must:
 - (1) Ensure small arms ranges are located and constructed per UFC 4-179-02 of 05 March 2020 and have documented design certification and explosives safety sited areas as appropriate per reference (f).
 - (2) Ensure operational range clearance requirements are established and implemented per references (ao) and (ap).
 - (3) Restrict access to operational ranges, especially impact areas and other areas suspected of containing unexploded ordnance (UXO) per reference (am) and (an).
 - (4) Take appropriate action to prevent unauthorized access to operational ranges. Such actions include establishing access controls (e.g., posting UXO hazard warning signs, fencing the area, establishing roving security patrols) and providing public notifications of potential hazards.
 - (5) Ensure individuals authorized to access operational ranges are provided appropriate explosives safety training (i.e., Hazard Control Brief) prior to entering the range per NOSSAINST 8023.11D and references (am) and (an).
 - (6) Establish guidelines to determine when individuals with authorized access to the operational range require an escort.
 - (7) Ensure procedures are in place to:

(a) Notify installation personnel and the public of range operations that may present an explosive hazard off of the operational range per references (am) and (an).

(b) Ensure explosives safety procedures are in place to promptly respond to protect personnel, the public and property from such hazards both on and off of the installation per references (f), (am), (an) and (aq).

(8) Ensure requirements of references (am) through (ap) are followed when a hazard assessment is conducted. Hazard assessments are required when new munitions are authorized for use on the range, new hazards are identified, new clearance methods are used or when intrusive work is planned.

(9) Maintain records related to military munitions expended on operational ranges per references (f), (am), (an) and (aq).

(10) Ensure operational range management plans required per references (e), (aj), (am) and (an) include range-specific explosives safety responsibilities and procedures.

(11) Establish safe and practical methods for managing and dispositioning MPPEH generated from munitions and range-related debris per chapter 13 of this instruction.

(12) Per references (am) and (an), minimize the use of munitions containing sub-munitions or depleted uranium that are required to support national security objectives.

(13) Identify, manage and site facilities used to store military munitions to include waste military munitions located on an operational range per references (f) and (aq).

CHAPTER 16
AMMUNITION AND EXPLOSIVES STANDARD OPERATING PROCEDURES

1. Purpose. To provide policy for developing, writing and maintaining SOPs for operations that involve the handling, storage, manufacturing, assembly, transportation, demilitarization, disposal and testing of AE material.
2. Background. Lack of written procedures, use of inadequate or incorrect procedures and failure to adhere to approved written procedures have resulted in mishaps that caused personnel injury, loss of life and damage to property.
3. Policy.
 - a. All processes that involve the handling of AE must be conducted with approved SOP. These procedures must provide all the direction necessary for the safe and effective conduct of operations as directed by references (f) and (k) and operational risk management principles of reference (ah).
 - b. NOSSA has issued criteria through NOSSAINST 8023.11D for the development and use of SOPs for AE operations.
 - c. The supervisor of shipbuilding must work with the host contracting representative in developing SOPs for the handling of AE within the shipyard(s).

CHAPTER 17
EXPLOSIVES SAFETY REVIEW, OVERSIGHT AND VERIFICATION OF MUNITIONS
RESPONSES

1. Purpose. To issue policy, define authority and assign responsibility for response actions involving munitions and explosives of concern (MEC) and MPPEH.
2. Background. Prior to the start of munitions response activities on real property that is known or suspected to contain either MEC or MPPEH, the Navy must obtain DDESB approval of munitions response ESS for the proposed operations, per references (b), (f) and (v). Munitions responses are not limited to sites within the Navy's Munitions Response Program and can occur on any real property, other than operational ranges, where MEC or MPPEH are known or suspected to be present. Guidelines for developing these submissions are contained in reference (ar).
3. Policy. The Navy must provide the maximum possible protection to people and property from the potential damaging effects of military munitions, to minimize exposures consistent with safe and efficient operations and address the explosives safety hazards associated with real property known or suspected to contain military munitions. For real property known or suspected to contain MEC or MPPEH, explosives safety hazards must be addressed prior to: conducting a munitions response, changing land use to a use that is incompatible with the degree of MEC or MPPEH potentially present, performing intrusive or ground disturbing activities during construction or transferring or leasing such property from DoD control. Subparagraphs 3a through 3d provide additional detail.
 - a. All munitions responses at real property known or suspected to contain MEC or MPPEH must have approved plans and appropriate documentation that address the explosives safety and environmental aspects of the munitions response per references (b), (f), (x), (aq) and (ar).
 - b. NOSSA must provide oversight for the implementation of munitions responses and, upon completion of these munitions responses, verify that appropriate explosives safety actions were properly taken per references (x) and (ar).
 - c. Human health and environmental responses will be integrated with those addressing explosives safety to the extent practical and per references (e) and (ar).
 - d. All explosives or munitions emergency responses (i.e., Level I and Level II as defined in reference (aq)) involving military munitions at other than operational ranges must be documented and forwarded to NOSSA N45 to be maintained in an explosives safety repository per reference (x).

CHAPTER 18
INCIDENT AND MISHAP REPORTING

1. Purpose. To provide policy and guidance for the notification, investigation and reporting of Navy explosive related incidents, malfunctions, hazards, including near misses and mishaps.
2. Background. Preventing explosives mishaps should enhance operational readiness of naval forces by reducing scenarios that can cause personnel injury, destruction of property or damage to the environment. Prompt reporting of an incident, malfunction or mishap allows leadership to begin an investigation to gather facts, analyze data and determine root causes that led to the mishap. This information is important to prevent a reoccurrence and to share lessons learned.
3. Policy.
 - a. The DDESB requires notification and collection of information from mishaps and hazards involving AE or chemical agents per reference (at) and DoDI 6055.07 of 6 June 2011. OPNAV N4L11 will provide DDESB with information on mishaps occurring at Navy activities involving Sailors or Navy contracted personnel as required by reference (d).
 - b. Navy serious incidents or special media reports involving AE must be reported to OPNAV N4L11 for appropriate action and dissemination per reference (as).
 - c. Navy commands must report all explosive and chemical agent mishaps and hazards per reference (at) to Commander, Naval Safety Command (COMNAVSAFECOM) for any of the reasons annotated in subparagraph 3c(1) through 3c(3) of this chapter.

Note: Per the Chemical Weapons Convention to which the U.S. is a State Party, the treaty thereof and 15 CFR Parts 710 through 729, the DON does not develop, produce, otherwise acquire, stockpile or retain chemical weapons. Any description in this instruction or associated references pertaining to chemical agents are in related to the possibility of recovering prohibited chemical agents or weapons as captured enemy ammunition, former munitions sites predating the ratification where contamination may still exist or ammunition containing toxic chemicals or precursors not prohibited by the Chemical Weapons Convention.

(1) Explosive Accident. An unplanned explosion or fire involving an explosive material or system. This includes inadvertent actuation, jettisoning, release or launching thereof resulting in a fatality or injury to personnel, fire, explosion or damage to property. Explosive accidents are broken down into two categories, Explosive Event and Explosives Mishap.

(2) Explosives Event. Any event involving conventional ordnance, ammunition, explosives, explosive systems and devices resulting in an unintentional detonation, firing, deflagration, burning, inadvertent launch or launching of ordnance material (including all ordnance impacting off range), leaking or spilled propellant, fuels, oxidizers or chemical weapon

release. This pertains to all events that do not meet the severity classification of Class A, B or C per reference (at). They will be reported via an explosives event report.

(3) Explosives Mishap. Any event involving conventional ordnance, ammunition, explosives, explosive systems and devices resulting in an unintentional detonation, firing, deflagration, burning, inadvertent launch or launching of ordnance material (including all ordnance impacting off range), leaking or spilled propellant, fuels, oxidizers or chemical weapon release. Accidents and incidents defined as explosive mishaps and meeting the severity classification of a class A, B or C, will be reported via an explosives mishap report.

d. Explosive mishap reports and hazard reports, as defined in reference (at), must be reported using the DON Risk Management Information program of record for safety report reporting even if an ordnance system works as designed and human error contributed to an incident or mishap.

e. Conventional ordnance deficiency reports and explosives event reports must be submitted by Navy activities per references (au) and (av). Naval Air Systems Command and COMNAVSEASYSCOM must analyze collected data, propose solutions and enact procedures that should lead toward minimizing the reoccurrence of similar types of incidents.

f. Negligent Discharge. An unplanned discharge of a firearm caused by failure to observe the four universal weapon safety rules. Notifications of negligent discharges must be made per references (as) and (at) as either an operational report (OPREP)-3 Navy Blue or OPREP-3 Navy Unit situation report dependent on personnel injury or media attention.

g. References (at), (au) and (av) must be reviewed to determine if an investigation is required. Additionally, the aforementioned references should provide information on how to initiate, establish, conduct and complete an investigation. Investigations should also require periodic reports regarding status, findings, causes and contributing factors that can help others deduce a conclusion which may lead to modification of a weapon, weapon system or discontinued use.

h. COMNAVSAFECEN will maintain a repository of completed investigative reports regarding hazards, including near misses, as well as major and serious AE mishaps that occur on a Navy activity.

CHAPTER 19
NAVY CONTRACTOR AMMUNITION AND EXPLOSIVES OPERATIONS

1. Purpose. To provide explosives safety policy for work being performed through contractual or agreements, per references (b), (f) through (h) and (n), on U.S. Navy installations where AE is managed by contractor personnel. On U.S. Navy-owned GOCO property, references (b), (g) through (j), at a minimum, pertain and Navy explosives safety regulations outlined by reference (f), specific to site planning and deviations must be adhered to, additional Navy explosives safety regulations and associated local requirements will apply when included in contract requirements.

2. Background.

a. Responsibility for compliance with occupational and industrial safety and health standards issued under Public Law 91-596 Occupational Safety and Health Act of 1970 rests with the individual prime contractor and any sub-contractor(s).

b. Responsibility for the administration and enforcement of Occupational Safety and Health Act standards rests with the U.S. Department of Labor, unless otherwise provided by special agreement between the Secretaries of Labor, Defense and Navy covering contractor operations on defense installations during periods of national industrial mobilization.

c. DoD prescribes and enforces applicable explosives safety standards in references (i) and (j) for work performed under DoD contracts. DFARS 223.370-3(b) allows the DoD Components (e.g., U.S. Navy) to apply their own AE and other safety standards to DoD contractors performing work at DoD facilities, provided Navy and local requirements are included in the contracts. These standards support minimizing the potential for AE mishaps that could interrupt DoD operations, delay project or production completion dates, adversely impact the DoD production base or capabilities, damage or destroy DoD-owned facilities, material or equipment, cause injury to DoD personnel or endanger the safety of the general public.

3. Policy.

a. For all contracts awarded or modified after this instruction is issued that include AE support, contracting and procurement officers must incorporate references (b), (g) through (j) and when required reference (ag), at a minimum and this instruction, into all contracts on Navy-owned property.

b. Physical Security of Sensitive Conventional AE in the custody of contractor-owned facilities must be safeguarded per enclosure (9) of reference (h), at a minimum and per individual program customer security requirements.

c. Contracting officers and program managers will consult with cognizant AE physical security managers and cognizant explosives safety managers or local Navy ESO, to ensure

pertinent explosives safety and AE physical security publications and references are incorporated into contracts that include AE support. For Navy GOCOs, contracting officers and program managers will consult with Command explosives safety and AE physical security subject matter experts regarding contractual content and direction that pertains to explosives safety and AE physical security.

d. Contracts issued for AE operations on:

(1) Navy installations will require compliance with references (b) through (j), (n) and (ag), in addition to applicable regional and local references.

(2) Navy-owned GOCO properties will require compliance with references (b) and (g) through (j), at a minimum. The regulations outlined by reference (f), as well as Federal, state and local environmental regulations, at a minimum.

e. Inspections and site visits on GOCOs will be coordinated with the Navy site manager and responsible program office.

CHAPTER 20
NAVY EXPLOSIVES SAFETY SPECIALIST TRAINING REQUIREMENTS

1. Purpose. To provide policy and requirements for Navy explosives safety training and assign management oversight responsibilities as required by reference (a) and SECNAVINST 12410.25B.

2. Background. An effective ESMP is dependent upon trained and proficient personnel that fully understand the principles of explosives safety; especially when applied to the unique and varied missions that these personnel support. Explosives safety specialists must be intimately familiar with all governing DoD and DON explosives safety policies applicable to their missions in order to effectively execute this critical responsibility. Formal training, on-the-job experience and exposure to a variety of explosives safety disciplines is essential to achieving fluency in the explosives safety field.

3. Scope and applicability. Reference (aw) issues DON Explosives Safety Career Management Plan and job qualification requirements; it also defines the associated roles and responsibilities within the 0017 Explosives Safety career field. Competency in the 0017 career field requires extensive training and work experience in explosives safety. Reference (aw) and the contents of this chapter provide explosives safety specialist with a roadmap for career development. This information provides a framework for developing competencies required of personnel in the 0017 career field from entry to senior level positions; furthermore it establishes a generic path for career path progression in support of workforce accession, sustainment and succession. Activities hiring for a 0017 position must incorporate explosives safety skills and competencies in recruitment and retention tools contained in this chapter and reference (aw); they provide baseline standards for assessing potential new hires. Commands may and should add additional command-specific requirements to augment the mandatory training cited in reference (aw) to meet specific mission requirements. The aforementioned DON Career Management Plan can be accessed from the NOSSA Restricted Web site <https://nossa.dc3n.navy.mil/nrws3/tabid/91/Default.aspx?tags=ES>.

4. Explosives Safety Training. A fully trained explosives safety specialist is a skilled civilian professional that is trained to understand and implement explosives safety regulations and, if necessary, evaluate the risks and hazards associated with conventional AE.
 - a. A variety of training is available, including on-the-job training, formal classroom instruction, distance learning and seminars. Acquiring learning credits through additional instruction can greatly supplement work experience. Industry training seminars and certification preparation are available through programs accredited by the International Society of Explosives Engineers, such as the Explosives Academy. DDESB Technical Paper 27, Explosives Safety Training Program, 27 March 2013 contains a list of available industry programs.

b. Training Requirements. Training requirements for explosives safety specialists are outlined in Appendix D of reference (f), Appendix E of reference (k) and reference (aw). Completion of the explosives safety courses and continuing professional training is required to ensure the requisite level of knowledge is maintained at all levels. Explosives safety specialists and explosives safety program managers that are newly hired, move latterly or are promoted to a senior 0017 position must meet the minimum training requirements contained in reference (aw) within 24 months of appointment. Course and registration information for web-based training or instructor lead training and current year training schedule can be found on the NOSSA restricted Web site.

c. Workshops and Seminars. All installation explosives safety specialists and explosives safety program managers should actively participate with DoD, DON and Navy explosives safety seminars and workshops. Attendance at a workshop or seminar will count as continuing training.

5. Continuous Training. Explosives safety specialists who have received certification should complete at least one additional explosives safety or professional development course per year. This course is separate from any course that requires periodic re-certification. The Defense Ammunition Center Course Catalog and Career Management Plan references contain multiple courses that will benefit career progression and professional development.

CHAPTER 21
AFLOAT MAGAZINE SAFETY AND CERTIFICATION

1. Purpose. To develop and maintain a robust magazine certification process. Magazine certification will be used to ensure explosives are stowed in the least hazardous environment possible.
2. Background. It is essential to ensure that explosives are stowed in the safest and most controlled environment as possible due to the dynamic nature of the shipboard environment. Ship magazines must be in full compliance with references (k), (n), (w), (ah), Naval Ships' Technical Manual S9086-XG-STM-010 and NAVSEA S9040-AA-GTP-010/SSCR.
3. Policy.
 - a. All shipboard ammunition magazines will be certified prior to the stowage of AE and will be maintained to meet all minimum requirements necessary for continuous certification.
 - b. Shipboard ammunition magazines will be certified during the SESI periodicity per reference (w). NOSSA will be the certification authority and magazine certification will be conducted during the SESI periodicity. TYCOMs will track certification status for the commands under their cognizance.
 - c. NOSSA will grant certification post-construction once:
 - (1) The magazine sprinkler system certification is completed.
 - (2) The ship has completed the explosive safety design validation per NOSSAINST 8020.1A with no major deficiencies and no preponderance of minor deficiencies.
 - (3) The ship has completed their consolidated operability test with no major deficiencies and no preponderance of minor deficiencies.
 - (4) In addition to these programs, submarines may not have any major or preponderance of minor deficiencies pertaining to torpedo rooms.
 - d. NOSSA will certify the AE magazines, via official correspondence (message or formal letter), delineating the compartment names and numbers of the certified magazines to the CO and stating that they are certified as safe to stow AE.
 - e. Once certification is obtained, the certification will be reviewed during the scheduled SESI. Certification must remain valid if no major findings and no preponderance of minor findings are identified.

f. Major magazine findings that cannot be corrected prior to the NOSSA SESI team's out brief must be re-inspected by NOSSA within 60 days of the date of the inspection report to verify the major magazine findings are corrected.

Note: If ammunition must be retained in the affected magazine, the ship will conduct a risk assessment per reference (ah) to ensure hazards are identified and controls are in place to mitigate risk.

g. NOSSA will review all SESI reports for magazine deficiencies and document shipboard magazine compliance.

h. Findings Adjudication. All major findings will be formally documented via official NOSSA correspondence (SESI report, message or formal letter) as part of a closed-loop tracking system. Magazine certification letters will inform the TYCOM and ship of the overall safety posture and capability to safely and securely handle and stow AE. Per reference (w) the TYCOM and ship will provide NOSSA with a corrective action plan to include actions taken to correct all discrepancies. Upon correction of all outstanding findings a new magazine certification will be issued from NOSSA. A copy of each magazine certification letter will be provided to the ship and TYCOM as well as retained in NOSSA's tracking system.

APPENDIX A
REFERENCES

- (a) SECNAVINST 5100.10L
- (b) Defense Explosives Safety Regulation 6055.09, Edition 1, 13 January 2019
- (c) DoDD 6055.09E of 18 November 2016
- (d) DoDI 6055.16 of 29 July 2008
- (e) OPNAVINST 5090.1E
- (f) NAVSEA OP 5, Volume 1, Seventh Revision, Ammunition and Explosives Safety Ashore, 15 January 2001
- (g) DFAR 252.223-7002
- (h) DoDM 5100.76, Physical Security of Sensitive Conventional Arms, Ammunition and Explosives (AA&E) of 17 April 2012
- (i) DoDI 4145.26 of 9 April 2005
- (j) DoDM 4145.26, DoD Contractor's Safety Manual for Ammunition and Explosives of 13 March 2008
- (k) NAVSEA OP 4 Twelfth Revision, Ammunition and Explosives Safety Afloat, 15 July 2019
- (l) OPNAV M-5100.23 of 5 June 2020
- (m) OPNAVINST 5430.48E
- (n) OPNAVINST 5530.13D
- (o) NAVSEAINST 5450.117A
- (p) NOSSAINST 8020.22
- (q) DoDI 5000.69 of 9 November 2011
- (r) DoDM 5000.69, Joint Services Weapon Safety Review (JSWSR) Process of 30 July 2014
- (s) NAVSEAINST 8020.6E
- (t) DoDI 5000.02 of 23 January 2020
- (u) CJCSI 4360.01C
- (v) NOSSAINST 8020.14G
- (w) NOSSAINST 8023.12C
- (x) OPNAVINST 8020.15B
- (y) DoDI 3222.03 of 25 August 2014
- (z) NAVSEAINST 8020.7D
- (aa) NAVSEA OP 3565 Volume 2, Nineteenth Revision, Electromagnetic Radiation Hazards (Hazards to Ordnance), 1 July 2016
- (ab) NAVSEAINST 8020.19
- (ac) 49 CFR
- (ad) NAVSEA SW020-AG-SAF-010, Eleventh Revision, Navy Transportation Safety Manual for Ammunition, Explosives and Related Hazardous Materials, 1 February 2017
- (ae) NAVSEA SW020-AF-HBK-010, Seventh Revision, Motor Vehicle Driver and Shipping Inspector's Handbook for Ammunition, Explosives and Related Hazardous Materials, 1 December 2014
- (af) NAVSEA SW023-AK-SAF-010, Second Revision, Movement and Inspection of Arms, Ammunition, Explosives and Related Hazardous Materials by Rail, 15 September 2018

- (ag)OPNAVINST 8023.24D
- (ah)OPNAVINST 3500.39D
- (ai)33 CFR 334
- (aj)DoDD 3200.15 of 18 December 2013
- (ak)DoDM 4140.72, Management of Material Potentially Presenting an Explosive Hazard of
7 May 2021
- (al)OPNAVINST 8015.2C
- (am)DoDD 4715.11 of 10 May 2004
- (an)DoDD 4715.12 of 12 July 2004
- (ao)OPNAVINST 3571.4
- (ap)DoDI 3200.16 of 21 April 2015
- (aq)DoDM 4715.26, DoD Military Munitions Rule (MR) Implementation Procedures of 25
April 2017
- (ar)NOSSAINST 8020.15E
- (as)OPNAVINST F3100.6K
- (at)OPNAVINST 5102.1E
- (au)OPNAVINST 8000.16E
- (av)OPNAV M-8000.16 of 15 May 2021
- (aw)DASN (Safety) memo 15 December 2017

APPENDIX B
ACRONYMS

<u>ACRONYM</u>	<u>DEFINITION</u>
3-D	three-dimension
ACAT	acquisition category
AA&E	arms, ammunition and explosives
AE	ammunition and explosives
AS	submarine tender
ASM	advanced skill management
ASN	assistant secretary of the Navy
BOS-I	base operating support-integrator
CNO	Chief of Naval Operations
CO	commanding officer
COC	chain of command
CNIC	Commander, Navy Installations Command
COMNAVSEASYSKOM	Commander, Naval Sea Systems Command
DDESB	Department of Defense Explosives Safety Board
DEW	directed-energy weapons
DoD	Department of Defense
DON	Department of the Navy
EI&E	Energy, Installations and Environment
EID	electrically initiating device
EMCON	emission control
EMR	electromagnetic radiation
ESC	Explosives Safety Council
ESD	electrostatic discharge
ESI	explosives safety inspection
ESMP	Explosives Safety Management Program
ESO	Explosives Safety Officer
ESQD	explosives safety quantity distance
ESS	explosives safety submissions
GOCO	government-owned contractor-operated
HC/D	hazard class/division

<u>ACRONYM</u>	<u>DEFINITION</u>
HERF	hazards of electromagnetic radiation to fuel
HERO	hazards of electromagnetic radiation to ordnance
HERP	hazards of electromagnetic radiation to personnel
JSWSR	Joint Service Weapons Safety Review
MDAS	material documented as safe
MDEH	material documented as an explosive hazard
MEC	munitions and explosives of concern
MPPEH	material potentially presenting an explosive hazard
MRMA	Munitions Risk Management Assessment
NCC	Navy component commander
NEW	net explosive weight
NOSSA	Naval Ordnance Safety and Security Activity
OIC	officer-in-charge
OPNAV	Office of the Chief of Naval Operations
OPREP	operational report
PEO	program executive office
PES	potential explosion site
PM	program manager
QUAL/CERT	qualification and certification
RADHAZ	electromagnetic radiation hazards
RESRB	Regional Explosives Safety Review Board
SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SESI	Shipboard Explosives Safety Inspection
SOP	standard operating procedure
T-AKE	dry cargo and ammunition ship
T-AOE	fast combat support ship
UXO	unexploded ordnance
WSESRB	Weapon System Explosives Safety Review Board

APPENDIX C
DEFINITIONS

1. AE. Includes, but is not limited to, all items of U.S.-titled (i.e., owned by the U.S. Government through the DoD Components) ammunition; propellants, liquid and solid; pyrotechnics; high explosives; guided missiles; warheads; devices; and chemical agent substances, devices and components presenting real or potential hazards to life, property and the environment. Excluded are wholly inert items and nuclear warheads and devices, except for considerations of storage and stowage compatibility, blast, fire and nonnuclear fragment hazards associated with the explosives.
2. Ammunition Handling. Physically interacting with AE.
3. Ammunition. A complete device charged with explosives, propellants, pyrotechnics, initiating compositions or chemical material for use in military operations, including demolitions. Certain suitably modified munitions can be used for training, ceremonial or non-operational purposes.
4. Ammunition Terminal. An activity which has been approved for large quantity AE transfers to and from DON ships (particularly cargo ammunition ships).
5. Auxiliary Ships. Naval ships designed to provide support to combatant ships and other naval operations.
6. Barge. A spacious usually flat-bottomed boat used chiefly for the transport of ammunition and explosives on inland waterways and usually propelled by towing.
7. Bonding. A physical and electrical connection between a metal object. This produces electrical continuity between disparate metal objects and minimizes electromagnetic potential differences. Bonding is done to prevent side-flash, control spurious and intentional current flow and equal potential normalization. Methods of bonding include mechanical, compression and thermal types.
8. Certification. A formal documented declaration that an individual or capability by virtue of management review has met all of the qualification requirements established to perform a mission, task or function.
9. Chain of Custody. From the time of collection through release from DoD control, the procedures and their implementation, including documentation, marking and securing, that maintain positive control of MPPEH, MDEH and MDAS.

10. Chemical Agent. A chemical compound (to include experimental compounds) that, through its chemical properties produces lethal or other damaging effects on human beings, is intended for use in military operations to kill, seriously injure or incapacitate persons through its physiological effects. Excluded are research, development, test and evaluation solutions; riot control agents; chemical defoliants and herbicides; smoke and other obscuration materials; flame and incendiary materials; and industrial chemicals.

11. Chemical Agent Mishap. Any unintentional or uncontrolled release of a chemical agent when:

a. Reportable damage occurs to property from contamination or costs are incurred for decontamination.

b. Individuals exhibit physiological symptoms of agent exposure.

c. The agent quantity released to the atmosphere is such that a serious potential for exposure is created by exceeding the applicable maximum allowable concentration-time levels for exposure of unprotected workers, the general population or property.

12. Classroom Training. Training conducted in a classroom environment using only inert ammunition.

13. Cold Iron. The status of a ship that has shut down its main power plant and is dependent on shore power. A ship in cold iron is not capable of providing immediate propulsion.

14. Combatant Ship. A ship that carries ammunition in its magazines, launchers or ready service lockers used solely in support of the ship's mission by shipboard weapons systems or embarked aircraft and troops.

15. Compatibility. AE are considered compatible if they may be stored or transported together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident.

16. Conventional Ordnance Deficiency Report. A Conventional Ordnance Deficiency Report is initiated upon detection of a malfunction, observed defect, induced defect or improper storage involving conventional ordnance, explosives, ammunition, explosive systems or devices, including weapon systems components that come in direct contact with the ordnance (e.g. ammunition, explosives, missiles) and aviation weapons support equipment and ordnance individual material readiness list items used to manufacture, fire, handle, test, load, deliver, store or transport ordnance.

17. Deflagration. Ignition and rapid burning of the confined energetic materials builds up high local pressures leading to nonviolent pressure release as a result of a low strength case or venting

through case closures (e.g., loading ports or fuze wells). The case might rupture but does not fragment; closure covers might be expelled and unburned and burning energetic materials might be thrown about and spread the fire. Propulsion might launch an unsecured test item, causing an additional hazard. No blast or significant fragmentation damage to the surroundings is expected, only heat and smoke damage from the burning explosive substances.

18. Depleted Uranium. Uranium containing a smaller proportion of the isotope uranium-235 than is present in the natural form of uranium; used in anti-tank weapons and other armaments.

19. Detonation. A supersonic decomposition reaction propagates through the energetic materials and produces an intense shock in the surrounding medium and very rapid plastic deformation of metallic cases, followed by extensive fragmentation. All energetic materials will be consumed. Effects will include large ground craters for items on or close to the ground; holing, plastic flow damage and fragmentation of adjacent metal structures; and blast overpressure damage to nearby structures.

20. Deviation. A departure from an established rule or standard. For explosives safety application, a deviation authorized by OPNAV N4L or NCC is considered to be a departure from DoD and DON criteria, but under strictly controlled and regulated conditions based upon compelling operational need. Deviations which may be authorized by appropriate authority within the Navy are event waivers (non-recurring), waivers and exemptions (recurring) and secretarial exemptions and certifications.

21. DEW. Devices or systems that radiate or concentrate EMR with the primary intent of permanently damaging or destroying enemy personnel and material.

22. Disposal. End of life tasks or actions for residual material resulting from demilitarization or disposition operations.

23. Disposition. The process of reusing, recycling, converting, redistributing, transferring, donating, selling, demilitarizing, treating, destroying or fulfilling other end of life-cycle guidance for DoD property subject to these standards.

24. DoD Component. The Office of the Secretary of Defense, Military Departments (Department of the Navy, U.S. Air Force and U.S. Army), Joint Chiefs of Staff, Office of the Inspecting General of the DoD, combatant commands, defense agencies, DoD field activities and all other organizational entities of the DoD.

25. DON and Naval. The terms DON and naval used herein refer to both the U.S. Navy and United States Marine Corps. It also includes Military Service and government employed personnel and is extended to contractors working on behalf of the DON when performing work on DON-owned or controlled property.

26. EID. An EID is a single unit, device or subassembly that uses electrical energy to produce an explosive, pyrotechnic, thermal or mechanical output. Examples include electro explosive devices such as hot bridge wire, semiconductor bridge, carbon bridge and conductive composition, as well as exploding foil initiators, laser initiators, burn wires and fusible links.

27. Essential Personnel. Personnel whose duties require them to remain within an ESQD arc for one of the reasons annotated in subparagraphs 27a through 27c of this appendix:

- a. To safely and effectively complete a specific explosives operation. (e.g., handlers, riggers, crane operators, vehicle operators, safety observers).
- b. In-port duties or services on a pier or wharf which does not interfere with explosives operations and if not performed would prevent the safe or normal operation of a vessel.
- c. Responding to an emergency situation (e.g., fire department, security and police, medical services, public works department).

28. Event Waiver. A deviation approved on a case-by-case basis for a particular evolution or issued for a limited period to meet a specific limited recurring readiness or operational requirement which cannot otherwise be satisfied.

29. Exemption. A deviation from mandatory explosives safety requirements approved for the purpose of long-term satisfaction of recurring readiness or operational requirements. Except in certain cases where authorization to purchase real estate for sufficient ESQD clearances has not been granted, where it is in the best interest of the U.S. to grant agricultural leases of encumbered land or where a significant impairment of the defense posture of the U.S. would result, a positive program for eventual correction of the deficiency must be planned and in the process of being carried out. 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.

30. Explosive Event Report. A report made in response to an unintentional detonation, firing, deflagration, burning or launching of ordnance material to include ordnance impacting off-range, leaking fuels or oxidizers (less OTTO fuel II) and chemical agent releases. Explosive events should be reported using the report format in OPNAVINST 8000.16E. Explosive event reports should be submitted to the Airborne Weapons Information System Web site at <https://awis.navair.navy.mil> via naval message if the damage does not result or meet the severity criteria for a class A, B, C or D incident or mishap.

- a. Detonation, Deflagration, Burning or Firing. An unintentional or inadvertent initiation, explosion or reaction of explosive material, component or system. Example: unintentional discharges of all guns, including small arms (this includes discharge of a weapon in government quarters or unintentional discharges and ricochets during training on ranges), aircrew escape propulsion systems, marine location markers and decoy flares, etc.

- b. Inadvertent Launch. An unintentional launching of a weapon.
- c. Chemical Agent Release. Any unintentional or uncontrolled release of a chemical agent when:

- (1) Damage occurs to property from contamination or costs are incurred for decontamination.

- (2) Individuals exhibit physiological symptoms of agent exposure.

- (3) The quantity released to the atmosphere creates a serious potential for exposure.

- (4) Propellants (both solid and liquid) or propellant fuels and oxidizers (less OTTO fuel II) are leaked or are spilled.

- (5) All ordnance impact off-range. This includes all small arm ranges where ricochets cause bullets to impact outside surface danger zones.

31. Explosive Hazard. A condition where danger exists because explosives are present that may react (e.g., detonate, deflagrate) in a mishap that might yield potential unacceptable effects (e.g., death, injury, damage) to people, property, operational capability or the environment.

32. Explosive Mishap. A mishap or incident involving conventional ordnance, ammunition, explosives, explosive systems and devices resulting in an unintentional detonation, firing, deflagration, burning or launching of ordnance materiel to include ordnance impacting off range, leaking or spilled propellant, fuels and oxidizers (less OTTO fuel II) or chemical agent release. Examples of explosive mishaps are:

- a. An explosion or functioning of explosive material or devices (except as a result of enemy action).

- b. Inadvertent actuation, jettisoning, releasing or launching of an explosive device.

- c. Impacts of ordnance off-range. This includes all small arms ranges where ricochets cause bullets to impact outside the surface danger zone.

33. Explosive Mishap Report. A report that is initiated as a result of a mishap or incident involving conventional ordnance, ammunition, explosives, explosive systems and devices resulting in an unintentional detonation, firing, deflagration, burning, launching of ordnance material (including all ordnance impacting off-range), leaking or spilled propellant, fuels and oxidizers (less OTTO fuel II) or chemical agent release. Mishaps and incidents defined as explosive mishaps and meeting severity classification of class A, B, C or D should be reported as an explosive mishap report per OPNAVINST 5102.1D even if the ordnance system works as

designed and human error contributed to an incident or mishap. Any explosive event not meeting one of these severity classifications should be reported as an explosive event report.

34. Explosive System. A weapon, device or tool using explosive material.

35. Explosive Limit. The maximum quantity of AE permitted in a PES. Explosive limits are based on ESQD damage considerations and are expressed in net pounds of explosives, number of rounds or units or other measuring units. Also known as “explosive quantity.”

36. Explosives or Explosive Material. A substance or mixture of substances that is capable by chemical reaction of producing gas at such a temperature, pressure and speed as to cause damage to the surroundings. This term includes all solid and liquid materials variously known as high explosives, propellants and pyrotechnics. It also includes fuel-air explosives and explosives composed of liquid fuels and oxidants when included in munitions, even though the individual components may not be explosive.

37. Explosives Safety.

a. A condition where operational capability and readiness, personnel, property and the environment are protected from the unacceptable effects or risks of the potential mishaps involving DoD military munitions or other encumbering explosives or munitions.

b. The summation of all actions conducted at navy commands, ashore and afloat, designed to manage and control the risks and hazards inherent with the presence and handling of AE.

c. Explosives safety is the process used to prevent premature, unintentional or unauthorized initiation of explosives and devices containing explosives; and with minimizing the effects of explosions, combustion, toxicity and any other deleterious effects. It includes all mechanical, chemical, biological, electrical and environmental hazards associated with explosives, hazards of EMR to AE and combinations of the foregoing. Explosives safety encompasses the manufacturing, handling, maintenance, storage, transfer, release, testing, delivery, firing or disposal of explosives.

38. ESQD Arcs. The prescribed minimum safe separation distance necessary to afford an acceptable degree of protection and safety between a PES and an ES.

39. Exposed Site. A location exposed to the potential hazardous effects (e.g., blast, fragments, debris or heat flux) from an explosion at a PES. An exposed site may also be a PES if it contains or is intended to contain AE.

40. Firmware. The combination of a hardware device and a set of computer instructions or computer data that reside as read-only software on the hardware device. The firmware cannot be modified under program control.

41. HAZMAT. Any material that, because of its quantity, concentration, physical or chemical characteristics, may pose a real hazard to human health or the environment. HAZMAT includes the following categories: flammable, combustible, toxic, corrosive, oxidizers, aerosols and compressed gases.
42. Hot Work. Heat or spark producing equipment used for welding, melting or with blow torches or other devices that develop temperatures higher than 288° F (degrees Fahrenheit).
43. Impact Area. The identified area within a range intended to capture or contain ammunition, munitions or explosives and resulting debris, fragments and components from various weapon system employments.
44. Inert Ammunition. Ammunition and components that contain no explosive or energetic material.
45. Inert Certification. A determination through examination that there is no energetic material remaining in ammunition or components.
46. Inert Material. Non-HAZMAT, such as sand, plaster or cement, used in ammunition items or components to simulate energetic material. The material must be used only when necessary to provide realism, structural integrity or for ballistic purposes.
47. Landing Force Operational Reserve Material. Material including rations, ammunition, fuel, clothing, weapons, etc., necessary to support Marine Corps expeditionary units.
48. Lighter. A flat-bottomed barge used for loading and unloading ships and vessels.
49. Magazine (Afloat). The specific spaces which are designated for the stowage of AE and ordnance items.
50. Magazine (Ashore). Any building or structure, except an operating building, used for and meeting the approved design requirements for storage of AE.
51. Malfunction. An explosive item, device or system that fails to function in a manner for which it was designed.
52. MDAS. MPPEH that has been assessed and documented as not presenting an explosive hazard and the chain of custody has been established and maintained. This material is no longer considered to be MPPEH.
53. MDEH. MPPEH that cannot be documented as MDAS. It has been assessed and documented as to the maximum explosive hazards the material is known or suspected to present

and for which the chain of custody has been established and maintained. This material is no longer considered to be MPPEH.

54. MPPEH. Material owned or controlled by the DoD that, prior to determination of its explosives safety status, potentially contains explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization or disposal; and range-related debris); or potentially contains a high enough concentration of explosives that the material presents an explosives hazard (e.g., equipment, drainage systems, holding tanks, piping or ventilation ducts that were associated with munitions production, demilitarization or disposal operations). Excluded from MPPEH are military munitions and military munitions-related materials, including wholly inert components (e.g., fins, launch tubes, empty containers, packaging material), that are to be used or reused for their intended purpose and are within a DoD Component-established munitions management system and other items that may present explosion hazards (e.g., gasoline cans and compressed gas cylinders) that are not munitions and are not intended for use as munitions.

55. Military Munitions.

a. The term "military munitions" means all ammunition products and components produced for or used by the U.S. Armed Forces for national defense and security, including ammunition products or components under the control of the DoD, the Coast Guard, the Department of Energy and the National Guard.

b. Such term includes:

(1) Confined gaseous, liquid and solid propellants.

(2) Explosives, pyrotechnics, chemical and riot control agents, smokes and incendiaries, including bulk explosives and chemical warfare agents.

(3) 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 and demolition charges.

(4) Devices and components of any item specified in subparagraphs 60b(1) through 60b(3).

c. Such term does not include:

(1) Wholly inert items.

(2) Improvised explosive devices.

(3) Nuclear weapons, nuclear devices and nuclear components, other than nonnuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of Energy after all required sanitization operations under the Atomic Energy Act of 1954 (section 2011 et seq. of title 42, United States Code) have been completed.

56. Mishap. An unplanned event or series of events that results in damage to DoD property. This includes occupational illness to DoD military or civilian personnel, injury to DoD personnel on- or off-duty, injury to on-duty DoD civilian personnel, damage to public or private property and injury or illness to non-DoD personnel caused by DoD operations. Near-mishap is an act or event which injury or damage was avoided merely by chance.

57. Munition. An assembled ordnance item that contains explosive material(s) and is configured to accomplish its intended mission.

58. Munitions or Explosives of Concern (MEC). A term distinguishing specific categories of military munitions that may pose unique explosives safety risks and means UXO, discarded military munitions or munitions constituents (such as trinitrotoluene and cyclotrimethylenetrinitramine) present in high enough concentrations to pose an explosive hazard.

a. UXO. The term "unexploded ordnance" is defined in section 101(e)(5) of Title 10, U.S.C. and means military munitions that:

- (1) Have been primed, fused, armed or otherwise prepared for action;
- (2) Have been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to operations, installations, personnel or material; and
- (3) Remain unexploded, whether by malfunction, design or any other cause.

b. Discarded Military Munitions. 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 UXO and 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. (Title 10 U.S.C., Section 2710(e)(2)).

c. Munitions Constituents. Any materials originating from UXO, discarded military munitions or other military munitions, including explosive and non-explosive materials and emission, degradation or breakdown elements of such ordnance or munitions. (Title 10 U.S.C., Section 2710(e)(3)).

59. Navy ESMP. A systematic method by which the Navy integrates explosives safety principles, beliefs and requirements into planning, decision making and day-to-day operations

that involve the handling, storage, testing and transportation of DoD military munitions and other non-DoD ammunition and explosives when in navy custody. An effective ESMP includes, but is not limited to, policies, procedures, standards, engineering methods, risk management processes and the responsible use of resources.

60. NEW.

a. The total weight of all explosives substances (unless testing has been conducted to support a different value based on the contribution of the energetic components) in the AE expressed in pounds.

b. The total weight of all explosives substances in the AE, expressed in pounds. NEW is used for transportation purposes.

61. Naval Unit. Any Navy or Marine Corps personnel (active or reserve), any civilian government personnel or any commissioned U.S. Navy or Military Sealift Command vessel with embarked Navy or Marine Corps personnel. This excludes any military and civilian personnel assigned to a developmental test squadron or developmental test unit.

62. NCC. The commander of a naval component assigned or attached to a joint force (unified command) constituted and so designated by the Joint Chiefs of Staff or by a commander of an existing unified command that was established by the Joint Chiefs of Staff.

63. Non-Essential Personnel. Individuals who are not required to perform a function or duty directly related to the explosive operation being performed. Examples include: non-command related observers, vendors, dependents, non-DoD personnel, non-ordnance related safety personnel and weapon platform maintenance personnel.

64. Operational Necessity. A mission associated with war or peacetime operations in which the consequences of an action justify the acceptance of risk of loss of equipment and personnel.

65. Operational Range. A range that is under the jurisdiction, custody or control of SECDEF and:

a. is used for range activities or

b. although not currently being used for range activities, that is still considered by the Secretary to be a range and has not been put to a new use that is incompatible with range activities.

66. Ordnance. Explosives, chemicals, pyrotechnics and similar stores (such as bombs, guns, ammunitions, flares, electro-explosive devices, smoke) carried on an airborne, sea, space or ground systems.

67. PES. Any location of a quantity of AE that will create a blast, fragment, thermal or debris hazard in the event of an accidental explosion of its contents. A PES may also be an ES if it is in the ESQD of another PES.

68. Pier. A structure that projects out from the shore into the water. A pier is oriented either perpendicular to or at an angle with the shore. It may be used on both sides, although there are instances where only one side is used because of site conditions or because there is no need for additional berthing.

69. Practice Ammunition. Ammunition specifically designed or modified for use in exercises, practice or operational training. It may be either expendable or recoverable. It is not inert and may contain all the explosive material normally contained in service ammunition. It may contain additional explosive material such as pyrotechnics, spotting charges or flotation devices to assure destruction, location or recovery.

70. Qualifications. A documented list of requirements an individual or activity must qualify to prior to being certified (i.e., testing, formal classes, licenses, documented on-the-job training and experience, demonstrated task proficiency, physical, etc.).

71. RADHAZ. Radio-frequency electromagnetic fields of sufficient intensity to produce harmful biological effects in humans, cause spark ignition of volatile combustibles or actuate electro-explosive devices. There are three categories of RADHAZs, hazards: HERP, HERF and HERO.

a. HERP is the danger to personnel from the absorption of electromagnetic energy by the human body.

b. HERF is the hazard associated with the possibility of igniting fuel or other volatile materials through radio frequency energy induced arcs or sparks.

c. HERO is the susceptibility of an electro explosive device or EID to radio frequency energy. Modern communication and radar transmitters can produce high electromagnetic environments that are potentially hazardous to ordnance. These environments can cause premature actuation of sensitive EIDs.

72. Range-Related Debris. Debris other than military munitions debris collected from operational ranges or former ranges (e.g., target debris, military munitions packaging and crating material).

73. Secretarial Exemptions or Certifications. A written authorization granted by a Secretary of a Military Department for strategic or other compelling reasons that permits long-term noncompliance with a mandatory requirement of DoD explosives safety criteria.

74. Senior Officer Present Afloat. The senior line officer of the navy, on active service, eligible for command at sea, who is present and in command of any unit of operating forces afloat in the locality or within an area prescribed by competent authority. This officer is responsible for the administration of matters which collectively affect naval units of the operating forces afloat in the locality prescribed.

75. Service Ammunition. Ammunition intended for combat rather than for training is classified as service ammunition. This ammunition has been approved for service use and contains explosives, pyrotechnics or chemical filler; the propellant, if required, is of service or reduced charge weight.

76. Special Incident Reporting (OPREP-3 NAVY BLUE and OPREP-3 NAVY UNIT SITUATION REPORT). The OPREP-3 reporting system provides DON military units, at any level of command, a system to report significant events and incidents to the highest levels of command.

a. OPREP-3 NAVY BLUE series message is used to provide CNO and other naval commanders notification of incidents that are of high Navy vice national level interest.

b. OPREP-3 NAVY UNIT SITUATION REPORT series message is used to inform the operational commander or appropriate higher authority of incidents not meeting OPREP-3 NAVY BLUE criteria.

77. SME. A person, who through knowledge, skill, experience, training or education, possesses scientific, technical or other specialized knowledge that may assist in understanding or determining a particular fact or issue.

78. Sub-munitions. Bombs, grenades, mines and other small miscellaneous munition items which are dispensed from cluster bombs, cluster bomb unit systems, modular weapon systems and artillery dispensing rounds. These munitions, although generally small, have no standard size or shape.

79. Training Ammunition. Service, practice or inert AE used during the course of training personnel.

80. Transferred Within or Released from DoD Control. A receiver has acknowledged receipt of MDEH or MDAS material by signed documentation (e.g., DD Form 1348-1A Issue Release or Receipt Document) and has taken physical custody of the MDEH or MDAS from the DoD.

81. Waiver. A deviation from mandatory explosives safety requirements. A waiver is approved for the purpose of a temporary satisfaction of recurring readiness or operational requirements issued pending the completion of corrective measures to eliminate the requirement for the waiver and is valid up to 2 years.

82. Waste Military Munitions. A military munition that is identified as solid waste or hazardous waste per Section 266.202 of Title 40, CFR.

83. Weapon System. A weapon and those components required for its operation and support. This includes all conventional weapons, ammunition, guns, missiles, rockets, bombs, flares, powered targets, depth charges, mines, torpedoes, unmanned vehicles that launch weapons or are themselves launched using a shipboard weapon or combat system or ship-based aircraft and explosives-operated devices. It includes all explosive items, packaging, handling, stowage, test equipment, simulators, guidance systems, fire control systems and launchers and their components. Software and firmware related to monitoring, arming, initiation or deployment of a weapon is included. This definition also encompasses the manufacturing, processing, packaging, handling, transport and storage of explosive items and related components ashore.

84. Wharf. A structure oriented approximately parallel to the shore. Ships can only be moored at the offshore face of a marginal wharf. When water depths close to shore are not adequate to accommodate deep draft ships, the wharf, consisting of a platform on piles, is located offshore in deep water and is connected to shore along its length or at one or more points by pile supported trestles, usually at right angles to the wharf.

85. Wholly inert. Those munitions (e.g., dummy) or munitions components (e.g., ogive, rotating band, adapter, lifting plugs) that have never contained reactive materials (i.e., explosives, chemical agents or chemicals, such as pyrophoric chemicals). Once an inert item is employed as a component of a military munition, it may no longer be considered wholly inert.