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NOSSA INSTRUCTION 8023.11A

From: Commanding Officer, Naval Ordnance Safety and Security Activity

Subj: STANDARD OPERATING PROCEDURES DEVELOPMENT, IMPLEMENTATION, AND MAINTENANCE FOR AMMUNITION AND EXPLOSIVES

Ref: (a) OPNAVINST 8020.14/Marine Corps Order P8020.11
(b) NAVSEA OP 5 VOL 1
(c) OPNAVINST 3500.39A/MCO 3500.27
(d) 29 CFR 1910.1200

Encl: (1) Definitions of Terms
(2) Format and Content

1. Purpose. To provide Navy/Marine Corps the policy, responsibility, and procedure for developing, implementing, and maintaining Standard Operating Procedures (SOPs) for operations involving Ammunition and Explosives (AE) and Material Potentially Presenting an Explosive Hazard (MPPEH), in accordance with references (a) and (b).

2. Cancellation. NAVSEAINST 8023.11 of 13 March 1991. This instruction has been revised substantially and should be read in its entirety.

3. Background. Reference (b) requires that all Navy and Marine Corps activities have written procedures prior to starting any operations involving AE and MPPEH. No operation involving these items will take place without approved, documented procedures. This instruction provides a standard for writing SOPs. While SOPs are not intended as a substitute for other technical documentation, they encompass the documentation and provide directions specific to the task and operations to be performed at a site.

4. Scope. The requirement for approved written procedures applies whether work is performed by Navy and Marine Corps military or civilian personnel, to include military and civil service and contractor personnel under contract to either service, regardless of location.

a. The guidance of this instruction applies to:

(1) Navy/Marine Corps personnel at Navy/Marine Corps activities.

(2) Navy/Marine Corps personnel performing operations off Navy/Marine Corps property or at other government activities.

(3) Contractor personnel performing operations integrated with Navy/Marine Corps personnel.

(4) Government-Owned, Contractor-Operated (GOCO) facilities.

(5) Contractor personnel performing operations on or off base involving AE and MPPEH, including investigations, removals or remedial actions on unexploded ordnance (UXO), discarded military munitions and munitions constituents.

b. The requirement for SOPs applies to the following:

(1) Recurring processing of AE and/or their components intended for Fleet issue. This includes the processing of parts or ingredients intended to be used in the complete round or components.

(2) Recurring or non-recurring operations performed on AE for purposes of research, development, test, and evaluation (RDT&E).

(3) Recurring or non-recurring operations involving the testing of AE.

(4) Demilitarization or disposal operations involving AE and MPPEH.

(5) Recurring operations involving the handling, transporting, and storing of AE and MPPEH.

(6) Non-emergency Explosive Ordnance Disposal (EOD) operations.

(7) Training involving live AE and MPPEH.

(8) UXO remediation and munitions response activities.

(9) Recurring or non-recurring operations involving detonation of bulk explosives not addressed in paragraph 4.b.

c. The following are exempt from the specific provisions of this instruction because they are covered by other written procedures, but remain subject to the requirements of reference (b).

(1) Emergency EOD performed by EOD personnel.

(2) Operations performed by operating forces afloat, deployed ashore, or performed at the squadron level aboard Navy or Marine Corps Air Stations.

(3) Navy/Marine Corps forces conducting formal field training, which are covered by technical directives, NAVSEA/NAVAIR checklists, and/or Field Manuals (FMs).

(4) Units who solely transport, store and handle limited quantities of Hazard Class 1 Division 4S (C/D 1.4S) and Class 1 Division 4G (C/D 1.4G) items between ready service storage facilities and ranges, transport vehicles and small boats.

5. Definition of Terms. Enclosure (1) lists definitions of basic terms used in this instruction.

6. Policy. Activities shall conduct operations involving AE and MPPEH in the safest manner possible consistent with efficient operations and after the assessment of potential hazards. SOPs are the step-by step procedural documents used to ensure compliance with technical, explosives safety, personal protective equipment, federal, state and local environmental protection, and information/physical security requirements.

a. In addition to SOPs, activities must ensure, through hazard control briefings or equivalent training and documentation, compliance with Occupational Safety and Health Administration (OSHA) training requirements. These include, but are not limited to, hazard communication, respiratory protection, and personal protective equipment training, as necessary, for the workers conducting the operation.

b. The commanding officer of an activity is directly responsible for the development, validation, review, approval, and use of SOPs for AE and MPPEH operations under his/her cognizance.

c. The commanding officer is ultimately responsible for use of SOPs compliant with the intent of this instruction, for contractor AE and MPPEH operations under his/her cognizance. Contracts for operations and processes covered by this instruction shall specifically cite compliance with this instruction as a contractual requirement.

d. The Process Supervisor is responsible to the command for operations covered by an SOP. He/she is responsible for:

(1) Ensuring that all persons assigned to a process are qualified, certified, and have read and understood the requirements of the SOP that covers the process.

(2) Stopping a process if unexpected safety, health or environmental hazards are found, or if significant deviations from the SOP are necessary in order to conduct the process.

(3) Continuously review SOPs during recurring processing to ensure that they are changed as necessary to reflect current procedures, and changes to reference documents.

e. The SOP user (worker) is responsible for reading, understanding, and following the SOP. If the worker identifies a hazard or operation not addressed in the SOP, or encounters an operation he/she does not understand, the user will stop the process and notify the supervisor of the problem.

(NOTE: All participants are responsible for stopping a process until the process can be conducted in accordance with an approved SOP.)

7. Elements of SOPs.

a. SOPs shall include all elements in enclosure (2).

b. SOPs, along with applicable reference publications, shall be kept in the work area with the procedures readily available for the use of the workers performing the process.

c. SOPs may contain technical instructions for which changes are expected to be routine (mix sheets, processing sheets, etc.). SOPs may be written to allow for approved variations in the operation as long as the safety and technical requirements are met. SOPs must document both the allowable variation limits and the process of approval for variations within the limits authorized by the SOP.

8. Development, Review, and Approval of SOPs.

a. The commanding officer of the responsible Navy/Marine Corps mission activity is the approval authority for all SOPs and changes to SOPs in categories (1) through (3) of subparagraph 4.a. of this instruction. This authority may be delegated in writing to the appropriate level of management.

b. The contractor is responsible for development, validation, review, approval, and use of SOPs for AE and MPPEH

operations wholly under its control (categories (4) and (5) of subparagraph 4.a. of this instruction). Cognizant Navy/Marine Corps personnel shall provide appropriate oversight as specified in contractual requirements.

c. Host/tenant agreements must include provisions for the host command Explosives Safety Officer (ESO) to review, at his/her option, tenant command SOPs related to AE and MPPEH.

9. Hazard Analysis And Hazard Control Briefings. As part of SOP development, a hazard analysis per reference (c) will be completed and used as a basis for developing hazard control briefings, procedures and other documentation. The purpose of the analysis is to clearly identify and minimize existing and potential hazards inherent in processing AE and MPPEH. The hazard analysis is the means to identify and assess the hazards, make risk decisions, and implement control through the use of the SOP.

a. Analysis to support SOP development is appropriate at the deliberate or in-depth level of Operational Risk Management (ORM) per reference (c). Reference (b) provides guidance for hazard analysis at the required level of a Mishap Risk Assessment for operations involving production, maintenance, and renovation of AE.

b. At least one worker who will be performing the operation covered by the SOP should take part in the hazard analysis.

c. A hazard control briefing will be prepared, taking into account the results of the hazard analysis. The briefing will serve as the hazard communication training required by OSHA in reference (d) and will be given once prior to use of the SOP. The briefing may be repeated as often as necessary based on the work supervisor's analysis of its effectiveness. OSHA-compliant training records will be maintained for hazard control briefings.

d. As a minimum, hazard control briefings will address the following:

(1) Hazardous materials used, consumed, or produced in the process.

(2) The ways in which exposure to hazards and hazardous materials are avoided or minimized, including the use of personal protective equipment.

(3) Signs of unacceptable exposure to the worker/visitor, or damage to the equipment, from the hazardous materials being processed.

(4) First aid or other actions to be taken immediately should exposure to an unacceptable hazard or hazardous material occur.

10. Security. SOPs will provide personnel with all of the procedures necessary to maintain physical security, accountability and disposition control of AE, components, MPPEH, hazardous materials, tools, and equipment items. It will also provide the worker with procedures adequate to prevent unauthorized disclosure of classified information if so required.

11. Review and Expiration Requirements.

a. The following personnel will review SOPs prior to use:

(1) Personnel responsible for the technical requirements and execution of the process (e.g. engineering, supervisors, and operators).

(2) Personnel responsible for support of the process in accordance with sections of the SOP (public works, supply, etc.).

(3) Safety, medical (e.g. industrial hygiene), and environmental personnel.

(4) Command.

b. Continuous review. SOPs must reflect current procedures. Personnel responsible for the technical requirements and execution of the process must ensure that SOPs are changed and reviewed as necessary to reflect changes.

(1) All major changes to SOPs must be controlled and subjected to an appropriate level of review. Minor changes may have a lower level of review than major changes if appropriate.

(2) Collect and destroy field copies of superceded SOPs.

c. Contractors shall review their SOPs using a similar chain of contractor personnel with a similar scope of authority.

d. SOPs expire four years from date of approval and require review by all elements involved in the SOP development, and Commanding Officer (or delegated manager) approval prior to reissue.

12. Validation. The supervisor will perform SOP validations with the operators. The supervisor should request assistance from other authorities when needed. The supervisor and

operators, before the first use, shall conduct a validation of applicable sections of an SOP, or whenever there is a major change to the operation, process, or facility. All validations will be documented.

13. Action. The commanding officer of each Navy/Marine Corps activity under the scope of this instruction shall ensure full compliance with the policy, guidance, and direction in this instruction.

14. Implementation. Within one year of the date of this instruction, ensure all new SOPs and major changes to SOPs are developed, approved, and maintained in accordance with this instruction. Within three years of the date of this instruction all active processes will have SOPs in accordance with this instruction.

15. Amplifying Directives. Amplifying directives are neither required nor desired.

16. Inspection. Compliance with this instruction and the effectiveness of each activity's SOP program will be assessed during NAVSEA Explosives Safety Inspections (ESIs).


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FKP4A COASTAL SYSTEMS STATION DAHLGREN DIVISION
FT44 DIVING AND SALVAGE TRAINING CENTER
FT45 EXPLOSIVE ORDNANCE DISPOSAL, NAVAL SCHOOL
FT88 ENGINEERING DUTY OFFICER SCHOOL
V3 AIR BASES, MARINE CORPS
V4 AIR FACILITY, MARINE CORPS
V5 AIR STATION, MARINE CORPS
V16 BASE, MARINE CORPS
V25 AIR-GROUND COMBAT CENTER, MARINE CORPS

DEFINITIONS OF TERMS

Ammunition and Explosives (AE). All items of ammunition; propellants, liquid and solid, high explosives; guided missiles; warheads; devices; pyrotechnics; chemical agents; their components, and associated substances, presenting real or potential hazards to life and property.

Commanding Officer. Commander, Commanding Officer, Officer in Charge, or other senior officer having final responsibility for safety of the operation. Where subdivisions of authority such as regionalization, host-tenant agreements, inter-service support agreements, or contracts, are in effect, the responsibilities of the parties in regard to SOP development, review and approval will be clearly designated.

Major Change. Change to SOP that adds operational hazards, or new hazardous items. Change to or revision of supplemental documents could be classified as major change, if the change or revision modifies the operational procedures to the point that safety is affected, or the change or revision introduces new hazards.

Material Potentially Presenting an Explosive Hazard (MPPEH). Material potentially containing explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris); or material potentially containing a high enough concentration of explosives such that the material presents an explosive 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 munitions within DoD's established munitions management system and other hazardous items that may present explosion hazards (e.g., gasoline cans, compressed gas cylinders) that are not munitions and are not intended for use as munitions.

Minor Change. Change to SOP that does not provide additional hazards, additions of new hazardous items, or changes in methods used to eliminate or mitigate hazards. (Examples: name, code, or telephone number changes, spelling corrections, referenced documents location.)

Non-Recurring Process. A process which is being developed and which is not yet standardized. This may be a Research and Development (R&D) process or a change to an existing process

when the product is not intended for Fleet issue.

Operation. Any action to be performed on or to AE or MPPEH. Normally, a series of operations is considered to be a process.

Procedure. A series of steps in a regular, definite order.

Process. A series of operations on AE related to manufacture; explosive loading, assembly, and packing (LAP); maintenance, reconditioning, renovation, rework, and repair; modification and conversion; receipt, storage, segregation, and issue (RSS&I); handling, shipping, loading, and unloading; research, development, test, and evaluation (RDT&E) of ordnance end items or explosive components; demilitarization; disposal, munitions response, and MPPEH processing.

Recurring Process or Operation. A process that is well developed and is intended to be performed by a constant set of procedures. All operations intended to result in, or contribute to, AE for Fleet issue are considered to be recurring operations.

Review. The process of technical consideration and assessment of the content of the document by appropriate personnel.

Standard Operating Procedures (SOPs). The required document providing detailed, step-by-step instructions for conducting safe processing of AE and MPPEH, which ensures compliance with the following:

- Technical requirements
- Explosives safety standards
- NAVOSH standards
- Federal, state, local environmental protection standards
- Security and physical security directives
- Other factors as determined by the activity

Technical Requirements. Those requirements stated in the official technical data package for an item. Includes technical manuals, drawings, specifications, etc. and is the responsibility of the program manager.

Validation. Validation is a demonstration that the SOP is correct and will result in a safe, effective, and efficient operation. An appropriate validation consists of a careful step-by-step dry run of the process, usually with inert material, using the SOP.

Work Area. A designated area assigned to a specific operation involved in the processing of AE and MPPEH. For example, in buildings with many bays in which different operations are performed, each bay is a work area. At a munitions remediation site, a cleanup grid is a typical work area.

FORMAT AND CONTENT

The SOP shall contain the following elements:

1. Title page. The page at the beginning of the SOP that identifies the SOP name and number.
2. Table of contents. A concise list of elements within the SOP.
3. Record of review and approval. This record provides signatures and dates of personnel who developed, reviewed, and approved the SOP. It must also include signature lines for the Explosives Safety Officer (ESO) review and Commanding Officer (or delegated manager) approval.

a. For contractor operations under paragraph 8a(5) of this instruction, the equivalent levels of review would be, for example, Site Health and Safety Supervisor or Senior Unexploded Ordnance (UXO) Supervisor Specialist, and Site Superintendent of the contractor.

4. Supervisor's statement. This record provides signature and date of the supervisor(s) who are responsible to management for the operation, and are responsible for making sure that the SOP is up to date. This record maintains the list of qualified people with up to date training. A suggested supervisor's statement follows:

PROCESS SUPERVISOR'S STATEMENT

I have read and understand this SOP. To the best of my knowledge, the processing described within this SOP can be done in a safe, healthful and environmentally sound manner. I have made sure all persons assigned to this process are qualified, have read and understand the requirements of this SOP, and have signed the worker's statement for this process. I will ensure the SOP has current procedures. If a major change to the SOP is necessary, I will ensure that the process is stopped until the SOP is revised and approved. If unexpected safety, health, or environmental hazards are found, I will make sure the process is stopped until the hazards have been eliminated.

5. Worker's statement. This statement indicates that the worker clearly understands their duties regarding the operations

in the SOP. The worker must review the SOP and sign the statement to be authorized to work under the SOP. A suggested Worker's Statement follows:

WORKER'S STATEMENT

I have read this SOP and I have received adequate training to perform the process according to the SOP. I will follow the SOP unless I identify a hazard not addressed in it or encounter an operation I can not perform according to the SOP. If that occurs, I will stop the process and notify my immediate supervisor of the problem.

Worker's Name	Date	Supervisor's Name	Date
_____	_____	_____	_____

6. Step-by-step procedures. This is the most important section of the SOP. Ideally, the procedures should be written so that a person unfamiliar with the operation, but explosives qualified/certified, could perform a validation of the process.

- a. Provide the worker with clear and concise step-by-step instructions for performing the process.
- b. Do not include instructions for operations not relevant to the SOP.
- c. The worker must not be required to leave the work area to locate other references nor jump from section to section in the SOP to perform the process safely and correctly.
- d. Use of technical manuals as part of the step-by-step procedures is encouraged.
- e. Always use warnings, cautions, and notes at the first occurrence of critical steps. The word "WARNING" should be used in cases of potential personnel death or injury. The word "CAUTION" should be used in cases of potential equipment or facility damage. The word "NOTE" should be used in cases that affect product or process quality.
- f. If applicable, include procedures for routine decontamination and restoration of equipment and facilities to a

safe working condition should the process have been stopped due to an unacceptable hazard or other unforeseen event.

g. Include procedures for disposition of any wastes generated by the operation.

7. Diagrams.

a. Building or Site Diagram.

(1) This is a diagram of the building or site showing the location of operation related items. It includes safety related items such as fire extinguishers, fire suppression systems, eye wash stations, emergency showers, first aid kits, spill cleanup kits, ventilation systems or stations, emergency breathing devices, etc. It illustrates explosive and personnel limits, evacuation routes, and emergency exits.

(2) Building diagrams are optional for inclusion in the SOP if an approved diagram is posted at the facility.

(3) Site diagrams must be included in the SOP for temporary and/or field operations.

(4) This requirement does not apply to magazine or magazine areas.

b. Processing Diagrams. This includes any information needed to clarify or amplify the information provided in the step-by-step procedures. Often this will take the form of diagrams to indicate steps in the operation. Illustrations showing details of processing, material handling, excavating, and other equipment, block diagrams of processing and workflow and other illustrative graphic materials are appropriate.

8. Equipment lists.

a. Equipment and Supplies List (if applicable). Provide a list of all the special and/or critical tools, equipment, and supplies used in the process.

b. Safety Equipment List. Provide a list of all the special or mandatory safety equipment (including personal protective equipment) and systems, which must be in place and working properly in order to protect the safety of personnel, equipment, facilities, and the environment during the processing.

9. Emergency response procedures. The required hazard analysis of a process will identify any potentials for fire, spill, explosion, runaway reaction, release of hazardous vapors, mechanical failure, injury, etc., which could occur during processing and which would require immediate action to control. Procedures for responding to these emergency events will be provided as step-by-step procedures, and used for rehearsal of emergency response. The emergency response procedures (which may be incorporated as part of the step-by-step instructions for the process) include:

a. A single point of contact to notify in case of an incident.

b. Initial and follow-up actions that the worker must take in case of an incident.