



DEPARTMENT OF THE NAVY

COMMANDER
NAVY REGION, MID-ATLANTIC
6506 HAMPTON BLVD.
NORFOLK, VA 23508-1273

IN REPLY REFER TO:

COMNAVREG MIDLANT
INST 8023.2
PMPS-N05
27 MAY 2003

COMNAVREG MIDLANT INSTRUCTION 8023.2

Subj: REQUIREMENTS FOR DEVELOPING AND IMPLEMENTING STANDARD OPERATING PROCEDURES (SOPs) FOR EXPLOSIVE OPERATIONS AND PROCESSES

Ref: (a) NAVSEAINST 8023.11
(b) NAVSEA OP 5, VOL 1

Encl: (1) Definitions of Basic Terms
(2) List of Source Materials
(3) SOP Format and Content
(4) SOP Development, Validation, and Change Procedures

1. Purpose. To establish policy for developing and using Standard Operating Procedures (SOPs) for the processing of expendable (non-nuclear) ordnance at activities within the Mid-Atlantic Region, in accordance with references (a) and (b).

2. Scope. Reference (b) requires that all Naval activities develop written procedures prior to starting any operation involving ammunition or explosives. This instruction provides a standard for writing explosives related SOPs within the Mid-Atlantic Region. No process or task involving explosives will take place without these approved, documented procedures. SOPs are not intended to substitute for Ordnance Pamphlets (OPs) or other technical documentation, but enhance that documentation by providing directions for the specific site where explosives operations are performed, ensuring the process is consistently accomplished in a safe manner. An SOP may be written to allow for changes as long as all safety and technical requirements are met. This instruction applies to all Navy and Marine Corps commands within the purview of Commander, Navy Region, Mid-Atlantic (COMNAVREG MIDLANT) and where explosives or ordnance are manufactured, handled, or stored. It applies whether the work is performed by military, civil service, or contractor personnel, and includes the following processes:

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- a. Recurring processing of expendable (non-nuclear) ordnance and/or their components intended for fleet issue. This includes the processing of parts or ingredients intended to be used in the all-up-round or components.
- b. All processes involving detonation of bulk explosives such as quarrying, mining, and training ranges.
- c. All processes performed on ordnance or explosives for purposes of research, development, test, and evaluation (RDT&E).
- d. All processes involving the testing of explosives, components, or ammunition.
- e. Demilitarization or disposal, including explosive scrap disposal operations of any type.
- f. Recurring processes involving handling, transport, and storage of ordnance or explosives.
- g. Non-emergency explosive ordnance disposal.
- h. Training involving live ordnance.

Note: Emergency explosive ordnance disposal performed by EOD personnel is exempt from the provisions of this instruction, but remains subject to the requirements of reference (b).

3. Definition of Terms. Enclosure (1) defines the terms used in this instruction.

4. Policy

a. Ordnance operations and processes shall be conducted in the safest manner possible. They shall comply with applicable technical requirements, explosive safety standards, personnel qualification and certification requirements, Navy Occupational Safety and Health (NAVOSH) standards, federal, state, local, and Navy environmental protection requirements, and security and physical security directives. Commands must clearly identify and minimize existing and potential hazards inherent to ordnance. Where necessary, commands must develop,

implement, and rehearse emergency response, evacuation, and contingency plans associated with ordnance processing. The SOP is the required document by which commands integrate these various items for the workers conducting the process. Each Commanding Officer is responsible for development, validation, approval, maintenance, review, and use of SOPs for processing ordnance at their activity and shall document the delegation of responsibilities for these tasks within their organization.

b. Per reference (b), paragraph 1-4.3.1, the COMNAVREG MIDLANT Program Manager for Public Safety is the responsible agent for implementing explosives safety programs within the Mid-Atlantic Area of Operations, consequently this instruction is intended to satisfy the individual activity instruction requirement of reference (a).

5. Source Materials. Enclosure (2) contains a list of basic publications, instructions, and documents which may be used by activities preparing SOPs. Other source materials should be used as required.

Note: While this list was current at the time of issue, it's imperative that the appropriate and most current versions of all reference material be used when developing SOPs, as these are frequently cancelled, changed, or superceded.

6. Format and Content. Latitude is allowed in both format and content to allow for adaptations required by local conditions. SOPs are to be kept in work areas for workers to use. Enclosure (3) provides direction concerning the format and content of SOPs.

7. Development, Validation and Change Procedures. The Commanding Officer is the approval authority for all explosives SOPs and changes to SOPs developed. This authority may be delegated, in writing, to the department head level.

a. Where a command or activity is a tenant, the SOP development, validation, change, and approval process will be documented in host/tenant support agreements, if they exist. If they do not exist, procedures shall be established to ensure that Installation Commanders review and approve all SOPs

developed by tenant commands.

b. Activities shall validate each SOP before issue and use and document the validation.

c. Enclosure (4) contains the requirements for developing, validating, and changing SOPs.

8. Review and Expiration Requirements

a. A documented review of explosives related SOPs shall be conducted:

(1) By the immediate supervisor of the process:

(a) Prior to restarting an inactive process, or

(b) Annually.

(2) By the developer of the SOP whenever there is a change or revision to a source document, or the explosives process.

(3) By the servicing Explosives Safety Officer before initial use of an SOP and anytime changes are made to the SOPs content.

b. SOPs expire 4 years from date of initial approval and require review by all elements involved in their development, as well as activity head approval prior to its reissue.

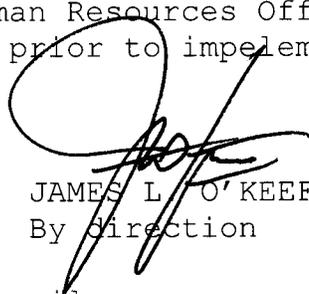
9. Action

a. The Commanding Officer of each activity with explosives processes requiring SOPs under the scope of this instruction is responsible for their development, validation, maintenance, review, and approval, and shall:

(1) Ensure all SOPs written by activities comply with the policy, guidance and direction in this instruction.

(2) Issue additional explosives SOP policy guidance implementing, or enhancing this instruction, if determined necessary due to the nature and complexity of local explosives operations.

(3) Ensure all new SOPs and major changes to SOPs for ongoing ordnance processes conducted at the command are developed, validated, approved, and maintained in accordance with this instruction, and that appropriate records related to development, validation, review, and approval authorities and source materials are kept. Use of Special Job Procedures (SJPs), Depot Maintenance Work Requirements (DMWRs), Local Operating Procedures (LOPs), etc., as stand-alone documents in lieu of SOPs are not authorized. SOPs and major changes must be referred to the servicing Human Resources Office for review and potential Union notification prior to implementation.



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DEFINITIONS OF BASIC TERMS

All-Up Round (AUR): A complete round containing all of the explosives, materials, and components designed for a specific function. Examples include underwater mines, land mines, depth charges, torpedoes, guided missiles, bombs, gun ammunition, rockets, etc.

Commanding Officer: Commander, Commanding Officer, Officer in Charge, or other senior official having final responsibility for safety of the command or activity. Where support agreements are in effect, they shall clearly document the responsibilities of commands or activities in regard to explosives SOP development, review and approval.

Component: Any part or sub-assembly of an AUR that contains or is comprised of an explosive. Examples include fuses, boosters, primers, detonators, warheads, rocket motors, explosive separators, propelling charges, etc. Also included are ingredients of explosive formulations when involved in processes involving modification of explosives (casting, pressing, grinding, machining, etc.).

Expendable Ordnance: Ordnance end items (non-nuclear) defined in NAVSUP P-724 with cognizance symbols OT, 2D, 2E, 2T, 4E, 4T, 6T, 8E, 8S, 8T, and 8U. This includes underwater mines, land mines, grenades, gun ammunition, demolition materials, pyrotechnics, guided missiles, bombs, rockets, torpedoes, etc.

Explosive: A solid or liquid substance (or a mixture of substances) which is in itself capable, by chemical reaction, of producing gas at such temperature, pressure, and speed that it can cause damage to the surroundings. Included are pyrotechnic substances even when they do not evolve gases. The term explosive includes all solid and liquid materials variously known as high explosives, propellants, and pyrotechnics (e.g., illuminant, smoke, delay, decoy flare, and incendiary compositions), together with igniters, primers, and initiators.

Inactive Process: Inactive processes are determined by the activity performing the process and as defined in their SOP instruction. Factors to be considered include the length of

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time a process is not conducted, process complexity, process history and reasons for inactivity.

Non-Recurring Process: A process which is being developed and which is not yet intended to be standardized. This may be an 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 an ordnance item or component. Normally a series of operations is considered to be a process, but a single operation may be a process if it is the only action performed at the time.

Procedure: A series of steps following in a regular, definite order. (Responsibility of command or activity.)

Process: Any operation or series of operations 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); demilitarization; disposal; handling, shipping, loading and unloading; or RDT&E of ordnance end items or inherent components.

Recurring Process: A process which is well developed and which is intended to be performed by a constant set of procedures. All processes intended to result in, or contribute to, items for fleet issue are considered to be Recurring Processes.

Review: The process of technical consideration and assessment of the content of a document by appropriate activities. For an SOP, the initial review, or review after expiration or major change should include:

- Authorities aware of the technical requirements of the process (PM, EA, ISEA, local engineering).
- Authorities responsible for local support of the process (operating force, public works, supply, publications, administration).
- Safety, Medical, and Environmental authorities.
- Command.

Annual reviews shall be conducted by the operating supervisor with the operators. The supervisor should request assistance from other authorities when needed.

SOP Validation: Validation is a demonstration that the SOP is correct and will result in a safe, effective and efficient operation. All validations will be documented. If possible, inert material will be used for validations.

Standard Operating Procedure: The required document by which an activity provides its workers with detailed, step-by-step instructions for conducting safe processing of expendable ordnance or components and which integrates the following factors:

- Technical requirements.
- Explosive 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 Tech Manuals, drawings, specifications, etc.

Work Area: The area immediately surrounding the operators performing a process. A SOP shall be located in the work area such that any and all operators can easily refer to the SOP for direction. No work area is larger than the buildings in which the process is performed. In buildings with many bays in which different processes are performed, each bay is a work area.

LIST OF SOURCE MATERIALS

Note: While this list is current at the time of issue, it's imperative that the appropriate and most current versions of all reference material be used when developing SOPs, as these are frequently cancelled, changed, or superceded.

TECHNICAL

NAVSUP P-805: Inspection Requirements for Receipt, Segregation, Storage, and Issue Sentencing of Navy and Marine Corps Conventional Ammunition.

NAVSUP P-801: Ammunition - Unserviceable, Suspended, and Limited Use.

NAVSEAINST 8010.5B: Insensitive Munitions Program Planning and Execution.

NAVSEAINST 8014.1A: Renovation of Ammunition.

NAVSEAINST 8020.3A: Lead Azide in Explosive Component Design.

NAVSEAINST 8020.5C: Qualification and Final (Type) Qualification Procedures for Navy Explosives.

NAVSEAINST 8020.8B: Explosives Hazard Classification Procedures.

NAVSEAINST 8815.1C: Missile Maintenance Support Policy for Surface Launched Missiles.

SECURITY

DOD 5100.76M: Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives.

OPNAVINST 5530.13B: Department of the Navy Physical Security Instruction for Sensitive Conventional Arms, Ammunition, and Explosives (AA&E).

NAVSEAINST 5510.2B: Physical Security, Access, and Movement Control at Shore Activities.

Enclosure (2)

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SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION

OPNAVINST 5090.1B: Environmental and Natural Resources Protection Manual.

Code of Federal Regulations, Title 40.

Code of Federal Regulations, Title 29, Part 1910.

MIL-STD-882D: Standard Practice for System Safety.

NAVORD OD 44942: Weapon System Safety Guidelines Handbook, Parts 1-4.

OPNAVINST 5100.23F: Navy Occupational Safety and Health (NAVOSH) Program Manual.

OPNAVINST 5100.24A: Navy System Safety Program.

NAVSEAINST 8020.7C: Hazards of Electromagnetic Radiation to Ordnance Safety Program.

NAVSEAINST 8020.9B: Non-nuclear Ordnance and Explosives Handling Qualification and Certification Program.

NAVSEA OP 5, Volume 1: Ammunition and Explosives Ashore - Safety Regulations for Handling, Storing, Production, Renovation, and Shipping.

NAVSEA SW020-AC-SAF-010: Transportation and Storage Data for Ammunition, Explosives, and Related Hazardous Materials.

COMNAVREGMIDLANTINST 6280.1: Regional Consolidated Hazardous Materials Reutilization and Inventory Management Program (CHRIMP)

QUALITY

NAVSUP P-807: Fleet Sentencing.

NAVSUP P-805: Fleet Sentencing Requirements.

TRANSPORTATION

Recommendations on the TRANSPORT OF DANGEROUS GOODS, 12th Rev. United Nations, New York. 2001. (Orange Book).

International Maritime Dangerous Goods Code Volumes 1 through 4. 2003 Ed. (IMDG Code).

Technical Instructions for the Safe Transport of Dangerous Goods by Air. 2003-2004 Ed. International Civil Aviation Organization (ICAO).

Title 49 CFR PARTS 383-399: Federal Motor Carrier Safety Regulations.

Title 49 CFR PART 176: Carriage by Vessel.

NAVSEA SW020-AG-SAF-010: Navy Transportation Safety Handbook for Ammunition, Explosives, and Related Hazardous Material.

NAVSEA SW020-AF-ABK-010: Motor Vehicle Driver and Shipping Inspector's Manual for Ammunition, Explosives, and Related Hazardous Materials.

NAVSEAINST 8023.2D: Shipment of Explosive Materials and Other Dangerous Articles Through U.S. Navy Port Facilities.

NAVSEAINST 8023.8C: Transportation of Detonators and High Explosives in the Same Motor Vehicles or Aboard the Same Military Aircraft.

NAVSEAINST 8023.5D: Ammunition, Explosives, and Related Hazardous Material Shipment Discrepancy Reporting.

ADMINISTRATION/ORGANIZATION

NAVSEAINST 5400.57D: Engineering Agent Selection, Assignment, Responsibility, Tasking, and Appraisal.

SOP FORMAT AND CONTENT

Each SOP shall contain the following:

1. RECORD OF APPROVAL. This record contains spaces for signatures and dating by the following:

- a. Personnel internal to the processing activity who developed the SOP.
- b. Personnel internal to the organization who validated the SOP.
- c. Personnel internal to the processing activity who reviewed the SOP.
- d. The Commanding Officer or designated department head approval.
- e. The Installation Commander's approval (for tenant command SOPs).
- f. The servicing Explosives Safety Officer approval.

2. SUPERVISOR'S STATEMENT. Every process covered by a SOP must have a designated supervisor who is responsible to management for the operation. This statement indicates that the supervisor clearly understands their duties with regard to the SOP. The supervisor must review the SOP and sign the statement when they are first assigned responsibility for a process. This requirement also applies to acting supervisors when the regular supervisor is absent. During recurring processing, the supervisor must sign the statement upon their annual review of the SOP. A suggested Supervisor's Statement follows:

PROCESS SUPERVISOR'S STATEMENT

I have read and understand this SOP. To the best of my knowledge the process described in this SOP can be conducted in a safe, healthful, and environmentally sound manner. I have ensured all persons assigned to this process are qualified and certified, and have read and understand the requirements of this

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SOP, and have signed the worker's statement for the process. I will conduct an annual review of this SOP during recurring processing. If deviations from this SOP are necessary, I will ensure that this process is stopped until the SOP is revised and approved. If unexpected safety, health, or environmental hazards are found, I will make sure this process is stopped until the hazards have been eliminated.

Supervisor's Name and Signature	Date	Supervisor's Name and Signature	Date
_____	_____	_____	_____
_____	_____	_____	_____

3. 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 train or work under the SOP. A suggested Worker's Statement follows:

WORKER'S STATEMENT

I have read and understand this SOP, and I have received and understand the Hazard Control Brief. I will follow this SOP unless I identify a hazard not addressed in it or encounter an operation I do not understand. If that occurs, I will stop this processing and notify my immediate supervisor of the problem.

Worker's Name And Signature	Date	Supervisor's Name and Signature	Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

4. STEP-BY-STEP PROCEDURES. Provide the worker with clear and concise step-by-step instructions for performing the process. The SOP shall be kept in the work area with the procedures readily available for the use of the worker performing the processing. SJPs, DMWRs, OPs, ISEA technical manuals and drawings, or other documents defining operations may be attached as this section of the SOP. The relevant sections must not contain extraneous instructions for processes not relevant to the SOP. The worker must not be required to leave the work station to locate other references, nor jump haphazardly from section to section, in order to perform the process safely and correctly. Documents which form part of the SOP must be reviewed during SOP development. Changes to these documents must be considered to be changes to the SOP. SOPs may contain technical instructions for which changes are expected to be routine (mix sheets, processing sheets, etc.). The SOP must document both the allowable variation limits and the process of approval for variations within the limits authorized by the SOP.

5. DIAGRAMS

a. Building or Site Diagram. This is a diagram of the processing building or site showing the location of various safety-related items with respect to the work station. Safety-related items include fire extinguishers, fire suppression systems, eye wash stations, emergency showers, first aid kits, spill cleanup kits, ventilation systems or stations, emergency breathing devices, etc. Clearly illustrate explosive and personnel limits, evacuation routes, and emergency exits. This information may be provided as posted fire bills or spill contingency plans. Posted information will be reviewed concurrently with the SOP.

b. Processing Diagram. This diagram includes information needed to clarify or amplify the information provided in the step-by-step procedures. Often this will take the form of a diagram using locally standardized symbols to indicate steps in the flow of materials through the various processing stages.

6. EQUIPMENT LISTS

a. Processing Equipment List. Provide a list of all the

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approved tools, equipment, items and supplies (hand tools, power tools, gauges and meters, industrial machinery, industrial handling equipment, consumables, etc.) which are or may be used in the processing.

b. Safety Equipment List. Provide a list of all the 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.

7. HAZARDS, HAZARD CONTROL, AND HAZARD CONTROL BRIEFINGS

a. The SOP shall document all hazards and hazard control methods applicable to the process. This information shall form the basis for two types of hazard control briefings. The briefings shall be part of the SOP and records shall be maintained on each briefing conducted.

(1) Type I: All inclusive. Addresses the process and describes the hazards and control methods that the worker may encounter. Can involve video recordings, computer based instruction and testing, and is normally given off-line. Must be given prior to employee assignment as worker or trainee and is a prerequisite to personnel certification.

(2) Type II: Addresses the operation and work area. Describes the hazards and control methods that the worker will encounter. This "stand up" or refresher briefing may be on-line and is given monthly or when the SOP is changed.

b. The SOP shall:

(1) List and explain the nature of each hazard and hazardous material which may be used, produced, or encountered during the processing and which may have adverse impact on the worker, equipment, facility, or environment. For hazardous materials used or consumed in the processing, life cycle information (raw materials, composition changes, end products, by-products and waste) must be included.

(2) List the measures required to avoid or minimize

exposure to each hazard or hazardous material, including provisions to limit access to trained or authorized personnel.

(3) List the symptoms which indicate unacceptable exposure of the worker, equipment, facility, or environment to each hazard or hazardous material.

(4) List the remedial actions required to relieve the immediate symptoms and restore the worker's health should exposure to an unacceptable hazard or hazardous material occur.

(5) List the actions required to decontaminate and restore the equipment and facility to a safe working condition should exposure to an unacceptable hazard or hazardous material occur. Where applicable, Material Safety Data Sheet (MSDS) information must be included in the SOP.

8. EMERGENCY RESPONSE AND CONTINGENCY PLANS. This provides the workers with the following information:

a. Lists each of the accidents or incidents (fire, spill, explosion, runaway reaction, release of hazardous vapors or substances, mechanical failure, injury, etc.) which could occur during processing and which would require immediate action to control.

b. Lists a single point of contact or the contacts that the worker should notify in case of each accident, incident, or release.

c. Lists initial and follow-up actions that the worker should take in case of each accident, incident or release.

9. SECURITY. This provides the worker with all of the requirements necessary to maintain physical security, accountability, and disposition control of expendable ordnance end items and inherent components, hazardous materials, tools and equipment items. It also instructs the worker in measures to prevent unauthorized disclosure of classified information.

SOP DEVELOPMENT, VALIDATION, AND CHANGE PROCEDURES

1. Development Procedures. SOPs are required for both recurring and non-recurring processes. Tracability to all developing, review, approval authorities, and source materials will be maintained.

a. Developer produces a draft SOP. The draft SOP is reviewed and documented by all appropriate offices internal to the processing activity, and by the servicing Explosives Safety Officer (ESO). While conducting reviews, offices in the activity should seek technical advice from appropriate outside resources if required (i.e., Navy Environmental Preventive Medical Unit; Centers of Excellence; Design Agent (DA); In-Service Engineering Agent (ISEA); Naval Safety Center (NAVSAFECEN); Naval Ordnance Safety and Security Activity (NOSSA); Naval Packaging, Handling, Storage and Transportation Center; Explosives Safety and Support Office Atlantic (ESSOLANT)). Outside activities may also be requested to participate in process validation, if required.

b. The Commanding Officer of the processing activity exercises discretion regarding incorporation of the comments or recommendations of outside activities into the SOP and signs the SOP for use at the activity, however, the Commanding Officer will not sign out an SOP until it has been approved by the servicing ESO.

2. Validation Procedures. The SOP must be validated by a documented, step-by-step "walk-through" demonstration, using inert material when possible, which is intended to ensure that the procedures specified in the SOP are correct and will in fact result in a safe, effective, and efficient operation.

3. Change Procedures

a. Developer produces a proposed change to an SOP. Appropriate offices within the activity review the proposed change to the SOP and it is submitted to the servicing ESO for review and approval. If necessary, appropriate technical offices outside activities are also consulted regarding the proposed change.

b. Once servicing ESO approval has been obtained, the CO of the activity signs the change to the SOP.