



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
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OPNAVINST 8110.18D  
N9  
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OPNAV INSTRUCTION 8110.18D

From: Chief of Naval Operations

Subj: DEPARTMENT OF THE NAVY NUCLEAR WEAPON SYSTEM SAFETY  
PROGRAM

Ref: (a) DoD Manual 3150.02, DoD Nuclear Weapon System Safety  
Program Manual, 31 January 2014  
(b) DoD Directive 3150.02 of 24 April 2013  
(c) SECNAVINST 8120.1B  
(d) OPNAVINST 8120.1  
(e) DoD Directive 5210.41 of 22 January 2015  
(f) OPNAVINST 5040.6H  
(g) CJCSI 3263.05B (NOTAL)  
(h) DoD Manual S-5210.41-M, Nuclear Weapon Security  
Manual, 1 September 2015 (NOTAL)  
(i) SECNAVINST S8126.1A (NOTAL)  
(j) through (t) - see enclosure (1)

Encl: (1) Continuation of References  
(2) Department of the Navy Nuclear Weapon and Nuclear  
Weapon Systems Safety Policy  
(3) Department of the Navy Nuclear Weapon System Safety  
Program  
(4) CONOPS for Employment of Navy Nuclear Weapon Systems  
(5) OPNAV NWSC and Annual Nuclear Weapons Safety and  
Schedule Review  
(6) Procedures for Navy Nuclear Weapon Systems Safety  
Studies and OSRs  
(7) Policy Guidance and Requirements for Navy Nuclear  
Weapon System Safety Rules and Safety Rules Changes  
(8) Navy Nuclear Weapon Systems Safety Design  
Certification  
(9) Acronyms

1. Purpose. To implement the Department of Defense (DoD) Nuclear Weapon System Safety Program (NWSSP) described in reference (a) as required by reference (b), and to issue the overarching guidance for the Department of the Navy (DON) NWSSP per all applicable instructions, directives, and procedures

found in references (c) through (t), and enclosures (2) through (8). This instruction incorporates changes from reference (a), adds guidance for conducting the quarterly Office of the Chief of Naval Operations (OPNAV) nuclear weapons safety council (NWSC) and annual nuclear weapons safety and schedule review, and updates OPNAV responsibilities to reflect current OPNAV staff structure. It has been substantially revised and should be reviewed in its entirety.

2. Cancellation. OPNAVINST 8110.18C.

3. Applicability. This instruction applies to all U.S. Navy commands, activities, units, and forces having responsibility for custody, operations, life cycle support, development, acquisition, or security of nuclear weapons or nuclear weapon systems.

4. Scope. This instruction provides safety guidance pertaining to all nuclear weapon and nuclear weapon systems for which the DON has operational, custodial, or developmental responsibility. It also focuses on the accountability and responsibility of nuclear weapon capable operating units, and nuclear weapon systems safety, security, control, and reliability. Specific emphasis is placed on aggressively implementing and completing corrective actions when deficiencies are identified. References (c) and (d) define policy, responsibilities, and authorities for the safe, secure, and reliable stewardship of DON nuclear weapons and nuclear weapon systems.

5. Discussion. Enclosure (2) provides the objectives and commanders' responsibilities of the DON nuclear weapon safety policy. Enclosure (3) stipulates the requirements and the Navy responsibilities of the DON NWSSP. Enclosure (4) specifies requirements for developing a concept of operations (CONOPS) for employment of Navy nuclear weapon systems. Enclosure (5) furnishes the requirements for the OPNAV NWSC and the annual nuclear weapons safety and schedule review. Enclosure (6) conveys the procedures for Navy nuclear weapon systems safety studies and operational safety reviews (OSR). Enclosure (7) provides guidance for developing nuclear weapon system safety rules and safety rules changes. Enclosure (8) communicates the policy on Navy nuclear weapon system safety design criteria.

6. Definitions and Acronyms. References (a) and (b) contain definitions and acronyms applicable to this instruction. Acronyms used in this instruction are provided in enclosure (9).

7. Records Management. Records created as a result of this instruction, regardless of media and format, must be managed per Secretary of the Navy Manual 5210.1 of January 2012.

8. Information Management Control. The reporting requirements contained within this instruction are exempt from reports control by Secretary of the Navy Manual 5214.1 of December 2005, part IV, paragraph 7.



BRIAN J. PERSONS  
Deputy Chief of Naval Operations  
Warfare Systems

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CONTINUATION OF REFERENCES

- (j) SWOP 45-51 of 22 March 2006 (NOTAL)
- (k) DoD Instruction 4540.05 of 23 June 2011
- (l) DoD Instruction S-5200.16 of 14 November 2007 (NOTAL)
- (m) DoD Directive S-5210.81 of 8 August 2005 (NOTAL)
- (n) DoD Instruction S-3150.07 of 21 December 2010 (NOTAL)
- (o) SECNAVINST 5510.35B
- (p) OPNAVINST F3100.6J (NOTAL)
- (q) OPNAVINST 3440.15C
- (r) SWOP 5-8 of 7 June 2011 (NOTAL)
- (s) OPNAVINST 11012.1F
- (t) OPNAVINST 5100.23G

DEPARTMENT OF THE NAVY  
NUCLEAR WEAPON AND NUCLEAR WEAPON SYSTEMS SAFETY POLICY

1. General. DoD and DON nuclear weapon and nuclear weapon systems require special considerations because of their political and military importance, their destructive power, and the potential consequences of an accident or unauthorized act. Assured nuclear weapon and nuclear weapon system safety, security, reliability, and control remains of paramount importance. Therefore, nuclear weapon and nuclear weapon systems must be protected against risks and threats inherent in their peacetime and wartime environments.

2. Objectives

a. The major objective of the DON NWSSP is to ensure that nuclear weapon and nuclear weapon systems are designed, maintained, transported, stored, and employed to maximize nuclear weapon and nuclear weapon systems safety, security, control, and reliability consistent with operational requirements and the DoD Nuclear Weapon System Surety Standards (NWSSS).

b. Standards, plans, procedures, and other positive measures will be developed and maintained to ensure the DON can accomplish its nuclear mission in a safe, secure, reliable, and controlled manner. Positive measures will be taken to protect nuclear weapon and nuclear weapon systems. Nuclear weapon and nuclear weapon systems safety is a continuous process from the conceptual phase through the development process and life cycle of a nuclear weapon and a nuclear weapon system. The requirements of the DON NWSSP complement the acquisition policy and procedures of reference (a) for all DON nuclear weapon and nuclear weapon systems.

c. The term "positive measures" can be accomplished by physical, electrical, or mechanical restraints and administrative controls and directives issued by competent authority. The phrase "positive measures" does not provide absolute assurance against an accident or unauthorized act, but provides acceptable assurance for continuing safe operation of the nuclear weapon and nuclear weapon systems. Measures are applied in a layered approach; they are added to create a system of surety and reduce the potential for single points of failure.

This system must be viewed holistically when addressing surety impacts, and to ensure maximum safety is provided consistent with operational requirements.

d. Nuclear weapon and nuclear weapon system safety, security, and control are interrelated. Decisions concerning one will not be made without consideration of the effect of those decisions on others.

3. Commanders' Responsibilities. Nuclear weapon and nuclear weapon system safety is a command responsibility. Commanders must provide personal leadership executing the DON NWSSP, and must comply with the NWSSS, safety rules, and DON approved technical and operational procedures.

DEPARTMENT OF THE NAVY  
NUCLEAR WEAPON SYSTEM SAFETY PROGRAM

1. General. The DON NWSSP ensures critical safety functions are identified; implements the DoD NWSSS; provides a process for conducting nuclear weapon system safety studies and reviews leading to approved nuclear weapon system safety rules; evaluates nuclear weapon safety compliance; and implements corrective actions. These safety studies and reviews ensure that nuclear weapon and nuclear weapon systems design safety features and procedural safeguards provided by nuclear weapon system safety rules meet the four DoD NWSSS and comply with references (a) and (b).

2. Requirements

a. References (a) and (b) mandate four DoD NWSSS. The four DoD NWSSS provide positive measures to:

(1) Prevent nuclear weapons involved in accidents, incidents, or jettisoned weapons, from producing a nuclear yield.

(2) Prevent deliberate pre-arming, arming, launching, or releasing of nuclear weapons, except upon execution of emergency war orders, or when directed by competent authority.

(3) Prevent inadvertent pre-arming, arming, launching, or releasing of nuclear weapons in all normal and credible abnormal environments.

(4) Ensure adequate security of nuclear weapons, as governed by reference (e).

b. The DON implements the four DoD NWSSS by:

(1) Including nuclear weapon safety considerations in the design and modification of nuclear weapon systems, per reference (a).

(2) Conducting nuclear weapon and nuclear weapon systems safety studies and OSRs on a routine basis.

(3) Ensuring nuclear weapon systems safety rules are available and enforcing their use through the chain of command to the nuclear weapon capable operating unit level.

(4) Following prescribed nuclear weapon and nuclear weapon system safety technical and operational procedures, standards, and policies.

(5) Certifying nuclear weapon and nuclear weapon systems, equipment, procedures, and software for use with nuclear weapon and nuclear weapon systems through detailed inspection procedures in references (f) and (g).

(6) Setting and maintaining high training and performance standards for personnel assigned to nuclear weapon duties.

(7) Training and certifying personnel to conduct nuclear weapon operations consistent with approved procedures.

(8) Incorporating advances in nuclear weapon safety technology via the NWSSP process identified in reference (a).

(9) Reviewing and evaluating the condition of DON nuclear weapon and performance of nuclear weapon systems for changes that may impact safety.

(10) Continuously performing trend analysis to identify systemic problems, determine root causes, and identify corrective actions.

(11) Assessing capabilities of nuclear weapon and nuclear weapon systems certified units.

c. All commands that have nuclear weapon or nuclear weapon systems related responsibilities must ensure completion of functions or compliance with standards per this instruction. Responsible organizations are those that perform one or more of the qualifications listed in subparagraphs 2c(1) through 2c(6).

(1) Maintain, handle, load or unload, mate or de-mate, inventory, or store nuclear weapon and nuclear weapon systems per approved procedures and reference (a).

(2) Ensure security of nuclear weapon and nuclear weapon systems per references (e), (h), and (i).

(3) Conduct logistics movements and convoys of nuclear weapon and nuclear weapon systems per references (j) and (k).

(4) Ensure operational control and use of nuclear weapon and nuclear weapon systems per references (l) through (n).

(5) Screen, select, and continuously evaluate individuals who work with nuclear weapon and nuclear weapon systems via the personnel reliability program (PRP) per reference (o).

(6) Develop and maintain a CONOPS for nuclear weapon and nuclear weapon systems per enclosure (4) of this instruction.

d. Nuclear weapon safety items are included in DON nuclear weapons technical inspections (NWTI) to ensure an NWSSP is maintained in nuclear capable activities and to issue corrective guidance when appropriate. NWTIs are conducted per references (f) and (g).

3. Organizational and General Responsibilities. References (c) and (d) define policy, responsibilities, and authorities for the safe, secure, and reliable stewardship of DON nuclear weapons and nuclear weapon systems.

4. Responsibilities. Specific nuclear weapon and nuclear weapon system safety related responsibilities, in addition to those contained in references (c) and (d), are found in subparagraphs 4a through 4d.

a. Deputy Chief of Naval Operations, Warfare Systems (CNO (N9))

(1) Appoint a knowledgeable and experienced person as the nuclear weapon safety section head to perform nuclear weapon safety related duties. The nuclear weapon safety section head establishes, conducts, and maintains the nuclear weapon safety program. The nuclear weapon safety section head is responsible for ensuring applicable safety rules and ordnance safety requirements are implemented.

(a) The nuclear weapon safety section head serves as the OPNAV point of contact for nuclear weapon and nuclear weapon system safety matters. He or she must have a broad working knowledge of each weapon system under their cognizance in order to provide expert policy, technical and managerial advice, and counsel relative to nuclear weapon and nuclear weapon system safety for the entire life cycle of all DON nuclear weapon programs.

(b) The nuclear weapon safety section head must be thoroughly knowledgeable of the nuclear weapon system safety rules and must be familiar with appropriate security measures, systems operational procedures, and applicable restraints.

(c) The nuclear weapon safety section head serves as the Navy focal point regarding safety aspects of special weapons ordnance publications (SWOP).

(d) The nuclear weapon safety section head serves as the OPNAV focal point for other Services, Joint Staff, Department of Energy (DOE), National Nuclear Security Administration (NNSA), Defense Threat Reduction Agency (DTRA) and other agencies on matters involving safety and readiness aspects of Navy nuclear weapons.

(e) The nuclear weapon safety section head must complete all prescribed formal training courses for the nuclear weapon systems involved.

(f) The nuclear weapon safety section head may be assigned other duties, but these duties must not prevent the nuclear weapon safety section head from fully performing all duties connected with the NWSSP.

(g) The nuclear weapon safety section head must not serve concurrently as the nuclear weapon security section head.

(2) Chair the annual nuclear weapon safety and schedule review and the OPNAV NWSC. Conduct the annual nuclear weapon safety and schedule review and OPNAV NWSC per enclosure (5), and place emphasis on identifying areas that need corrective remedial action.

(3) Coordinate with Director, Strategic Systems Programs (DIRSSP) to establish the agenda for the OPNAV NWSC and annual nuclear weapon safety and schedule review, and conduct the meetings.

(4) Convene the Nuclear Weapons System Surety Group (NWSSG) to conduct safety studies and OSRs.

(5) Submit proposed nuclear weapon system safety rules to Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) for approval.

(6) Issue approved nuclear weapon system safety rules to U.S. Fleet Forces Command (USFLTFORCOM), Commander, Pacific Fleet (COMPACFLT), DIRSSP, and others, subsequent to the review and approval of the Chief of Naval Operations (CNO) and appropriate DoD leadership.

(7) Provide the annual safety report to the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ASD(NCB)) no later than 1 July, describing the status of corrective actions for each of the open approved NWSSG findings from completed studies and reviews with information copies provided to the Chairman Joint Chiefs of Staff (CJCS) and NWSSG member organizations.

(8) Observe NWTIs per reference (f). Review NWTI reports for compliance with NWSSP applicable policies.

(9) Provide resources for nuclear weapon and nuclear weapon system safety ashore and afloat.

b. USFLTFORCOM and COMPACFLT

(1) Implement fleet guidance for the DON NWSSP policy.

(2) Ensure respective fleet nuclear capable units and activities are in compliance with DoD NWSSS and nuclear weapon system safety rules.

(3) Report nuclear weapon and nuclear weapon system safety issues to DIRSSP.

(4) Support DON nuclear weapon systems safety studies and OSRs for their assigned forces.

(5) Ensure the resources necessary to maintain the equipment, materials, facilities, and support services for forces under their cognizance meet the requirements of the DON NWSSP and are included in the Program Planning Budget Execution System.

(6) In conjunction with DIRSSP, conduct investigations of nuclear weapon incidents, and recommend appropriate corrective actions to the CNO.

(7) As operationally feasible, participate in the CNO (N9) annual nuclear weapon safety and schedule review as well as the monthly NWSSP teleconference.

(8) Ensure subordinate commands which have a nuclear weapon mission or have been tasked to support the NWSSP take actions to:

(a) Comply with the DoD NWSSS, nuclear weapon system safety rules, and approved technical and operational procedures during all nuclear weapon and nuclear weapon system operations throughout the stockpile-to-target sequence (STS).

(b) Enforce nuclear weapon incident prevention, nuclear weapon system monitoring, and the identification, investigation, reporting, and correction of all problems affecting nuclear weapon and nuclear weapon system safety.

(c) Report nuclear weapon incidents per reference (p), and comply with reference (q) for nuclear weapon incident response.

(d) Investigate and report, per reference (r), any event that involves nuclear weapons, nuclear weapon systems, certified support equipment, certified nuclear capable delivery vehicles or procedures, and any situation or occurrence that degrades or could degrade nuclear weapon or nuclear weapon system safety.

(e) Use only authorized and certified equipment, procedures, and software in operations involving nuclear weapon and nuclear weapon systems.

(9) Provide to DIRSSP for review and coordination of CONOPS per enclosure (4) of this instruction for those nuclear weapon and nuclear weapon systems for which they have responsibility.

(10) Advise CNO (N9) and DIRSSP on trends and issues related to NWSSP.

(11) When warranted, recommend special safety studies (SSS) to CNO (N9) through DIRSSP.

(12) Ensure an NWSC is established within custodial commands and that appropriate members of the command from all command levels are represented on the council.

c. Commander, Submarine Force Atlantic, and Commander, Submarine Force Pacific (COMSUBPAC)

(1) Ensure subordinate units appoint a knowledgeable and qualified person as the nuclear safety officer (NSO) to perform nuclear safety duties and to provide guidance that delineates, but is not limited to, subparagraphs 4c(1)(a) through 4c(1)(c).

(a) Basic Function. The NSO establishes, conducts, and maintains the nuclear weapon safety program. The NSO is responsible for ensuring applicable safety rules, ordnance safety requirements, the PRP, and security requirements are implemented. The NSO must be appointed in writing in each nuclear capable ship and on each staff with nuclear capable ships assigned.

1. The NSO's rank should be commensurate with the scope, complexity, and span of the duties assigned.

2. The NSO must have a broad working knowledge of each weapon system under their cognizance, but does not need to be technically qualified in specific areas of weapon maintenance, storage, or handling.

3. The NSO must be thoroughly knowledgeable of the nuclear weapon system safety rules and must be familiar with appropriate security measures, systems operational procedures, and applicable restraints.

4. The NSO must complete all prescribed formal training courses for the nuclear weapon systems involved.

(b) Duties, Responsibilities, and Authority. The NSO must establish a nuclear weapon safety plan. The NSO's nuclear weapon safety plan consists of a required reading program that reflects implementation of this instruction, and initial reading and periodic review of required publications that ensures the PRP is properly implemented. The NSO monitors safety practices and procedures to include weapon handling, safety devices, and accident drills. The results should be critiqued with the personnel concerned.

(c) Organizational Relationships. The NSO reports directly to the commanding officer, on nuclear weapon safety matters.

1. The NSO may be assigned other duties, but these duties will not prevent the NSO from fully performing all duties connected with the NWSSP.

2. The NSO must not serve concurrently as the security officer or nuclear weapon handling supervisor.

(2) Implement a PRP per reference (o).

(3) Recommend nuclear certified equipment changes to DIRSSP.

(4) Provide appropriate inputs to the Joint Nuclear Weapons Publication System (JNWPS) and SWOPs consistent with established DoD and DON policy.

(5) Ensure commanders who have a capability to store, maintain, or employ nuclear weapons will continue to maintain the NWSSS, safety features, and positive measures developed by DIRSSP while nuclear weapon or nuclear weapon systems are in the commanders' custody.

(6) Screen personnel who will perform nuclear related duties and certify them under the PRP in their specific areas of responsibility.

(7) Evaluate nuclear weapon and/or nuclear weapon system capable commanders for NWSSS compliance. Assess findings for trends and provide nuclear weapon policy and procedures improvements to DIRSSP through the respective fleet commander.

(8) As operationally feasible, participate in the CNO (N9) annual nuclear weapon safety and schedule review as well as the monthly NWSSP teleconference.

d. DIRSSP. DIRSSP is the technical authority and program manager for technical operations and maintenance of DON nuclear weapon and nuclear weapon systems to ensure they comply with DON NWSSP policy, and must:

(1) Ensure the safety design, development, analysis, and testing of nuclear weapon and nuclear weapon systems.

(2) Provide nuclear weapon and nuclear weapon systems technical guidance and procedures to ensure safety.

(3) Develop and coordinate NWSSP policies for CNO (N9) that will assist in maintaining the highest practicable levels of nuclear weapon safety consistent with operational requirements and the DoD NWSSS.

(4) As technical authority, implement the lightning protection system program requirements of reference (a).

(5) Perform as secretary for DON NWSSG safety studies and OSRs.

(6) Analyze safety trends and advise the nuclear weapon community as appropriate and, when warranted, propose changes or recommend an SSS on DON nuclear weapon and nuclear weapon systems-associated equipment to CNO (N9) per references (c) and (d).

(7) Implement a program for nuclear weapon incident prevention, system monitoring, incident event identification,

incident event investigation, and incident event correction, or recommend corrective actions for all problems affecting nuclear weapon and nuclear weapon systems safety.

(8) Report to CNO (N9) any situation that degrades or could degrade nuclear weapon or nuclear weapon system safety.

(9) Monitor and report significant safety deficiencies and trends identified during nuclear weapon inspections and assessments ashore and afloat. Review and ensure the immediate correction of all nuclear weapon or nuclear weapon system safety-related inspection discrepancies, and ensure trend and root-cause analyses are conducted and recommendations are implemented in a timely manner and reported to CNO (N9).

(10) Prepare the CNO (N9) annual nuclear weapon safety and schedule review and OPNAV NWSC agenda, and keep minutes of meetings and deliberations. Minutes must be retained for 2 years.

(11) Ensure all commanders who have a nuclear weapon or nuclear weapon system capability to store or maintain nuclear weapons or nuclear weapon systems adhere to the nuclear weapon safety requirements incorporated by DIRSSP.

(12) Through an annually renewed memorandum of understanding with Deputy Chief of Naval Operations for Manpower, Personnel, Training, and Education (CNO (N1)), establish and implement a program to select, train, and certify personnel who conduct nuclear operations to perform these operations consistent with approved procedures. Training must include all pertinent technical, safety, and security practices and procedures.

(13) Coordinate Navy inputs to the JNWPS and DON SWOPs consistent with established DoD and DON policy, and provide status to CNO (N9).

(14) As the technical authority, develop standards and procedures for enforcement of the day-to-day nuclear weapon operations and maintenance activities for safety, security, nuclear weapon incidents, and radiation health.

(15) Provide guidance for nuclear weapon safety and security within the waterfront restricted areas for submarines.

(16) Determine appropriate nuclear weapon training requirements and performance standards.

(17) Perform as the program manager for the Trident II (D5) strategic weapon system and strategic weapons facilities (SWF) and:

(a) Provide for the conduct of completion inspections per reference (s).

(b) Ensure that independent analyses are conducted on weapon systems data and operating procedures; these analyses will be performed against the system safety design criteria and will provide the basis for recommendations on nuclear safety design certification; certification will be documented in applicable publications.

(c) Ensure only authorized and certified equipment, materials, facilities, supporting services, procedures, and software are used in operations involving nuclear weapon and nuclear weapon systems, and comply with the DON NWSSP.

(d) Process, collect, and maintain safety reports.

(e) Prepare the safety study data package to be studied or reviewed by an NWSSG.

(f) Ensure implementation of and compliance with nuclear weapon system safety rules.

(g) Develop and provide checklists, procedural guides, and similar directives to implement safety rules.

(h) Implement the non-nuclear assurance program requirements for all test assemblies and unmated delivery vehicles.

(i) Analyze operational safety performance and prepare and issue information to the CNO on nuclear weapon and nuclear weapon system safety matters and on nuclear weapon incidents prevention.

(j) Comply with the safety rules and approved technical and operational procedures during all nuclear weapon operations throughout the STS.

(k) Ensure that the acquisition strategy implements the DON nuclear weapon safety design criteria for safety evaluation and safety certification.

(l) Ensure the SWFs appoint a knowledgeable and qualified person as the NSO to perform nuclear safety duties; provide guidance that delineates, but is not limited to, subparagraphs 4d(17)(1)1 through 4d(17)(1)3.

1. Basic Function. The NSO establishes, conducts, and maintains the nuclear weapon safety program. The NSO is responsible for ensuring applicable safety rules, ordnance safety requirements, the PRP, and security requirements are implemented. The NSO must be appointed in writing.

a. The NSO's rank must be commensurate with the scope, complexity, and span of the duties assigned.

b. The NSO must have a broad working knowledge of each weapon system under their cognizance, but does not need to be technically qualified in specific areas of weapon maintenance, storage, or handling.

c. The NSO must be thoroughly knowledgeable of the nuclear weapon system safety rules and must be familiar with appropriate security measures, systems operational procedures, and applicable restraints.

d. The NSO must complete all prescribed formal training courses for the nuclear weapon systems involved.

2. Duties, Responsibilities, and Authority. The NSO must establish a nuclear weapon safety plan. The NSO's nuclear weapon safety plan consists of a required reading program that reflects implementation of this instruction, and initial reading and periodic review of required publications that ensures the PRP is properly implemented. The NSO monitors safety practices and procedures to include weapon handling, safety devices, and accident drills. The results should be critiqued with the personnel concerned.

3. Organizational Relationships. The NSO reports directly to the commanding officer on nuclear weapon safety matters.

a. The NSO may be assigned other duties, but these duties must not prevent the NSO from fully performing all duties connected with the NWSSP.

b. The NSO must not serve concurrently as the security officer or nuclear weapon handling supervisor.

c. The appointed NSO, or an SWF representative, should participate in the CNO (N9) annual nuclear weapon safety and schedule review as well as the OPNAV NWSC, as operationally feasible.

(m) Ensure personnel maintain proficiency to conduct nuclear weapon operations.

(n) Screen personnel who will perform nuclear related duties and certify them under the PRP in their specific areas of responsibility.

(o) Certify the safety of the design of nuclear weapon systems and associated support equipment; and maintain a list of nuclear weapon systems safety certified equipment and software, using a safety design certification process and reference (b). Safety certification is required to ensure that the safety design criteria specified in this instruction are incorporated in the areas of nuclear weapon systems, combat and non-combat delivery vehicles, nuclear weapon support equipment, and shore-based nuclear weapon facilities.

5. Nuclear Weapon Safety Training. Personnel must receive periodic refresher training and event-specific nuclear weapon safety training before working with nuclear weapon or nuclear weapon systems. It is recommended that personnel receive nuclear weapon safety training in conjunction with explosives safety or missile safety training under the nuclear weapon safety training program.

6. NWTI. NWTIs will be administered to all nuclear capable commands per references (a), (f), and (g).

7. NWSC. An NWSC must be established within custodial commands (at a minimum) and must be comprised of appropriate members of the command representing all command levels. The NWSC examines and resolves problems affecting the successful execution of an activity's nuclear weapon program, and acts as a review board to assist the commander in ensuring that all facets of the NWSSP function in an effective manner.

CONOPS FOR EMPLOYMENT OF  
NAVY NUCLEAR WEAPON SYSTEMS

1. General. The CONOPS for employment of DON nuclear weapon systems is used by the NWSSG in the development of nuclear weapon system safety rules for Navy nuclear weapon systems assigned, or programmed for assignment, to combatant commanders. The CONOPS is a description of the weapon system and an explanation of the system's operational concept for weapon systems included in the pertinent operation plan. The NWSSG evaluates the system under study with these operational constraints, considerations, and requirements. DIRSSP is required to coordinate the development or update of the CONOPS for employment of a nuclear weapon system with USFLTFORCOM and COMPACFLT and recommend the approval of the coordinated CONOPS to CNO (N9) prior to any scheduled safety study or review. CNO (N9) will approve the CONOPS for use in the safety study or review. The CONOPS is included in the nuclear weapon safety study data package and, subsequently, becomes a portion of "Part A" of the Navy nuclear weapon system safety rules package. USD(AT&L) will approve nuclear weapon system safety rules, CJCS will direct implementation, and CNO (N9) will distribute approved nuclear weapon system safety rules within DON. Approval remains valid only if the weapon system description, CONOPS, and design safety features remain substantially unchanged.

2. Discussion

a. The NWSSG reviews the military characteristics, STS, all the materials, manuals, procedures, and CONOPS during the conduct of a nuclear weapon system safety study or OSR. This requirement recognizes that technical information cannot always provide the basis for a realistic evaluation of nuclear weapon safety unless it is presented and considered against the background of intended operational employment of the system in the STS. A nuclear weapon system safety study or OSR evaluates a nuclear weapon or nuclear weapon system that is in use or intended for use. The description of the salient features of this use is the function of the CONOPS. The success of a nuclear weapon system safety study or OSR in achieving a realistic balance between safety and operational readiness in its findings and recommendations can depend in large part upon the adequacy and accuracy of the CONOPS.

b. In view of the importance of the CONOPS to the safety study and OSR process, this enclosure provides guidance for the preparation of the CONOPS.

c. An approved CONOPS remains valid for a specific nuclear weapon or nuclear weapon system until new or modified CONOPS are approved by CNO (N9). When approving new or modified CONOPS, CNO (N9) will specify whether the new or modified CONOPS supersedes the CONOPS applicable to existing, approved nuclear weapon system safety rules.

### 3. CONOPS Format

a. Introduction. Provides a brief introductory statement to identify the nuclear weapon or nuclear weapon system and describes the operational forces which will employ it.

#### b. Operational Employment

(1) States those forces that are, or will be, the operational users of the nuclear weapon system.

(2) Includes details of the operational chain of command.

(3) Describes that part of the mission that is concerned with the delivery of nuclear weapons.

(4) Discusses the conditions of readiness to which the nuclear weapon system will be raised by the operating units.

(5) Discusses any operational constraints that may be placed on the system.

#### c. Tactics and Employment

(1) Briefly describes nuclear weapon delivery tactics envisioned for the nuclear weapon system.

(2) Cites appropriate documents or describes restrictions pertaining to the tactical use of the nuclear weapon system.

d. Command and Control

(1) Describes the administrative procedures by which employment of the nuclear weapon system would be authorized.

(2) Identifies the commanders authorized to approve employment of the nuclear weapon system.

(3) Discusses and describes the command and control provisions incorporated in the nuclear weapon system, such as separable components. The specific measures that allow the authorized use and prevent or delay unauthorized use of nuclear weapons are "use control."

(4) Describes the combination of weapon system design features, operational procedures, security, and system safety rules which constitute the use control measures for the weapon system.

(5) Identifies the specific warhead and system features, including where and by whom coded inputs are originated, set, and entered to enable the weapon or weapon systems.

(6) Specifies differences in use control measures for operational and logistic activities.

e. Nuclear Weapon Safety

(1) Describes safety precautions or administrative procedures to be employed for the enhancement of safety for the nuclear weapon or nuclear weapon system. In general, a statement that the provisions of a cited document will govern a specific safety aspect will suffice.

(2) Describes all emergency plans, including jettison procedures that may be peculiar to the nuclear weapon or nuclear weapon system, and describes the manner of reporting nuclear weapon incidents.

f. Security. Ensures nuclear weapon physical security requirements of references (h) and (i) are implemented. Also describes the security measures to be afforded to the nuclear weapon or nuclear weapon system throughout the STS, to include a

description of physical security measures and administrative procedures in both the logistic and operational environments.

g. Logistics

(1) Indicates where the nuclear weapon will physically come into the custody of an SWF or fleet commander and the type activities involved.

(2) Indicates those commands that may become responsible for logistic movements and defines their chain of command to USFLTFORCOM and COMPACFLT.

(3) Describes the vehicles or mechanisms that will be used to transport or transfer nuclear weapons. Details of handling equipment or procedures are not desired since they may be obtained from other sources. Where circumstances require that the nuclear weapon be transported in a way other than the stockpile configuration, the configuration required and the circumstances should be described.

h. Nuclear Weapon Storage, Configuration, and Handling

(1) Provides a general statement that storage, handling, and maintenance will be per appropriate SWOP and ordnance publications. If there are special circumstances or equipment which will make adherence to these procedures difficult, the nature of the difficulty should be detailed.

(2) Describes plans for weapon and component storage throughout the STS.

(3) Describes the levels of maintenance to be performed by activities having physical custody of the nuclear weapon or nuclear weapon system.

i. Training, Testing, and Inspections. Briefly describes the training programs and special equipment to be utilized for training and inspections. Describes any unique nuclear weapon or nuclear weapon system safety related operational requirements pertaining to weapon system testing.

OPNAV NWSC AND ANNUAL NUCLEAR WEAPONS SAFETY AND SCHEDULE REVIEW

1. General. The OPNAV NWSC and annual nuclear weapon safety and schedule review must examine and resolve problems relating to maintaining and improving the NWSSP. These meetings represent a continuing review board to assist commanders, and the Navy Nuclear Weapons Oversight Council in ensuring that all facets of the NWSSP are functioning in an effective manner. The OPNAV NWSC and annual nuclear weapon safety and schedule review must be conducted in a manner that promotes a high degree of collaboration and communication. Active participation by principal members is critical.

2. Requirements. The OPNAV NWSC and annual nuclear weapon safety and schedule review must be conducted as found in subparagraphs 2a through 2f.

a. Membership may vary due to the particular subject matter to be discussed, operational commitments, and as directed by the chair. Participation is not limited to listed participants. The commands listed in subparagraphs 2a(1) through 2a(4) should participate.

(1) CNO (N9). Nuclear weapon safety section head or designated representative.

(2) DIRSSP

(a) Chief nuclear weapon inspector or designated representative.

(b) Headquarters nuclear weapon safety policy representative(s).

(c) SWF Atlantic NSO or designated representative.

(d) SWF Pacific NSO or designated representative.

(3) USFLTFORCOM

(a) Chief nuclear weapon inspector or designated representative.

(b) Fleet nuclear weapon officer or designated representative.

(c) Nuclear Weapons Inspection Detachment Kings Bay (officer in charge or designated representative).

(d) COMSUBFOR designated representative(s).

(4) COMPACFLT

(a) Chief nuclear weapon inspector or designated representative.

(b) Fleet nuclear weapon officer or designated representative.

(c) Nuclear Weapons Inspection Detachment Bangor (officer in charge or designated representative).

(d) COMSUBPAC designated representative(s).

b. The CNO (N9) nuclear weapon safety section head or designated representative must establish and convene the OPNAV NWSC quarterly, or more frequently as required, to maintain an effective NWSSP. The OPNAV NWSC should normally be conducted via teleconference.

c. The CNO (N9) nuclear weapon safety section head or designated representative must establish and convene the annual nuclear weapon safety and schedule review annually, or more frequently as required, to maintain an effective NWSSP. The annual nuclear weapon safety and schedule review should be conducted in person with teleconference participation available for members unable to attend. The meeting should be completed in sufficient time to allow for submission of the annual safety report to ASD(NCB), per reference (a).

d. The chair for the OPNAV NWSC and annual nuclear weapon safety and schedule review must be the CNO (N9) representative.

e. Retain the minutes (with attendance list) of meetings and deliberations for 2 years.

f. Topics must include (at a minimum):

- (1) A review of the previous meeting minutes.
- (2) Current status of any safety studies or reviews.  
(To include a review of the status of open findings and the 3-year schedule).
- (3) Documentation status (Pending and proposed changes, recent updates, etc.).
- (4) Nuclear weapon incident response (To include procedures, reports, exercise planning, etc.).
- (5) NWTI issues and trends.
- (6) Additional topics as needed.
- (7) A review of the current meeting action items (if applicable).

PROCEDURES FOR NAVY NUCLEAR WEAPON  
SYSTEMS SAFETY STUDIES AND OSRs

1. General. The required safety studies and OSRs evaluate the safety of DON nuclear weapons and nuclear weapon systems and may propose new nuclear weapon system safety rules or changes to nuclear weapon system safety rules for nuclear weapons or nuclear weapon systems.

2. Goals. The goal of the DON NWSSP is to achieve maximum safety consistent with operational requirements and the DoD NWSSS. Safety studies and reviews support the safety program by providing an ongoing comprehensive evaluation of DON nuclear weapons and nuclear weapon systems which verifies whether design safety features and procedural safeguards are adequate to meet the four DoD NWSSS. Safety studies and reviews ensure nuclear weapons and nuclear weapon systems are designed, produced, transported, controlled, installed, stored, operated, maintained, retrofitted, and modified to incorporate maximum nuclear weapon safety and security, while fully considering the systems' operational requirements. The burden of proof rests with the weapon systems' program office to show compliance with the four DoD NWSSS.

3. Types of Studies or Reviews

a. There are six types of safety studies or OSRs defined in reference (a).

(1) Initial safety study.

(2) Preliminary safety study.

(3) Interim safety study.

(4) Pre-operational safety study.

(5) OSR.

(6) SSS.

b. The purpose, timing, and scope of the safety studies and OSRs are detailed in reference (a).

c. The scope of safety studies and OSRs may include, in addition to the areas specified in reference (a), evaluation of planned changes to system design or procedures.

d. Transportation Safety Assessments. The purpose, timing, and scope of transportation safety assessments are detailed in, and must be conducted per reference (k). Transportation safety assessments and the requirements of reference (k) may be incorporated in OSRs or SSSs as proposed by DIRSSP and approved by CNO (N9).

#### 4. Responsibilities

##### a. CNO (N9)

(1) Consider recommendations from DIRSSP to determine the requirement, purpose, and scope for each nuclear weapon system safety study and OSR for which the DON has an operational, custodial, or developmental responsibility.

(2) Establish a schedule for safety studies and OSRs for the next 3 fiscal years (FY). Update and issue the schedule annually no later than 1 July for the 3 FYs beginning the following October. This schedule authorizes all participants of the NWSSG to plan and budget for the safety studies and reviews in their areas of responsibility.

(3) Issue the convening letter and appoint the NWSSG chair, in writing, 90 calendar days prior to each safety study or OSR. The letter of authorization, including purpose, scope and agenda will be issued to DIRSSP and NWSSG member organizations.

(4) Approve the CONOPS for employment of the weapon system 90 calendar days prior to the safety study or OSR.

(5) Following the safety study or review, approve or disapprove findings and observations, assign action on approved findings and observations, approve the NWSSG report as the CNO nuclear weapon system safety report and provide a copy of the CNO nuclear weapon system safety report to DIRSSP, NWSSG member organizations, ASD(NCB), and the Joint Staff.

(6) If applicable, submit proposed nuclear weapon system safety rules (or proposed changes to safety rules) to USD(AT&L) for approval. Request interim approval if necessary. Issue nuclear weapon system safety rules upon approval.

(7) Provide an internally generated safety report to ASD(NCB) per reference (a).

b. DIRSSP

(1) Coordinate a schedule for safety studies and OSRs for the next 3 FYs and submit to CNO (N9) annually no later than 1 June.

(2) Draft the recommended schedule, purpose, scope, agenda, and chair nomination by name and provide recommendation to CNO (N9) 180 calendar days prior to the scheduled safety study or OSR.

(3) Coordinate with fleets and other appropriate organizations on the recommended schedule, scope, agenda, CONOPS, and operational environment for each safety study and OSR 120 calendar days prior to the scheduled convening date.

(4) Provide a safety study data package per this enclosure to NWSSG members at least 30 calendar days before the start of the safety study or OSR.

(5) Conduct briefings and facility site visits under DIRSSP cognizance per the CNO (N9) provided scope and agenda.

(6) Coordinate necessary administrative and security arrangements with the host facility and the NWSSG chair for the safety study or OSR.

c. USFLTFORCOM and COMPACFLT

(1) Provide a draft CONOPS for those nuclear weapons and nuclear weapon systems under their responsibility to DIRSSP 120 calendar days prior to the scheduled safety study or OSR convening date.

(2) Coordinate with DIRSSP on the extent that the nuclear weapons and nuclear weapon systems must be reviewed in the operational environment 120 calendar days prior to the scheduled convening date.

(3) Conduct briefings, ship visits, and facility site visits under USFLTFORCOM and COMPACFLT cognizance per the CNO provided scope and agenda.

(4) Provide NWSSGs with applicable operations orders, operations plans, directives, and related materials.

(5) Provide members to the NWSSG for each safety study or OSR.

d. NWSSG Chair

(1) Assume responsibility for all aspects of the safety study or review, including its preparation, conduct, and reporting.

(2) Ensure the efficient management and timely conduct of the assigned safety study or OSR, and provide complete coverage of safety related issues.

(3) Guide the discussion of issues and encourage an open exchange of ideas and comments, and attempt to reach a consensus on each issue.

(4) Ensure all opinions are recorded in the NWSSG report.

(5) Complete a review of the safety study data package prior to convening the study or review.

(6) Provide the NWSSG report to CNO (N9) within 14 calendar days following the safety study or OSR.

(7) Compile and submit to CNO (N9) the safety rules package for each study when nuclear weapon safety rules (or safety rule changes) are proposed by the NWSSG. Provide a copy of the safety rules package to DIRSSP.

5. CNO (N9) NWSSG. The NWSSG periodically conducts detailed nuclear weapon systems safety studies and reviews throughout the DoD life cycle of Navy nuclear weapons and nuclear weapon systems. CNO (N9) convenes an NWSSG for a particular study or review which provides an additional means of assessment of nuclear weapon and nuclear weapon system safety. Based on evaluations, the NWSSG may also recommend proposed nuclear weapon system safety rules for operations of the nuclear weapon or nuclear weapon system to enhance compliance with the four DoD NWSSS. Vulnerabilities may be identified and the NWSSG may propose interim safety rules that could permit continued operations that ensure maximum safety is maintained, consistent with operational requirements and the four DoD NWSSS. When convened by CNO (N9), the NWSSG evaluates nuclear weapons and nuclear weapon systems to ensure that design safety features and procedural safeguards are adequate to meet the four DoD NWSS. The NWSSG must:

- a. Conduct safety studies and OSRs.
- b. Evaluate the nuclear weapon and/or nuclear weapon system within the envelope of the STS and the CONOPS.
- c. Prepare an NWSSG report for each safety study or OSR with any safety findings, recommendations, observations, or minority opinions.
- d. Develop proposed nuclear weapon system safety rules for new nuclear weapons or nuclear weapon systems, and review existing nuclear weapon system safety rules and propose changes if required. Submit proposed nuclear weapon system safety rules (or changes to safety rules) in a finding to CNO (N9).
- e. Disband when the CNO nuclear weapon system safety report is approved and distributed by CNO (N9).

6. Safety Study Data Package Preparation

a. DIRSSP will ensure the technical data listed in subparagraphs 6a(1)(a) through 6a(1)(d) is provided to all the NWSSG members and agencies 30 calendar days prior to the convening date.

(1) The nuclear weapon system safety study data package (i.e., pre-meeting data package) provides NWSSG members with information on the system in advance of the study or review which will enable members to be more effective during formal proceedings. The nuclear weapon system safety study data package will contain all available pertinent data, including the information per subparagraphs 6a(1)(a) through 6a(1)(d).

(a) "Part A": Technical description and CONOPS for the nuclear weapon system being evaluated.

(b) "Part B": Description of the safety features incorporated into the nuclear weapon and/or nuclear weapon system.

(c) "Part C": Current approved nuclear weapon system safety rules (for operational systems), and when applicable, draft proposed nuclear weapon system safety rules or changes to current safety rules.

(d) When modified systems or portions of systems are involved, the safety study data package only need contain that material related to the modification or portion of the system being studied or reviewed, as indicated in the scope of the nuclear weapon system safety study convening letter from CNO (N9).

(2) The information in subparagraphs 6a(2)(a) through 6a(2)(f) will be made available to the NWSSG for review.

(a) JNWPS technical publications, SWOPs, and technical manuals.

(b) Pertinent material from previous CNO (N9) nuclear weapon system safety reports on the specific nuclear weapon and/or nuclear weapon system, including approved findings and recommendations and their status.

(c) The most recent project officer group, design review, and acceptance group reports.

(d) A summary of nuclear weapon incidents, NWTI results, and relevant unsatisfactory reports.

(e) Technical nuclear safety analyses, as available, that address system features, interfaces, operations such as implementation of transportation policy per reference (k), and applicable risk assessments.

(f) Applicable operations orders, operations plans, directives, and related materials.

b. CNO (N9) will request, through ASD(NCB), that DOE provide:

(1) Final weapons development report, to include a history of alterations, modifications, status of the major assembly release, and operating modes. The warhead description will be included with the final weapons development report, as well as safety design information, and should correlate with the major assembly release.

(2) A summary of the warhead design safety features, including use control which supports the weapon safety.

(3) An assessment of how the design safety features support the military characteristics and the DoD NWSSS, including a summary of environments in which weapon design characteristics alone are inadequate to meet the military characteristics and DoD NWSSS.

7. Composition of the NWSSG. An individual assigned as an NWSSG member will participate in all phases during the conduct of the safety study or OSR. NWSSG members must be of sufficient rank or stature to represent their command, and be supported by technical personnel. All NWSSG members must be qualified through operational or system experience or technical background to move rapidly into a thorough discussion of the safety aspects of the system under study. Commands or activities with NWSSG membership responsibility on nuclear weapon system safety studies and OSRs may designate sub-activities or subordinate commands to provide their NWSSG member when deemed appropriate. Parent commands are responsible for funding their NWSSG members' participation in safety studies and OSRs.

a. Assignment of NWSSG Members. The NWSSG is composed of military and civilian professionals per reference (a). NWSSG members include representatives from: OPNAV (NWSSG chair),

USFLTFORCOM, COMPACFLT, DIRSSP, U.S. Strategic Command, DTRA, DOE, and NNSA. Representatives from additional commands and agencies with responsibility for nuclear weapons or nuclear weapon systems safety may be included when appropriate. Members are assigned for the duration of the study or review.

b. Responsibilities of NWSSG Members

(1) Serve as the focal point for the exchange of information between their commands and the NWSSG.

(2) Review background material provided in the safety study data package prior to the convening date.

(3) Be knowledgeable of the DON NWSSP, policy, and procedures. Complete a review of the safety study data package prior to convening the study or review.

(4) Identify, analyze, and provide assessments of pertinent nuclear weapon systems safety related information and operations.

(5) Be able to convey to the NWSSG the unique operational requirements of their organization, parent command, and the DoD.

(6) Independently formulate their judgments when assessing whether the system meets the DoD nuclear weapon system's safety policy and surety standards.

(7) Remain impartial and objective and consider the operational needs of the DON together with the need for maximum safety when developing nuclear weapon system safety findings, recommendations, and observations. While assigned to the NWSSG, members will be responsible to the NWSSG chair.

(8) Inform the NWSSG chair prior to the start of the study of any issues or concerns identified in preparing for the study and reviewing the safety study data package or the study purpose, scope, and agenda.

(9) Represent their command's interests and responsibilities.

(10) NWSSG members are not responsible for defending their parent command's policies or positions. Their responsibilities are the identification and evaluation of nuclear weapon safety issues.

c. NWSSG Qualifications

(1) The NWSSG chair must be, at a minimum, a military grade O-6 or government civilian equivalent and have the nuclear weapon experience necessary to meet the position's responsibilities, to include efficient management and timely conduct of the safety study or review per the CNO (N9) purpose, scope and agenda, and preparation of the final report. Per reference (a), exceptions to the required O-6 level will be approved by CNO (N9). The NWSSG chair must not have direct responsibility for design, development, or production of the specific nuclear weapon system under evaluation.

(2) NWSSG member requirements

(a) Minimum military grade O-5 or civilian equivalent. Exceptions will be rare and must be approved by the NWSSG chair.

(b) Extensive operational or technical experience with nuclear weapon systems and experience or training in evaluation techniques applicable to the DoD NWSSG.

(c) No direct responsibility for design, development, or production of the specific nuclear weapon system under evaluation.

(3) The NWSSG chair and members are highly encouraged to complete the nuclear weapon surety training program, as delineated in reference (a), before participation in safety studies or reviews.

d. NWSSG Advisors

(1) Advisors may be invited by NWSSG members, as approved by the NWSSG chair. The chair may also request specific advisors when needed.

(2) Advisors must have relevant technical knowledge of nuclear weapon systems, or specific technical knowledge or operational experience with the design, development, production, or operation of the nuclear weapon system under evaluation.

(3) Advisors are encouraged, but are not required, to have completed the DoD nuclear weapon surety training program outlined in reference (a).

(4) Advisors do not have a formal voice in NWSSG proceedings but may submit findings through their organization's NWSSG voting member. They are encouraged to make contributions to NWSSG briefings, discussions, and deliberations, through the member whom they represent, to clarify points of discussion on issues raised by their sponsor or another NWSSG member. Advisors may participate in such discussions, but their input will be limited by their advisor status.

## 8. Conduct of the Study or Review

### a. NWSSG Members

(1) Review the nuclear weapon safety study data package in preparation for the study or OSR and encourage their advisor(s) to review the nuclear weapon safety study data package.

(2) Review the status of relevant findings, recommendations, and open corrective actions from previous CNO nuclear weapon system safety reports.

(3) Receive technical and operational briefings on the weapon system under study.

(4) Determine if the nuclear weapon and/or nuclear weapon system, as described, may be operated safely per the CONOPS. Observe operations with applicable support equipment in a representative sample of operational environments and in substantially unique operational environments, as applicable. The NWSSG will make visits to activities and observe operations and equipment. Where impractical or not possible to observe actual hardware, mockup or training devices may be used.

(5) Review technical and operational procedures in SWOPs and compare with observed operations.

(6) Examine the STS document for storage, maintenance, transportation, and employment operations to ensure that all relevant activities are reviewed.

(7) Review potential hazards in normal and abnormal environments identified in the STS document for impact on safety. Review possible credible abnormal environments and examine potential hazards where applicable.

(8) Review the process for the authentication of nuclear control orders at the delivery unit level.

(9) Review results and recommendations of available inadvertent and unauthorized launch analyses and related software and physical security analyses.

(10) Examine surety-related use control matters in the context of the second NWSSS.

(11) Examine surety-related security matters in the context of the fourth NWSSS.

b. Deliberations. Upon completion of all presentations and demonstrations, the deliberation phase begins. Deliberations are discussions among NWSSG members that focus on issues identified during the presentations and demonstrations. The objective of the deliberations is to determine findings, which are statements of fact or conclusions of the NWSSG on the nuclear weapon surety of the nuclear weapon and/or nuclear weapon system. The NWSSG members will vote on each finding; in the event of a tie vote, the NWSSG chair must provide the deciding vote. The NWSSG will strive to achieve consensus on each issue, but, where it is not possible, individual NWSSG members will submit minority opinions.

c. Determinations. The NWSSG must determine if the nuclear weapon and/or nuclear weapon system is being operated in a manner that meets DoD nuclear weapon system surety policies and standards.

(1) If the system meets the nuclear weapon system surety policies and standards, the NWSSG will draft, if applicable, proposed new safety rules, propose changes to current safety rules, or recommend other positive measures to further ensure maximum safety consistent with operational requirements.

(2) If the system cannot be verified to meet the nuclear weapon system surety policies and standards, the NWSSG will:

(a) Draft proposed nuclear weapon system safety rules or other positive measures, stating their benefits, that will permit continued operations.

(b) Determine operational impacts if the proposed safety rules or other positive measures are not adopted.

(3) If the system does not meet the policies and standards, the NWSSG will determine nuclear weapon and/or nuclear weapon system limitations and constraints that do not allow safe operation of the system, and either:

(a) Determine draft safety rules or other positive measures that will allow the system to meet the NWSSS; or

(b) Draft proposed nuclear weapon system safety rules that permit continued operations with an identified vulnerability while maximizing nuclear weapon system safety consistent with operational requirements and the four DoD NWSSS.

(4) In cases where a weapon system does not meet or cannot be verified to meet the nuclear weapon system surety policies and standards, the NWSSG also will identify:

(a) Affected parts of the STS.

(b) Applicable accident scenarios, abnormal environments, or other factors causing nonconformance with the NWSSS, including:

1. Plausible sequences of events that may lead to those undesirable situations.

2. System responses, if known, to the abnormal environment or other factors causing nonconformance with the

standards (e.g., nuclear yield, high-explosive detonation, pre-arming, launching, or releasing). Credible combinations of abnormal environments should be identified where possible.

3. Procedures and hardware, if any, that are identified as deficient.

4. Specific limitations imposed on system operations which will be identified and justified in the safety rules package.

(5) If hazardous conditions exist, the NWSSG chair may recommend immediate constraints on nuclear weapon and/or nuclear weapon system operations or cessation of operations for the nuclear weapon and/or nuclear weapon system. If such action is recommended, CNO (N9) must be notified through the fastest means of communication. Notification will include all minority opinions. The NWSSG must also recommend the conditions that must be satisfied before operations may resume.

d. Reporting Requirements. The NWSSG will prepare the NWSSG report per paragraph 9. For those studies where no safety rule changes are proposed by the NWSSG, CNO (N9) may submit a letter to the ASD(NCB) and CJCS certifying the current rules are sufficient.

9. NWSSG Report. The NWSSG report title will be descriptive and will include the name of the weapon system under study. An NWSSG report of each safety study or OSR provided by the NWSSG chair to CNO (N9) for approval will include the sections described in subparagraphs 9a through 9g.

a. Executive Summary. The executive summary will summarize the study results. It will include an appraisal statement that assesses whether or not the weapon system meets DoD nuclear weapon system safety policy and surety standards when operated per prescribed technical and operational procedures in the system CONOPS, and with proposed or existing safety rules and other positive measures. The executive summary will also include a synopsis of the findings, recommendations, observations, and minority opinions (if any), and will comment on limitations that affected the conduct of that study.

b. Study Overview

(1) Summarize the study's scope, background, and purpose; describe the assessments conducted by the NWSSG; list all assumptions that were necessary to complete the study; and include the system's CONOPS, current safety rules (if any), a system functional description, including the safety technologies incorporated in the system; and the safety feature description provided in the Navy safety study data package. Those documents may be attached as appendices. The study overview is not intended to be a technical or engineering source document.

(2) The NWSSG may provide comments on the impact of safety on the system CONOPS and the different implications for safety inherent in unique operational locations; reiterate recommendations from previous studies or reviews that remain open pending completion of corrective action, and provide the status of each; and note any limitations that affected the study or review (e.g., scope, implementation, and instructions).

c. Findings and Recommendations

(1) Findings. Findings are statements of fact or conclusions of the NWSSG on the nuclear safety of the weapon system.

(a) The first finding will include an appraisal statement that assesses whether the weapon system meets DoD nuclear weapon system surety policy and standards when operated, per prescribed technical and operational procedures in the system CONOPS, and with proposed or existing safety rules and other positive measures.

1. If the nuclear weapon system is not verified to meet the NWSSS as evaluated by the NWSSG, identify system limitations and constraints that do not allow safe operation of the system, or any other factors that preclude conformance with the standards.

2. If the nuclear weapon system does not meet the DoD NWSSS, identify system limitations and constraints that do not allow safe operation of the system, or any other factors that preclude conformance with the NWSSS.

(b) Remaining findings will address system-specific enhancements or deficiencies related to hardware, firmware, software, or procedures.

(2) Recommendations. Each finding will be followed by a recommendation. If a finding is a positive statement of nuclear weapon safety, the recommendation may be "none." Recommendations are described in subparagraphs 9c(2)(a) through 9c(2)(d).

(a) Nuclear weapon systems that meet the DoD NWSSS. Recommend actions (e.g., new safety rules or changes to current safety rules or other positive measures), if applicable, to further ensure maximum nuclear weapon safety consistent with operational requirements.

(b) Nuclear weapon systems that are not verified to meet the DoD NWSSS. Recommend positive measures and safety rules in consideration of the requirements identified in subparagraph 9c(2), including those that may permit continued operations while maximizing nuclear weapon safety consistent with operational requirements.

(c) Nuclear weapon systems that do not meet the DoD NWSSS. Recommend positive measures and safety rules permitting continued operations or recommending cessation of operations. Additionally, recommend positive measures that address system-specific enhancements or deficiencies regarding hardware, firmware, software, and procedures.

(d) Reiterate applicable recommendations for the nuclear weapon system made during previous studies or reviews for which corrective actions have not been completed.

d. Proposed Safety Rules. This section provides a separate listing of the proposed nuclear weapon system safety rules or recommended changes to current safety rules as identified in the findings and recommendations. This section provides the basis for part C of the Navy safety rules package. Members may recommend processing changes as administrative changes, if applicable.

e. Observations. Observations are non-binding statements made by the NWSSG on areas not normally covered in the scope of the study but which are felt to warrant documentation in the report. Observations are for CNO (N9) action.

f. Addendum of Minority Opinions. An addendum of minority opinions will be included if agreement is not reached by the NWSSG through discussion and deliberation. Minority opinions will be presented in the same time and in the same format as the other findings and recommendations of the basic report, and will be signed by each member supporting the minority opinion.

g. Dissemination of the Report. The NWSSG chair is responsible for the timely completion of the NWSSG report.

(1) All members participating in the safety study or OSR must sign the "record paper copy" of the report. The NWSSG report will not be changed following the signature of the NWSSG members other than to correct administrative errors.

(2) The NWSSG report will be forwarded to CNO (N9) within 14 calendar days following completion of the study. The NWSSG chair will provide copies of the NWSSG report to all NWSSG member organizations.

#### 10. CNO Nuclear Weapon System Safety Report

a. Member organizations will review the NWSSG report and provide comments to DIRSSP within 60 calendar days from the date of completion of the safety study or OSR. DIRSSP will ensure coordinated comments are submitted to CNO (N9). As indicated previously, the signed NWSSG report will not be changed. DIRSSP will recommend assignment of action on findings, recommendations, and observations.

b. CNO (N9) will review all comments on the NWSSG report. CNO (N9) must approve or disapprove NWSSG findings and recommendations and designate the action activity for each NWSSG recommendation within 90 calendar days from the date of the completion of the safety study or OSR. CNO (N9) will review and comment on any NWSSG minority opinions. Upon approval of the NWSSG report by CNO (N9), the report will become the CNO nuclear weapon system safety report.

c. The CNO nuclear weapon system safety report consists of a cover letter on each NWSSG report, which includes a statement of the DON intended action on each CNO (N9) approved NWSSG recommendation and establishes the NWSSG report as the CNO nuclear weapon system safety report. The format of the CNO nuclear weapon system safety report is provided in reference (a). The CNO nuclear weapon system safety report will be distributed by CNO (N9). Copies will be provided to the commands participating as members in the study or review. CNO (N9) ensures that these reports are provided to the ASD(NCB); the Director of Operations, Joint Staff; the Director of DTRA; and the Director of Military Application, DOE, within 90 calendar days following completion of the study or review, or in time to support coordination of the nuclear weapon system safety rules package, whichever is sooner.

d. DIRSSP will coordinate with USFLTFORCOM and COMPACFLT (and other organizations, if applicable) to establish a schedule to comply with each CNO (N9) approved NWSSG recommendation, as appropriate, and submit a letter report of action being taken to implement the NWSSG recommendation to CNO (N9) and NWSSG members. NWSSG recommendation status reports are required annually until the action is completed. Upon completion of all actions, the action activity will recommend to CNO (N9), via DIRSSP, to close out the finding and recommendation. Due date for the initial report is 120 calendar days after the date of completion of the safety study or review. Follow-up reports providing status of open findings and recommendations will be submitted annually to reach CNO (N9) by 1 June.

11. Nuclear Weapon System Safety Rules Package. When the NWSSG report includes proposed nuclear weapon system safety rules or proposed changes to existing nuclear weapon system safety rules, DIRSSP will coordinate the approval process for the CNO nuclear weapon system safety report with applicable organizations simultaneously. The NWSSG chair will prepare a Navy nuclear weapon system safety rules package for separate coordination and approval. The rules package will be submitted to CNO (N9) with a copy to DIRSSP. DIRSSP will review the rules package and coordinate concurrence with CNO (N9). CNO (N9) will forward the nuclear weapon system safety rules package to USD(AT&L) per reference (a). The format for the safety rules package and the coordination and approval process are in reference (a).

12. Safety Study Timelines. The chronology and deadlines of actions required by various commands and agencies prior to a safety study or review are indicated in figure 1. The chronology and deadlines of actions required after a safety study or review are indicated in figure 2. Days depicted in figures 1 and 2 are calendar days.

ACTIONS BEFORE START OF SAFETY STUDY (CALENDAR DAYS)

180 Days	120 Days	90 Days	30 Days	0 Days
DIRSSP	DIRSSP	CNO (N9)	DIRSSP	NWSSG
1. Draft scope 2. Draft agenda 3. Submit NWSSG chair recommendation to CNO (N9)	Coordinate: 1. CONOPS 2. Draft scope and agenda 3. Review ability to accomplish study in operational environment	1. Issue convening letter appointing NWSSG chair and specifying purpose, scope and agenda	1. Provide safety study data package to NWSSG members	1. Begin study

Figure 1

ACTIONS AFTER COMPLETION OF SAFETY STUDY (CALENDAR DAYS)

14 Days	60 Days	90 Days	120 Days
NWSSG	DIRSSP	CNO (N9)	DIRSSP
1. NWSSG chair provide report to CNO (N9) and all NWSSG member organizations.	1. Coordinate comments on NWSSG report to CNO (N9)	1. Review findings and recommendations 2. Approve or disapprove 3. Assign action 4. Submit the CNO nuclear weapon system safety report to ASD(NCB) 5. Proposed safety rules to ASD(NCB) for USD(AT&L) approval 6. Request interim safety rules approval if applicable	1. Coordinate initial response to CNO (N9) actions on findings and recommendations

Figure 2

POLICY GUIDANCE AND REQUIREMENTS FOR NAVY  
NUCLEAR WEAPON SYSTEM SAFETY RULES AND SAFETY RULES CHANGES

1. Nuclear Weapon System Safety Rules. Nuclear weapon system safety rules provide the procedural safeguards that, together with the weapon system design features and technical and operational procedures, ensure maximum safety consistent with operational requirements during nuclear weapon and nuclear weapon systems STS operations.

a. Approved nuclear weapon safety rules are required for all operations in the STS for each nuclear weapon and nuclear weapon system combination. Nuclear weapon safety rules will govern the operations. However, they do not abrogate or abridge the authority or responsibility of a commander to deviate from nuclear weapon system safety rules in an emergency. This authority to take emergency action does not apply to the requirement for maintaining U.S. custody of nuclear weapon. U.S. custodians of nuclear weapons will retain custody of war reserve weapons until receipt and authentication of a nuclear control order that conveys proper U.S. release authority, and permits transfer of U.S. nuclear weapons to non U.S. (allied) delivery forces.

b. In no event will war reserve weapons be expended until a properly authenticated nuclear control order conveying proper release authority is received and correctly authenticated.

c. Nuclear weapon safety rules include general provisions applicable to all nuclear weapons and nuclear weapon system operations in the stages defined in the applicable STS. These general provisions, which have been in force for nuclear weapons and nuclear weapon system operations in the STS of all U.S. Navy nuclear weapon and delivery system combinations, are described in reference (a).

d. Specific safety rules are procedural and administrative safeguards unique to each individual nuclear weapon system that are identified during safety studies and OSRs. They apply to unique nuclear weapon system operations (e.g., alerts, operational posturing, generated exercises, and training). Nuclear weapon safety rules governing operations of each specific nuclear weapon system are developed by DON, coordinated with appropriate organizations and agencies, and forwarded to

ASD(NCB) for subsequent approval by USD(AT&L) per reference (a). The ASD(NCB) will disseminate the approved nuclear weapon system safety rules to cognizant Service chiefs, DTRA, DOE, NNSA, and Joint Staff for dissemination to appropriate combatant commanders. CNO (N9) issues approved nuclear weapon safety rules to the operating forces and DIRSSP for implementation of DoD directives, as appropriate.

2. Timing. Draft nuclear weapon systems safety rules will be forwarded to ASD(NCB) in sufficient time to allow for consideration and USD(AT&L) approval before the expected initial operational capability date of the weapon system. Proposed changes to approved nuclear weapon safety rules should be processed promptly but should take no more than 6 months from time of submission for staffing and approval.

3. Source. Proposed nuclear weapon systems safety rules and proposed changes to approved safety rules will be based upon the nuclear weapon systems safety findings and recommendations of a safety study or OSR, and other pertinent considerations.

4. Safety Rules Package. The nuclear weapon system safety rules package will be submitted in the format specified in reference (a).

5. Nuclear weapon System Safety Rules Processing and Approval

a. Interim and final approval of all nuclear weapon systems safety rules by USD(AT&L) will be contingent upon the data in parts A and B of the nuclear weapon system safety rules package remaining substantially unchanged.

b. Proposed nuclear weapon system safety rules or proposed changes to existing nuclear weapon system safety rules will be provided to CNO (N9) by the NWSSG as part of the NWSSG report within 14 calendar days after completion of the safety study or OSR. Review and approval will follow the process outlined in subparagraphs 5b(1) through 5b(5).

(1) Upon receiving the nuclear weapon system safety rules package, CNO (N9) presents the nuclear weapon system safety rules package to the appropriate OPNAV action officers for discussion and questions. CNO (N9) approves, modifies, or

rejects the proposed nuclear weapon system safety rules within 90 calendar days after completion of the safety study or review.

(2) CNO (N9) coordinates proposed nuclear weapon system safety rules with DIRSSP and other organizations, as necessary.

(3) CNO (N9) forwards proposed nuclear weapon system safety rules package by CNO memorandum to ASD(NCB).

(a) If necessary, CNO (N9) will request interim approval to permit nuclear weapon and/or nuclear weapon system operations, under interim approved safety rules, until final approval and issuance of the nuclear weapon system safety rules. Interim approval will be effective for a maximum of 6 months and will not negate the requirement for final processing of the nuclear weapon safety rules package. Interim approval of safety rules permits acceptance of custody, routine peacetime storage, maintenance, training, inspection, transportation, and deployment activities. Interim approval does not permit nuclear weapons to be used in exercises or permit operations with nuclear weapons except in response to a valid nuclear release order. If the final processing of safety rules is not completed in the 6-month period, CNO (N9) will request an extension.

(b) ASD(NCB) coordinates the nuclear weapon system safety rules package with Joint Staff, Office of the Secretary of Defense (OSD), DOE, NNSA, other Services and organizations, as necessary. If reviewers require any clarifications of the proposed nuclear weapon system safety rules, CNO (N9) will coordinate with DIRSSP and other organizations, as necessary, for verification of technical content.

(c) ASD(NCB) forwards the nuclear weapon system safety rules package to USD(AT&L) for approval.

(d) ASD(NCB) forwards approved nuclear weapon system safety rules to CJCS. The Joint Staff notifies Military Departments and combatant commands of approval of nuclear weapon system safety rules.

(4) CNO (N9) distributes updated nuclear weapon system safety rules within DON to be implemented within 30 calendar days of approval.

(5) Nuclear weapon system safety rules will remain in effect until rescinded by ASD(NCB) or CJCS.

c. CNO (N9) will monitor the nuclear weapon system safety rules package throughout the approval process. CNO (N9) will resolve any questions concerning the rules package and will coordinate with DIRSSP, and others, as appropriate.

6. Administrative Change. An administrative change is a non-substantive change to the nuclear weapon system safety rules that meets the requirements specified in reference (a). When CNO (N9) determines that an administrative change is applicable to approved nuclear weapon systems safety rules, the proposed administrative change will be coordinated with Joint Staff, DTRA, and Deputy Assistant Secretary of Defense for Nuclear Matters (DASD(NM)). CNO (N9) will forward the proposed administrative change to ASD(NCB) for approval. Per reference (a), DASD(NM) will distribute the approved administrative change to OSD, Military Departments, Joint Staff, combatant commands, DTRA, DOE, and NNSA. CNO (N9) will distribute the approved administrative change within DON.

7. Waivers. Waivers to existing safety rules may be requested per reference (a).

NAVY NUCLEAR WEAPON SYSTEMS SAFETY DESIGN CERTIFICATION

1. Policy. A safety design certification process must be established and maintained to ensure that full consideration is given to nuclear weapon system safety criteria in the design and technical documentation of nuclear weapon systems and associated support equipment. Nuclear weapons and support equipment provided by the DOE must be safety certified per reference (b).

a. Safety Design Criteria. Maximum nuclear weapon system safety, consistent with operational requirements, will be designed into the system with minimal reliance upon administrative operational procedures. To meet the four DoD NWSSS, each nuclear weapon system will be designed and operated to control critical functions in the sequence leading to detonation of the weapon. The safety features designed into the nuclear warhead by DOE and the safety features provided by the DON nuclear weapon systems are some of the measures used to control critical functions in normal and credible abnormal environments. The safety design criteria outlined in subparagraphs 1a(1) through 1a(9) will be incorporated into the design and technical documentation of Navy nuclear weapon systems and associated support equipment.

(1) Comply with the four DoD NWSSS as an overarching principle.

(2) Design for minimum risk. Nuclear weapons must be protected against the risks and hazards inherent in their environment and must not be subjected to an adverse environment except when such exposure is required by operational requirements. Nuclear weapon system technical authorities should design to eliminate nuclear weapon hazards. If an identified hazard cannot be eliminated, the design must reduce the associated risk to an acceptable level through design selections integrated into the total nuclear weapon system safety theme.

(3) Incorporate safety devices. If identified hazards cannot be eliminated or their associated risks adequately reduced through design selection, the risk must be reduced to an acceptable level through the use of safety measures or devices to minimize dependence on administrative procedures.

(4) Incorporate special operational or administrative procedural restrictions. When the required degree of safety cannot be assured through design or use of safety devices, special operational or administrative procedures will be developed.

(5) Provide for independence from single component malfunction. The malfunction or accidental operation of any single hardware or software component must not, under normal and credible abnormal environments, result in the pre-arming, arming, launching, or releasing of a nuclear weapon or a nuclear weapon system.

(6) Emphasize human engineering methods. Accepted human engineering methods must be emphasized to minimize the probabilities of human error. Positive measures are to be included to prevent any accidental operation of controls that could degrade nuclear weapon safety.

(7) Provide protection against accidental or unauthorized activation of automated systems software that control critical functions. The design of complex automated systems, intended to minimize or prevent human errors and which control critical functions, must be protected against accidental or unauthorized activation so as not to degrade nuclear weapon safety.

(8) Ensure explosive ordnance disposal procedures incorporate "Render Safe" procedures. Nuclear weapon systems must provide for emergency entry to those components and circuits required to accomplish "Render Safe" and disposal procedures.

(9) Ensure security requirements interface with nuclear weapon systems safety requirements. Consistent with operational requirements, security equipment and procedures must have an acceptable interface with nuclear weapon systems safety requirements.

b. Safety Evaluation Methodology. The safety evaluation methodology in subparagraphs 1b(1) and 1b(2) will be applied, as appropriate, in the conduct of evaluations to ensure that full consideration is given to the criteria delineated in subparagraph 1a.

(1) System Safety Analyses. Nuclear weapon hazards are identified by the hazard analyses methodology portion of the system safety program required by references (b) and (t) for all applicable contracts negotiated by DoD managing activities. System safety program planning is included in all phases of DoD system acquisition documentation to systematically eliminate hazards or reduce the risk to an acceptable level. For major systems acquisition or planned acquisition, a system safety program plan is developed based on system safety program requirements established by the managing activity. A system safety program plan details how the program is organized and implemented.

(2) Safety Test and Demonstration. Specific empirical testing programs are developed to demonstrate the operation of nuclear weapon safety features and the compliance with NWSSS and requirements. Evaluation criteria may be drawn from user requirements which are specified in formal documents, such as the justification for major new system starts, CONOPS, program management directives, this instruction, and the military characteristics and STS documents. Safety evaluations must be continuously applied as developmental modifications occur.

ACRONYMS

ASD(NCB)	Assistant Secretary of Defense (Nuclear, Chemical, and Biological Defense Programs)
CJCS	Chairman of the Joint Chiefs of Staff
CNO	Chief of Naval Operations
CONOPS	concept of operations
COMPACFLT	Commander, U.S. Pacific Fleet
COMSUBFOR	Commander, Submarine Force Atlantic
COMSUBPAC	Commander, Submarine Force Pacific
DASD(NM)	Deputy Assistant Secretary of Defense (Nuclear Matters)
DIRSSP	Director, Strategic Systems Programs
DoD	Department of Defense
DOE	Department of Energy
DON	Department of the Navy
DTRA	Defense Threat Reduction Agency
FY	fiscal year
JCS	Joint Chiefs of Staff
JNWPS	Joint Nuclear Weapons Publication System
NNSA	National Nuclear Security Administration
NSO	nuclear safety officer
NWSC	nuclear weapons safety council
NWSSG	nuclear weapons system surety group
NWSSP	nuclear weapon system safety program
NWSSS	nuclear weapon system surety standards
NWTI	nuclear weapons technical inspection
OPNAV	Office of the Chief of Naval Operations
OSD	Office of the Secretary of Defense
OSR	operational safety review
PRP	personnel reliability program
SSS	special safety study
STS	stockpile-to-target sequence
SWF	strategic weapons facility
SWOP	special weapons ordnance publication
USD(AT&L)	Under Secretary of Defense (Acquisition, Technology, and Logistics)
USFLTFORCOM	U.S. Fleet Forces Command