

Approved: 4-14-09

**SUBJECT: NUCLEAR WEAPON SURETY INTERFACE WITH THE DEPARTMENT
OF DEFENSE**

1. PURPOSE.

- a. To establish Department of Energy (DOE) and National Nuclear Security Administration (NNSA) requirements and responsibilities for addressing joint nuclear weapon and nuclear weapon system surety activities in conjunction with the Department of Defense (DoD).
- b. To establish and implement a systematic process to ensure that nuclear weapon surety is adequately addressed throughout all phases of each nuclear weapon's life cycle.
- c. To provide support to the DoD during the development, staffing, and implementation of safety rules that govern all nuclear weapon system operations throughout the stockpile-to-target sequence.

2. CANCELLATION. DOE O 452.6, *Nuclear Weapon Surety Interface with the Department of Defense*, dated 10-19-06. Cancellation of a directive does not, by itself, modify or otherwise affect any contractual obligation to comply with the directive. Contractor requirements documents (CRDs) that have been incorporated into or attached to a contract remain in effect until the contract is modified to either eliminate requirements that are no longer applicable or substitute a new set of requirements.

3. APPLICABILITY.

- a. DOE/NNSA Elements. Except for exclusions in paragraph 3c, this Order applies to all DOE/NNSA elements involved in the Nuclear Explosive and Weapon Surety (NEWS) Program, including those created after the Order is issued. (Go to <http://www.directives.doe.gov/pdfs/reftools/org-list.pdf> for the most current listing of Departmental elements.).

The Administrator of NNSA must assure that NNSA employees and contractors comply with their respective responsibilities under this directive. Nothing in this Order must be construed to interfere with the NNSA Administrator's authority under section 3212(d) of Public Law (P.L.) 106-65 to establish Administration-specific policies, unless disapproved by the Secretary.

- b. DOE/NNSA Contractors. Except for the exclusions in paragraph 3c, the CRD (Attachment 1) sets forth requirements of this Order to be applied to contracts that include the CRD. The CRD must be included in contracts that include NEWS in their areas of responsibility.

c. Exclusions.

- (1) The following Departmental elements are excluded: Office of the Chief Financial Officer, Office of the Chief Information Officer, Office of Civilian Radioactive Waste Management, Office of Congressional and Intergovernmental Affairs, Office of Economic Impact and Diversity, Energy Information Administration, Office of Electricity Delivery and Energy Reliability, Office of Energy Efficiency and Renewable Energy, Office of Environmental Management, Office of Fossil Energy, Office of Hearings and Appeals, Office of Human Capital Management, Office of Intelligence and Counterintelligence, Office of Legacy Management, Office of Management, Office of Nuclear Energy, Office of Policy and International Affairs, Office of Public Affairs, Office of Science, Bonneville Power Administration, Southeastern Power Administration, Southwestern Power Administration, and Western Area Power Administration.
- (2) In accordance with the responsibilities and authorities assigned by Executive Order 12344, codified at 50 USC sections 2406 and 2511 and to ensure consistency through the joint Navy/DOE Naval Nuclear Propulsion Program, the Deputy Administrator for Naval Reactors (Director) will implement and oversee requirements and practices pertaining to this Directive for activities under the Director's cognizance, as deemed appropriate.

4. REQUIREMENTS.

NNSA, in conjunction with DoD, has an obligation to protect public health, safety, and the environment from potential adverse consequences of nuclear weapon operations. To ensure dual-Agency judgment and responsibility, nuclear weapon system safety, security, and use control (surety) must be evaluated continually throughout the entirety of each nuclear weapon system's life cycle.

Nuclear weapon system surety must include a combination of administrative controls (e.g., personnel security) and design measures (e.g., physical security, use control) sufficient to prevent deliberate unauthorized nuclear detonation and to minimize the possibility of deliberate unauthorized acts that could lead to nuclear detonation.

Nuclear weapon system surety must include design features, safety rules, procedures, accident prevention/mitigation measures, or other controls used collectively or individually to reduce the likelihood, severity, or consequences of an accident or unauthorized act.

- a. Issue Resolution. Issues resulting from joint NNSA/DoD nuclear weapon surety activities must be resolved using the following procedures as applicable:

- (1) coordination between the appropriate NNSA and DoD staff levels;
- (2) issue submission with appropriate recommendations to the NNSA Administrator for final internal NNSA disposition; and
- (3) referral to the Nuclear Weapons Council Standing and Safety Committee (NWCSSC) and/or Nuclear Weapons Council (NWC) for action.

b. Procedures for Participation in DoD Nuclear Weapon System Safety Group (NWSSG) Activities.

(1) General.

- (a) In accordance with DoD Directive 3150.2, *DoD Nuclear Weapon System Safety Program*, and DoD 3150.2-M, *DoD Nuclear Weapon System Safety Program Manual*, the Secretary of each military department ensures the safety and security of all nuclear weapons and nuclear weapon systems for which the military department has a DoD life-cycle management responsibility.
- (b) In discharging this responsibility, each department Secretary establishes and convenes an NWSSG to conduct safety studies and operational safety reviews of each nuclear weapon system.
- (c) NWSSG membership includes a chair selected by the convening military department and military and civilian professionals from the military department concerned, the United States Strategic Command (USSTRATCOM), the Defense Threat Reduction Agency (DTRA), and DOE/NNSA. Other commands and agencies with responsibility for nuclear weapon system safety may be included as considered applicable by the military department. Members will be assigned for the duration of the study or review. To comply with the requirements of the Federal Advisory Committee Act, only U.S. Government officials may participate as the DOE NWSSG member.
- (d) A NWSSG is convened for a particular study or review by the military department and is operated for its duration by the military department. The NWSSG is disbanded when the military department accepts its report, which serves as the basis for the military department's Nuclear Weapon System Safety Report (NWSSR).

(2) Guidelines for DOE/NNSA Participation in NWSSGs.

- (a) DOE/NNSA, through the NNSA designated weapon design laboratories, must provide nuclear surety data concerning the specific nuclear weapon(s) to be addressed by the NWSSG.
 - (b) The NNSA Nuclear Weapon Surety and Quality Division must select an NNSA member whose primary responsibility must be participation in NWSSG activities.
 - (c) The NNSA NWSSG member must be qualified by education or appropriate experience to identify, analyze, and understand the information necessary to conduct a proper evaluation of nuclear weapon systems employed by DoD.
 - (d) NWSSG members must—
 - 1 understand design and development aspects of nuclear weapon system surety and be able to provide technical knowledge of the applicable bombs and warheads;
 - 2 not have current or have had prior responsibility for the design, development, production, or testing of the specific weapon or weapon system being evaluated;
 - 3 not have responsibility for advocacy of special interests of NNSA or any other Agency or for defending the specific nuclear weapon or weapon system being evaluated; and
 - 4 make objective and independent judgments regarding the nuclear surety of the nuclear weapon system being evaluated.
 - (e) NWSSGs may require participation of technical advisors (typically one from each of the weapon design laboratories) during the conduct of evaluations. These advisors will be qualified by education and experience to support the NNSA member's technical responsibilities stated above, and to serve as a liaison to other laboratory resources as needed.
- c. Procedures for Review of and Concurrence in DoD Nuclear Weapon System Safety Rules. Interim approval of proposed safety rules may be requested when circumstances dictate approval in a limited timeframe that does not permit completion of the formal coordination process and must be effective for a maximum of 6 months and does not negate the requirement for final approval. Interim approval permits acceptance of custody, routine peacetime storage, maintenance, training, inspection, transportation, and deployment activities but does not permit nuclear weapons to be used in exercises or operations except in response to a valid nuclear release order.

(1) General.

- (a) The procedures for DoD preparation, coordination, approval (both interim and final), and implementation of DoD nuclear weapon system safety rules and coordination with the DOE are detailed in DoD Directive 3150.2 and DoD Manual 3150.2-M.
- (b) When circumstances dictate that the Secretary of Defense grant interim approval of proposed safety rules within a limited timeframe that does not permit NNSA completion of its formal coordination process, the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs [ATSD(NCB)] may request that NNSA provide interim concurrence in the rules subject to later completion of formal processing within NNSA and final NNSA concurrence.
- (c) Procedures for NNSA review and evaluation of proposed safety rules in support of interim and final approval by the Secretary of Defense are specified below.

(2) Procedures for Interim/Final Approval.

- (a) The Deputy Administrator for Defense Programs must—
 - 1 take appropriate action in accordance with paragraph 4a above if there are unresolved surety issues, and/or
 - 2 provide NNSA concurrence in granting interim/final approval to ATSD(NCB), if all surety issues relating to the safety rules package have been resolved.
- (b) The Assistant Deputy Administrator for Science, Engineering and Production Programs must—
 - 1 task, through the Nuclear Weapon Surety and Quality Division, the appropriate weapon design laboratories to assist in the conduct of reviews and analyses and in the development of NNSA comments and recommendations;
 - 2 coordinate any revisions with ATSD(NCB); and
 - 3 forward the safety rules package to the Deputy Administrator for Defense Programs with a recommendation for concurrence or non-concurrence within 30 days of receipt.

- (c) The Nuclear Weapon Surety and Quality Division must—
- 1 conduct analysis and review the safety rules package based on—
 - a the military service concept of operations,
 - b design surety features of the nuclear weapon and nuclear weapon system,
 - c proposed safety rules,
 - d NWSSG findings and recommendations,
 - e the military service subsequent actions on NWSSG findings and recommendations, and
 - f laboratory positions, and
 - 2 provide comments and recommendations to the Assistant Deputy Administrator for Science, Engineering and Production Programs within 14 days of receipt.
- (3) Procedures for Proposed Administrative Change to Safety Rules. An administrative change is a non-substantive change to the safety rules.
- (a) A non-substantive change may be—
- 1 changes in nomenclature,
 - 2 editorial changes to bring particular rules into agreement with approved rules of a later date,
 - 3 deletion of weapons and delivery vehicles no longer in the inventory, and
 - 4 other changes not adversely affecting nuclear surety.
- (b) The following cannot be considered administrative changes:
- 1 change to established surety policy;
 - 2 change needed to address a revision to the operational concept upon which the safety rules are based;
 - 3 change needed to address a modification, addition, or deletion of any nuclear surety feature of a weapon or weapon system covered by the safety rules;

- 4 relaxation of specific restrictions as set forth in the safety rules;
 - 5 change contrary to an outstanding, unresolved NWSSG recommendation; and
 - 6 change in the intent of an existing safety rule.
 - (c) The Assistant Deputy Administrator for Science, Engineering and Production Programs determines whether a proposed change is not substantive and should be processed administratively or whether formal processing is required.
 - (d) The Nuclear Weapon Surety and Quality Division in coordination with the appropriate laboratories will provide input on the NNSA position regarding a proposed administrative change.
 - (e) For an administrative change, the Assistant Deputy Administrator for Science, Engineering and Production Programs must provide NNSA concurrence to the ATSD(NCB).
 - (f) If, after attempting to resolve issues with the DoD, it is NNSA's position that there are unresolved surety issues and that proposed changes are more than administrative, an action memorandum detailing the issues and why NNSA cannot concur must be submitted to the NNSA Administrator for concurrence and transmission to ATSD(NCB).
- d. NNSA Field Review is an option that is coordinated through DoD as part of the dual-Agency agreement to protect public health and safety and the environment. A field review for new or stockpiled nuclear weapon systems has the following purposes, procedures, and scope:
 - (1) Purpose is limited to—
 - (a) identifying surety concerns when significant changes are made to system hardware or procedures;
 - (b) addressing the adequacy of proposed DoD safety rules or security and control procedures;
 - (c) identifying any required changes to proposed DoD safety rules prior to NNSA final concurrence; and
 - (d) developing the NNSA position on unresolved surety issues between NNSA and DoD.

(2) Procedure.

- (a) The need for NNSA field review must be clearly identified and forwarded through management channels to the Assistant Deputy Administrator for Science, Engineering and Production Programs for action.
- (b) Based on review of a proposal, the Assistant Deputy Administrator for Science, Engineering and Production Programs must contact the DoD ATSD(NCB) to resolve any issues that have been identified or to coordinate the conduct of a field review.
- (c) Should the DoD not concur with NNSA on the need for a field review, the Assistant Deputy Administrator for Science, Engineering and Production Programs must take appropriate action as outlined in paragraph 4a above.

(3) Scope. The field review must—

- (a) where possible, be conducted in a realistic operational environment;
- (b) include briefings at the appropriate levels of the military service having primary responsibility for the system/activity being reviewed; and
- (c) include discussions and demonstrations by NNSA/DoD elements participating in the stockpile-to-target sequence to determine—
 - 1 adequacy of the nuclear weapon system safety rules or security and control procedures,
 - 2 conformance with the DoD-approved concept of operations,
 - 3 understanding of the implementation of the safety rules or security and control procedures at the operational level, and
 - 4 solutions to unresolved surety issues.

(4) Reports. At the conclusion of the field review, a report must be prepared and signed by all field review team members. The report must contain—

- (a) an overview of review purpose, background, and scope (need not be technical or an engineering source document);
- (b) an executive summary listing the review results, issues, and conclusions and a summary of findings, recommendations,

minority opinions, and comments on limitations that affected the conduct of the review;

- (c) specific findings and recommendations; and
- (d) minority opinions if agreement has not been reached by the field review team through discussion and deliberation. (NOTE: Minority opinions must be signed by each member who supports the minority opinion.)

- (5) Field Review Report Disposition. The final report must be submitted through the Assistant Deputy Administrator for Science, Engineering and Production Programs and the Deputy Administrator for Defense Programs to the NNSA Administrator with copies to all members.

5. RESPONSIBILITIES.

- a. Deputy Administrator for Defense Programs reviews and concurs or does not concur on DoD proposed nuclear weapon safety rules.
- b. Assistant Deputy Administrator for Science, Engineering and Production Programs.
 - (1) Develops and promulgates Departmental procedures regarding joint NNSA/DoD nuclear weapon and nuclear weapon system surety activities;
 - (2) Serves as the focal point for DOE's dual-Agency responsibility with DoD for nuclear weapon surety, administers DOE's participation in the DoD nuclear weapon system safety program, and assists in the processing of DoD safety rules as described in the MOU Between DoD and DOE on "Objectives and Responsibilities for Joint Nuclear Weapon Activities" and the "Procedures for Review and Concurrence in DoD Nuclear Weapon System Safety Rules" in accordance with this order.
 - (3) Ensures all nuclear-weapon-related surety actions requiring joint DOE-DoD concurrence are thoroughly analyzed from a surety viewpoint by qualified experts.
 - (4) Approves administrative changes to nuclear weapon system safety rules.
 - (5) For field reviews—
 - (a) Coordinates the need for and conduct of a review with the ATSD(NCB).
 - (b) Notifies the NNSA Nuclear Weapon Surety and Quality Division of the review requirements.

- (c) Appoints a field review chairperson.
 - (d) Provides direction and guidance for the conduct of the review.
- c. Director, Office of Military Application and Stockpile Operations.
 - (1) Provides overall direction for implementation and the compliance of requirements contained in this Order.
 - (2) Ensures timely response to military service-approved NWSSG recommendations that require NNSA action or support.
- d. Director, Nuclear Weapon Surety and Quality Division.
 - (1) Manages NNSA's program for participation in DoD NWSSGs.
 - (2) As required, appoints observers to the NWCSSC.
 - (3) For field review—
 - (a) under direction from the Assistant Deputy Administrator for Science, Engineering and Production Programs, assigns members to the field review team; and
 - (b) coordinates with the weapon design laboratories to provide support for the field review.
- e. Chief, Nuclear Explosive Safety Branch.
 - (1) Serves as point of contact to the military services and their NWSSGs concerning the military services' nuclear weapon system safety studies and operational safety reviews.
 - (2) Provides the NNSA voting member for NWSSGs.
 - (3) Coordinates with the weapon design laboratories to—
 - (a) provide a technical advisor to assist the NNSA's NWSSG member;
 - (b) provide the NWSSGs with technical support, documentation, and briefings; and
 - (c) provide other surety functions as required.
 - (4) Reviews all DoD nuclear weapon system safety rules submitted for DOE action and submits appropriate recommendations to the Director, Office for Military Application and Stockpile Operations within 14 days of receipt.

6. DEFINITIONS.

- a. Dual-Agency/Joint Responsibilities. As required by the 1983 DOE/DoD Memorandum of Understanding, sharing with DoD the responsibility for identifying and resolving health and safety problems connected with nuclear weapons; continuing responsibility to participate with the DoD in consideration of health and safety problems for nuclear weapons in DoD custody; and working with DoD to ensure that nuclear weapon and delivery systems can be operated in a safe and secure manner.
- b. NNSA Field Review. An NNSA-initiated review of DoD nuclear weapon and/or nuclear weapon system activities/operations to satisfy the dual-Agency responsibility to protect public health and safety and the environment.
- c. Nuclear Weapon System Safety Group (NWSSG). A formal military review group with NNSA membership that ensures compliance of a nuclear weapon system with the four DoD Nuclear Weapon System Safety Standards as defined in DoD Directive 3150.2, *DoD Nuclear Weapon System Safety Program*.
- d. Stockpile-to-Target Sequence (STS). A document that defines the logistical and employment concepts and related physical and nuclear environments, including vulnerability criteria, involved in the delivery of a nuclear weapon from the stockpile to the target. It may also define the logistical flow involved in moving nuclear weapons to and from the stockpile for quality assurance testing, modification and retrofit, and the recycling of limited life component.
- e. Weapon Design Laboratories. Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratories.

7. REFERENCES.

- a. National Security Presidential Directive-28, Nuclear Weapons Command and Control (U), dated 6-24-03 (Secret), which provides the basis for the attainment and maintenance of a nuclear command and control system under the authority and direction of the President.
- b. Joint Policy Statement on Nuclear Weapon Surety, dated 6-27-91, signed by the Secretaries of Defense and Energy.
- c. Memorandum of Understanding between the Department of Defense and Department of Energy on Objectives and Responsibilities for Joint Nuclear Weapon Activities, dated 1-17-83, which supplements previous agreements delineating DoD and NNSA objectives, responsibilities, and measures to improve stockpile planning and acquisition and ensuring high-level attention to nuclear weapon safety, security, and control.

- d. DOE O 452.1D, *Nuclear Explosive and Weapon Surety Program*, dated 4-14-09, which establishes NNSA objectives, standards, criteria, authorities, and responsibilities for the Nuclear Explosive and Weapon Surety Program.
 - e. DoD Directive 3150.2, *DoD Nuclear Weapon System Safety Program*, dated 12-23-96, which describes the DoD Nuclear Weapon System Safety Program and specifies requirements and responsibilities for DoD personnel.
 - f. DoD 3150.2-M, *DoD Nuclear Weapon System Safety Program Manual*, dated 12-23-96, which prescribes procedures for implementation of the DoD Nuclear Weapon System Safety Program.
8. CONTACT. Questions concerning this Order should be addressed to the Nuclear Weapon Surety and Quality Division at 202-586-5624.



STEVEN CHU
Secretary of Energy

CONTRACTOR REQUIREMENTS DOCUMENT
DOE O 452.6A, *NUCLEAR WEAPON SURETY INTERFACE WITH*
THE DEPARTMENT OF DEFENSE

Regardless of the performer of the work, the contractor is responsible for complying with the requirements of this Contractor Requirements Document (CRD) and flowing down CRD requirements to subcontractors at any tier to the extent necessary to ensure contractor compliance.

Nuclear Weapons Complex and National Nuclear Security Administration (NNSA) contractors that conduct Department of Energy (DOE) Nuclear Explosive and Weapon Surety (NEWS) Program activities must meet the following requirements.

All contractors with this CRD incorporated in their contracts must comply with the following requirements.

1. Nuclear weapon system surety must include a combination of administrative controls (e.g., personnel security) and design measures (e.g., physical security, use control) sufficient to prevent deliberate unauthorized nuclear detonation and to minimize the possibility of deliberate unauthorized acts that could lead to nuclear detonation.
2. Nuclear weapon system surety must include: design features, safety rules, procedures, accident prevention/mitigation measures, or other controls used collectively or individually to reduce the likelihood, severity, or consequences of an accident or unauthorized act.
3. Contractors must provide personnel to support NNSA members of military nuclear weapon system safety groups and NNSA field reviews to ensure that hazards associated with military operations are identified, mitigated, and controlled to prevent accidental or unauthorized nuclear weapon detonation.
4. For nuclear weapons delivered to the Department of Defense (DoD), ensure that positive measures are—
 - a. consistent with DoD operational requirements, and
 - b. continually assessed against existing and emerging threats and technological opportunities for improvement.
5. Contractors operating national laboratories with design responsibilities must—
 - a. ensure that use control design features allow timely authorized use of a nuclear weapon while precluding or delaying unauthorized nuclear detonation;

- b. conduct research and development on a broad range of safety and control methods and devices to improve the surety of nuclear weapons and nuclear weapon systems significantly; and
- c. evaluate the criticality safety of a nuclear weapon in both normal and abnormal environments to document the intrinsic safety of the design.