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**SUBJECT: SECURITY AND CONTROL OF NUCLEAR EXPLOSIVES AND  
NUCLEAR WEAPONS**

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1. OBJECTIVES.

- a. Establish Department of Energy (DOE) requirements and responsibilities to prevent the deliberate unauthorized use (DUU) of U.S. nuclear explosives and U.S. nuclear weapons.
- b. Support the maintenance of a research and development (R&D) program on a broad range of security and control methods and devices for nuclear explosives and nuclear weapons.
- c. Require development of positive measures to maintain and regain control of all nuclear explosives and nuclear weapons during all phases of their life cycles.
- d. Ensure protection of public health and safety in conjunction with the Department of Defense (DOD) through continuation of dual agency judgment and responsibility for the surety of nuclear weapons.
- e. Require the development, implementation, and maintenance of an integrated system of positive measures to protect all nuclear explosives and nuclear weapons in the custody of the DOE against DUU.

2. CANCELLATION. None.

3. APPLICABILITY.

- a. DOE Elements. This Order applies to all elements involved in the DOE Nuclear Explosive and Weapon Surety (NEWS) Program (reference DOE Order 452.1A).
- b. Contractors. The Contractor Requirements Document (CRD) (Attachment 1) sets forth requirements that are to be applied to the universe of contractors awarded contracts (and subcontractors thereunder) involving the DOE NEWS Program. Contractor (and subcontractor) compliance with the CRD will be required to the extent set forth in a contract (and subcontract).

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**DISTRIBUTION:**  
All Departmental Elements

**INITIATED BY:**  
Deputy Assistant Secretary for  
Military Application and Stockpile Management

#### 4. REQUIREMENTS.

- a. The Nuclear Explosive and Weapon Security and Control Program (hereafter known as the Program) comprises an integrated system of positive measures to maintain control of nuclear explosives and nuclear weapons at all times. These measures allow use when authorized and directed by proper authority and protect against deliberate unauthorized use. Major elements of the program include the following:
  - (1) interim Personnel Assurance Program Procedures and Standards dated October 9, 1996, to ensure the reliability of DOE and contractor employees who require access to nuclear explosives or nuclear weapons;
  - (2) measures for the use control of nuclear explosives and nuclear weapons including design features that are incorporated and employed at the earliest practical point during assembly and removed at the latest practical point during disassembly or dismantlement; and
  - (3) measures to assist the recapture or recovery of lost or stolen nuclear explosives or nuclear weapons.
- b. The DOE shall conduct R&D for positive measures that can protect against the DUU of nuclear explosives and nuclear weapons.
- c. All DOE nuclear explosive operations shall meet the following qualitative DOE surety standards to prevent deliberate unauthorized nuclear detonation, fissile material dispersal from the pit, or loss of control. There shall be positive measures to:
  - (1) minimize the possibility of or delay deliberate unauthorized nuclear detonation; and
  - (2) minimize the possibility of deliberate unauthorized acts that could lead to high explosive deflagration or high explosive detonation.
- d. DUU evaluations shall be performed and may be specific to a DOE nuclear explosive, nuclear explosive operation, class of operations, or a facility or site. The evaluation shall address DOE nuclear explosive operations to help ensure that positive measures are adequate to meet the surety standards given in paragraph 4c. These positive measures shall be periodically evaluated at the direction of the operations office manager against all existing and emerging threats as well as technological advancements.

- e. To the maximum extent practical, control criteria and methods shall be integrated into the process design for nuclear explosive operations.
- f. The responsible operations office shall present an annual program reviews for the Deputy Assistant Secretary for Military Application and Stockpile Management. These reviews will fulfill the requirements of the appraisal process as defined in the DOE NEWS Program and shall cover:
  - (1) relevant ongoing activities;
  - (2) future plans/projects;
  - (3) resource requirements including the necessary resources to implement and administer this order; and
  - (4) major concerns and issues.
- g. DOE shall cooperate with the DOD and other Federal agencies as required to provide protection against DUU and to assess the effectiveness of surety features for all U.S. nuclear weapon systems throughout their life cycles.
- h. Nuclear weapon design features shall support secure critical command and control communications whenever practical.
- i. DOE shall assist DOD in designating nuclear command and control critical equipment and components to ensure that these items are developed and maintained to meet the criteria designated in the National Security Decision Directive-281.

## 5. RESPONSIBILITIES.

- a. Assistant Secretary for Defense Programs (DP-1).
  - (1) Recommends and implements DOE policy concerning the DUU of nuclear explosives and nuclear weapons in DOE custody.
  - (2) With DOD, ensures dual agency oversight of the surety of nuclear explosives and nuclear weapons.

- b. Deputy Assistant Secretary for Research and Development (DASRD/DP-10).  
Allocates R&D resources and directs R&D of positive measures to prevent the DUU of nuclear explosives and nuclear weapons.
- c. Deputy Assistant Secretary for Military Application and Stockpile Management (DASMASM/DP-20).
  - (1) Establishes and oversees all aspects of the Program.
  - (2) Establishes programs for coordinating and assisting DOD and other Federal agencies in the recapture and recovery of nuclear explosives or nuclear weapons for which physical control has been lost.
  - (3) Represents DOE regarding nuclear weapons and nuclear weapon systems control to the DOD and other Federal agencies.
  - (4) Assists the DOD and other Federal agencies in designating nuclear command and control critical equipment and ensuring that they are developed to meet criteria specified in the National Security Decision Directive-281.
  - (5) Directs the assessment of the effectiveness of control features of nuclear weapons in DOE and DOD custody.
  - (6) Establishes programs to incorporate improved use control measures in the stockpile and promotes those programs found to be cost effective and feasible within the military services.
  - (7) Creates and sustains advisory committees as needed to consider and assess control issues and to make programmatic recommendations to the DASMASM.
  - (8) In coordination with the Director, Office of Security Affairs, ensures proper integration of safety and use control with security.
- d. The Director, Office of Security Affairs (NN-50).
  - (1) Develops and establishes DOE policies for the safeguards and security of nuclear explosives and nuclear weapons and their components.
  - (2) Directs evaluation of physical protection technology and equipment to meet present and future safeguards and security requirements for nuclear explosives and nuclear weapons.

- (3) Advises the DASMASM on DOE safeguards and security requirements to implement the security element of the surety standards as defined in the DOE NEWS Program.
  - (4) Represents DOE security policy to the DOD and other Federal agencies.
  - (5) Establishes the security programs and policies for coordinating with DOD and other Federal agencies in the recapture and recovery of nuclear explosives or nuclear weapons.
- e. Managers of Operations Offices.
- (1) Ensure implementation of the Program.
  - (2) Conduct an annual Program review for the DASMASM and other DOE senior-level managers.
  - (3) Assess the effectiveness of the integrated system of positive measures to protect nuclear explosives under their cognizance against DUU.
  - (4) Certify to the DASMASM that all nuclear explosive operations under their cognizance meet the surety standards in paragraph 4c and specify the basis for making this certification. Specification may be by reference to other documents that do not need to be included in the certification memorandum.

6. REFERENCES.

- a. Interim Personnel Assurance Program Procedures and Standards, dated 10-9-96, the rule that defines a voluntary human reliability program and provides requirements and guidance for personnel performing nuclear explosive operations.
- b. Joint Policy Statement on Nuclear Weapons Surety, dated 6-27-91, signed by the Secretaries of Defense and Energy.
- c. Memorandum of Understanding, Department of Defense and the Department of Energy on Objectives and Responsibilities for Joint Nuclear Weapon Activities, dated 1-17-83.
- d. National Security Decision Directive-309, Nuclear Weapons Safety, Security, and Control (U), dated 6-27-88 (Confidential), which defines the joint dual-agency surety responsibilities between DoD and DOE to protect the public health and safety.

- e. National Security Decision Directive-281, United States Nuclear Weapons Command and Control (U), dated 8-21-87 (Top Secret), which provides the basis for the attainment and maintenance of a nuclear command and control system under the authority and direction of the Commander in Chief.
- f. DOE O 151.1, COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM, dated 9-25-95, which establishes objectives, responsibilities, and requirements for a system that encompasses emergency planning, preparedness, readiness assurance, response, and recovery actions.
- g. DOE O 452.1A, NUCLEAR EXPLOSIVE AND WEAPON SURETY PROGRAM, dated 1-17-97, which establishes DOE objectives, standards, criteria, authorities, and responsibilities for the Nuclear Explosive and Weapon Surety Program.
- h. DOE O 452.2A, SAFETY OF NUCLEAR EXPLOSIVE OPERATIONS, dated 1-17-97, which establishes DOE objectives, procedures, authorities, and responsibilities for the safety of DOE nuclear explosive operations.
- i. DOE O 470.1, SAFEGUARDS AND SECURITY PROGRAM, dated 9-28-95, which establishes basic requirements and responsibilities for the DOE Safeguards and Security Program.
- j. DOE 5530.1A, ACCIDENT RESPONSE GROUP, dated 9-20-91, which establishes DOE policy for response to accidents and significant incidents involving nuclear weapons or nuclear weapon components.
- k. DOE 5530.2, NUCLEAR EMERGENCY SEARCH TEAM, dated 9-20-91, which establishes DOE policy for Nuclear Emergency Search Team operations in response to malevolent radiological incidents.
- l. DOE 5610.13, JOINT DOE/DOD NUCLEAR WEAPON SYSTEM SAFETY, SECURITY, AND CONTROL ACTIVITIES, dated 10-10-90, which establishes DOE policy, procedures, authorities, and responsibilities for joint nuclear weapon and nuclear weapon system safety, security, and control activities.
- m. DOE 5610.14, TRANSPORTATION SAFEGUARDS SYSTEM PROGRAM OPERATIONS, dated 5-12-93, which establishes the DOE policies for and implementation of the management and operation of the Transportation Safeguards System Program.

- n. DOE 5632.1C, PROTECTION AND CONTROL OF SAFEGUARDS AND SECURITY INTERESTS, dated 7-15-94, which establishes policy, authorities, and responsibilities for the protection and control of safeguards and security interests.
  - o. DOE M 5632.1C-1, MANUAL FOR PROTECTION AND CONTROL OF SAFEGUARDS AND SECURITY INTERESTS, dated 7-15-94, which provides supplementary requirements for the protection and control of safeguards and security interests applicable to the design, modification, and/or operation of DOE facilities.
  - p. DOE 5632.7A, PROTECTIVE FORCE PROGRAM, dated 4-13-94, which establishes the protective force responsibilities to conduct on-site protection of DOE nuclear weapons using deadly force and to conduct recapture/recovery operations including fresh pursuit off DOE facilities in the effort to recover stolen weapons.
  - q. DOE 5633.3B, CONTROL AND ACCOUNTABILITY OF NUCLEAR MATERIALS, dated 9-7-94, which prescribes minimum requirements and procedures for control and accountability of nuclear materials at DOE-owned and -leased facilities and DOE-owned nuclear materials at other facilities exempt from licensing by the Nuclear Regulatory Commission.
7. CONTACT. DASMASM, Office of Weapons Surety, 301-903-3463.

BY ORDER OF THE SECRETARY OF ENERGY:



ARCHER L. DURHAM  
Assistant Secretary for Human Resources  
and Administration

## **CONTRACTOR REQUIREMENTS DOCUMENT**

### **SECURITY AND CONTROL OF NUCLEAR EXPLOSIVES AND NUCLEAR WEAPONS**

1. The nuclear weapons design laboratories ( Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and Sandia National Laboratories) shall:
  - a. conduct R&D on a broad range of security and control methods and devices for nuclear explosives and nuclear weapons; and
  - b. provide support to the Nuclear Explosive and Weapon Security and Control Program.
2. The production agencies shall provide support to the Nuclear Explosive and Weapon Security and Control Program as required by the responsible operations office.
3. The contractor shall specify requirements of this CRD to subcontractors involved in the Department of Energy Nuclear Explosive and Weapon Surety Program.



## DEFINITIONS

1. Control. The application of systems, devices, or procedures that allow timely authorized use while precluding or delaying unauthorized use.
2. Deliberate Unauthorized Use (DUU). A nuclear detonation not authorized by the President, a high explosive detonation, a deflagration, or a theft of nuclear explosives or weapons resulting from deliberate malevolent acts.
3. Nuclear Command and Control Critical Equipment. Specifically designated equipment including software used to build, encode, decode, transmit, or receive emergency action messages; to identify nuclear targets, select nuclear weapons to be used against specific targets, and route nuclear-weapons-carrying platforms to appropriate launch points; and to support or inhibit the delivery, arming, fuzing, and firing of nuclear weapons themselves. Includes positive control material and devices and nuclear weapons hardware.
4. Nuclear Weapon System. A nuclear weapon and its intended means for delivering it to the target. Includes associated support equipment, noncombat delivery vehicles, facilities, procedures, and personnel.
5. Production Agencies. DOE management and operating contractors responsible for assembling or disassembling nuclear explosives, components of nuclear explosives, or nuclear explosive-like assemblies.
6. Recapture. Locating and/or regaining control of a nuclear weapon and/or special nuclear material (SNM), which is under unauthorized possession while still within the confines of a DOE site/facility.
7. Recovery. Locating and/or regaining control of a nuclear weapon and/or SNM that is under unauthorized possession and that has been removed from within the confines of a DOE site/facility or DOE possession.
8. Unauthorized Act. Any intentional malevolent action that has not been authorized and approved by proper authority.
9. Use Control. The application of systems, devices, or procedures that allow timely authorized use of a nuclear explosive while precluding or delaying deliberate unauthorized nuclear detonation.

NOTE: DOE Order 452.1A, NUCLEAR EXPLOSIVE AND WEAPON SURETY PROGRAM, provides definitions of other terms used in this order.