

U.S. Department of Energy
Washington, D.C.

ORDER

DOE O 452.4E

Approved: 08-05-2026

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

1. PURPOSE. This Order establishes requirements for nuclear explosive security, use control (UC), and Nuclear Enterprise Assurance (NEA) to implement the Department of Energy (DOE) Order (O) 452.1, *Nuclear Explosive and Weapon Surety Program*. These requirements must help ensure authorized use of nuclear weapons, when directed by proper authority, and protection against deliberate unauthorized acts, deliberate unauthorized use (DUU), and denial of authorized use (DAU).
2. CANCELLATION. DOE O 452.4D, *Security and Use Control of Nuclear Explosives and Nuclear Weapons*, dated May 20, 2024. Cancellation of a directive does not, by itself, modify or otherwise affect any contractual or regulatory obligation to comply with the directive. Requirements of this Order apply to contractors when incorporated into contracts in accordance with applicable acquisition and contract management processes.
3. APPLICABILITY.
 - a. Departmental Applicability. This Order applies to all Departmental elements (including National Nuclear Security Agency [NNSA]) involved in maintaining and enhancing the safety, security, reliability, and performance of the United States (U.S.) nuclear weapons stockpile, including the ability to design, produce, test, and certify weapons that meet national security and Nuclear Explosive and Weapon Surety (NEWS) Program requirements.
 - b. National Nuclear Security Agency Administrator Authority. The NNSA Administrator must ensure that NNSA employees and contractors comply with their respective responsibilities under this Order. Nothing in this Order must be construed to interfere with the NNSA Administrator's authority under Public Law 106-65, *National Defense Authorization Act for Fiscal Year 2000*, Section 3212(d), Policy Authority, to establish Administration-specific policies, unless disapproved by the Secretary.
 - c. DOE Contractors.
 - (1) This Order applies to DOE contractors, including NNSA contractors, the work of which involves maintaining and enhancing the safety, security, reliability, and performance of the U.S. nuclear weapons stockpile, including the ability to design, produce, and test to meet national security and NEWS Program requirements.

- (2) The requirements of this Order shall be incorporated into applicable contracts, including Management and Operating contracts. The contractor is responsible for flowing down the requirements of this Contractor Requirements Document, if applicable. Contractors shall comply with the requirements of applicable federal, state, and local laws and regulations in carrying out the requirements of this Order unless relief has been granted in writing. Omission of any applicable law or regulation from the Order does not affect the obligation of the contractor to comply with such law or regulation. Contractors must comply with the requirements of this Order, except to the extent modified by the equivalencies or exemptions identified herein or issued to the contractor in writing by DOE utilizing the process outlined in DOE O 251.1E, *Departmental Directives Program*, including as amended or updated.
 - d. Equivalencies and Exemptions. Equivalencies and exemptions to this Order must be processed in accordance with DOE O 251.1E, current version. Requests must be sent to the NNSA Office of Stockpile Management (NA-12).
 - (1) Exemptions. None.
 - (2) Equivalency. In accordance with Executive Order 12344, Naval Nuclear Propulsion Program, codified at 50 U.S.C. § 2406, Deputy Administrator for Naval Reactors, and 2511, and to ensure consistency throughout the joint Navy/DOE Naval Nuclear Propulsion Program, the Deputy Administrator for Naval Reactors (Director) must implement and oversee requirements and practices pertaining to this Order for activities under the Director's cognizance, as deemed appropriate.
4. REQUIREMENTS. Nuclear explosives and nuclear explosive operations (NEOs) require safety, security, UC, and assurance considerations due to the potentially unacceptable consequences of an accident, unauthorized acts, or adversarial subversion attempts. This Order primarily addresses malevolent, unauthorized acts.

Nuclear Explosive Surety Standards prescribed in the NEWS Program, as established in DOE O 452.1, current version, emphasize integrating best practices to ensure that NEOs are used only when authorized and directed by proper authority and to ensure that their design and performance prevent unintended or unauthorized nuclear detonation, unintended main-charge high-explosive violent reaction, and subversion of weapon functionality. Controls implemented under this Order must be documented and periodically assessed, and any conflicts between this Order and other DOE or NNSA directives must be provided to the NNSA Office of Stockpile Management for resolution.

 - a. Nuclear Explosives Security and Use Control. Consistent with NEWS Program objectives, the Department (including NNSA) and its contractors must:
 - (1) Protect nuclear explosives and nuclear weapons using a combination of administrative, procedural/process, and technical measures designed to:

- (a) Ensure authorized use when directed by proper authority; and
 - (b) Protect against deliberate unauthorized acts, DUU, and DAU.
- (2) Establish complementary programs/subprograms, as needed, for nuclear explosive and weapon security, UC, and digital assurance to maintain control of nuclear explosives and nuclear weapons throughout their life cycle.
- (3) Ensure nuclear explosives and weapon security, UC programs, and digital assurance include the following major elements:
 - (a) UC Feature/Measure Operation. Ensure operation of UC features, devices, and other security measures conforms to applicable DOE 452- and 470-series Orders and implementing procedures.
 - (b) Security and UC Assessment (Timing During Assembly/Disassembly). Assess security and UC measures to ensure applicable design features are incorporated and functional at the earliest practicable point during assembly and remain in place until the latest practicable point during disassembly or dismantlement. Determinations of earliest and latest practicable points must be documented in applicable design, evaluation, or operating records.
 - (c) Upgrades During Retrofit/Alteration/Refurbishment. Evaluate security and UC upgrades for implementation during weapon retrofit, alteration, or refurbishment, as applicable, to meet current nuclear surety requirements.
 - (d) Design Attributes to Prevent or Delay DUU. Ensure attributes, including administrative and technical measures and digital assurance, intended to prevent or delay DUU of nuclear explosives and nuclear weapons.
 - (e) Human Reliability Program. Ensure compliance with 10 CFR § 712, Human Reliability Program, where applicable.
 - (f) Prevent Degradation of UC Measures. Implement measures to prevent deliberate unauthorized acts from degrading the effectiveness of UC measures incorporated in or used for nuclear explosives or nuclear weapons including degraded-state response and compensatory controls where applicable.
 - (g) Prevent/Delay DUU/DAU or Loss of Control During Planned NEOs. Implement measures to prevent or delay DUU, deliberate unauthorized acts, DAU, or loss of control during planned NEOs.

- (h) Recapture and Recovery. Implement measures to assist the recapture and recovery of lost or stolen nuclear explosives or nuclear weapons.
- (i) Stockpile Surveillance. Ensure stockpile surveillance activities verify that UC devices and components meet specified requirements and have not been altered.
- (j) Periodic DUU/DAU Reviews (Program Management). Periodically review for deliberate unauthorized acts and DUU and DAU risks and document outcomes as appropriate. Reviews may be specific to a nuclear weapon, nuclear explosive, NEO, class of operations, facility, or site. Review outputs must be retained as records.
- (k) Periodic Threat and Technology Assessment. Periodically assess measures against existing and emerging threats and technological opportunities for improvement.
- (l) Supply Chain Security and Malicious Content Protection. Implement measures to secure the supply chain and protect against components and assemblies with malicious content that could override or degrade UC or nuclear weapon functionality.
- (m) Cybersecurity and Digital Assurance. Implement measures to ensure cybersecurity in all aspects of design, sourcing and coding, procurement, production, and sustainment to ensure critical program information and systems remain secure.
- (n) Interagency Information Sharing and Cooperation. Implement measures necessary for interagency information sharing and cooperation in threat identification, supplier vetting, and risk mitigation.
- (o) Subversion/Corruption Assessments. Assess whether weapon systems, including associated systems and components/codes, have been subverted or corrupted.
- (p) Records Maintenance. Maintain records in accordance with National Archives and Records Administration-approved DOE or site-specific records retention schedules.
- (q) Research and Development (R&D). Provide resources for and conduct R&D to protect against deliberate unauthorized acts, DUU, and DAU of nuclear explosives and nuclear weapons. See paragraph e of this section for required R&D program elements.

- (4) Ensure protection measures and program elements related to nuclear weapon design are consistent with Department of War (DoW) operational requirements.
- (5) Incorporate integrated risk management so that controls implemented to support surety (safety, security, UC, digital assurance) are evaluated for adverse impacts on other surety aspects. Tradeoffs and conflict resolution must be documented at the appropriate decision level.
- (6) Notify NNSA's Office of Stockpile Management of any conflicts between the requirements in this Order and those prescribed in other DOE or NNSA directives.

b. Nuclear Enterprise Assurance.

- (1) The Department (including NNSA) and its contractors must protect against adversarial subversion of the Nuclear Security Enterprise supply chain and must evaluate documented evidentiary information to provide assurance that nuclear weapons and nuclear weapon-enabling capabilities have not been subverted.
- (2) NEA is a Nuclear Security Enterprise countersubversion program established to prevent, detect, and/or mitigate potential consequences of subversion affecting nuclear weapons throughout their life cycles and nuclear weapon-enabling capabilities. NEA supports surety for nuclear explosives and weapons, including assurance that components and systems are not subverted or compromised during design and production, in support of preventing deliberate unauthorized acts that may lead to DAU or degradation of weapon reliability or performance.
- (3) Reference NNSA SD 452.4-1, Nuclear Enterprise Assurance, current version, for detailed NEA requirements and NEA Steering Group responsibilities.

c. Deliberate Unauthorized Act, DUU, and DAU Evaluations.

- (1) The Department (including NNSA) and its contractors must conduct evaluations for DOE/NNSA nuclear explosives, digital controls/codes, nuclear weapons, NEOs, and certain non-NEO production activities, assessing controls as they apply to the critical component, nuclear explosive, or nuclear weapon against credible existing and emerging threats and technological advancements to determine the adequacy of controls.
- (2) Reference NNSA SD 452.4, Implementation and Evaluation of Controls to Prevent Deliberate Unauthorized Use, current version, for additional direction for the evaluations.

(3) Evaluations must meet the following criteria.

- (a) NNSA Sites with NEOs. Evaluations must address NEO processes, testers, tooling, and facilities to ensure controls are adequate to meet the UC elements of DOE O 452.1 applicable to NEOs.
- (b) NNSA Sites without NEOs. Evaluations must address weapon component designs, testers, and subsystem/component production to ensure the integrity of the product used in nuclear explosives and nuclear weapons is adequate so as not to jeopardize conformance with the UC elements of DOE O 452.1.

d. Joint DOE/NNSA and DoW Collaboration.

- (1) The Department (including NNSA) and its contractors must cooperate with DoW, as required, to provide protection against deliberate unauthorized acts, DUU, and DAU and to assess the effectiveness of surety features for all U.S. nuclear weapon systems throughout their life cycles. These features must be consistent with DoW operational requirements and must be assessed against existing and emerging threats and technological opportunities for improvement.
- (2) The Department (including NNSA) and its contractors must assist DoW in designating nuclear command and control critical equipment and components to ensure these items are developed and maintained to meet criteria designated in National Security Directives and the NEWS and UC programs.

e. Research and Development.

- (1) The Department (including NNSA) and its contractors must provide resources and conduct R&D for security, digital assurance, and UC measures that protect against deliberate unauthorized acts, DUU, and DAU of nuclear explosives and nuclear weapons, consistent with NEWS Program objectives.
- (2) Recommendations and outputs from security, UC, and NEA R&D must be provided for consideration by project managers, project teams, project officer groups, and decision-makers within DOE/NNSA to support implementation decisions. Specifically, security and UC R&D must:
 - (a) Pursue technologies that can enhance security and UC for new and existing systems.
 - (b) Develop nuclear weapon measures to provide assurance of operation as designed when authorized for use.

- (c) Design nuclear weapon features that enhance secure critical command and control communications.
- (d) Develop technologies to aid in the recapture and recovery of weapons.
- (e) Develop approaches to efficiently detect subversion.
- (f) Ensure personnel responsible for R&D of security, UC, and NEA features must protect (as classified and controlled unclassified information, according to sensitivities) improvements and information related to newly developed security, UC, and NEA measures.

5. RESPONSIBILITIES.

- a. Director, Office of Intelligence and Counterintelligence (DOE/IN).
 - (1) Provide intelligence and counterintelligence support for nuclear weapon security, UC, and NEA activities as requested by NNSA.
 - (2) Serve as a member of the NEA Steering Group (NEASG).
- b. Administrator, National Nuclear Security Administration. The NNSA Administrator must ensure NNSA elements and NNSA contractors implement the requirements in this Order that apply to NNSA activities, including the those related to nuclear explosives security and use control, NEA, joint collaboration with DoW, and R&D.
- c. Associate Administrator for Counterterrorism and Counterproliferation (NA-80). NA-80 must establish programs for coordinating and assisting in the recapture and recovery of U.S. nuclear explosives or nuclear weapons for which physical control has been lost.
- d. Associate Administrator for Infrastructure (NA-90).
 - (1) Develop and implement programs, policies, processes, and procedures to enable safe operations, ensure effective infrastructure, and integrate and implement activities and programs across the NNSA Nuclear Security Enterprise.
 - (2) Advise the Assistant Deputy Administrator for Stockpile Management (NA-12) on safe operations and infrastructure requirements to implement elements of the Nuclear Explosive Surety Standards.

- e. Associate Administrator and Chief for Defense Nuclear Security (NA-70).
- (1) Serve as the DOE Officially Designated Federal Security Official responsible for development and implementation of security programs, operations, and facilities under the purview of NNSA, including physical security, personnel security, materials control and accountability, classified and controlled unclassified information protection, and technical security.
 - (2) Advise the Assistant Deputy Administrator for Stockpile Management (NA-12) on safeguards and security requirements to implement elements of the Nuclear Explosive Surety Standards.
 - (3) Establish programs for coordinating and assisting in the recapture and recovery of U.S. nuclear explosives or nuclear weapons for which physical control has been lost.
- f. Associate Administrator for Information Management and Chief Information Officer (NA-IM). NA-IM must provide cyber asset support to the Office of Defense Programs (NA-10) for nuclear weapon security, UC, and NEA activities.
- g. Assistant Deputy Administrator for Stockpile Management (NA-12).
- (1) Oversee the management and integration of all aspects of nuclear explosives and weapon security, UC, and NEA programs or activities, except for R&D.
 - (2) Represent the Office of Defense Programs (NA-10) in coordinating and assisting DoW and other non-DOE entities in the recapture and recovery of U.S. nuclear explosives or nuclear weapons for which physical control has been lost.
 - (3) Represent DOE/NNSA regarding U.S. nuclear weapons and nuclear weapon systems UC to DoW and other non-DOE entities.
 - (4) Ensure active and continuous review of the nuclear stockpile is conducted to identify program concerns and ensure implementation of stockpile improvements or controls to address identified concerns.
 - (5) Direct assessment of the effectiveness of UC features of U.S. nuclear weapons in DOE and DoW custody.
 - (6) Approve designated components for Defense Programs as referenced in this Order.
 - (7) Establish and oversee NEA activities to effectively address the “ensure authorized use” mission area of UC and preclude DAU, and collaborate with DoW and other non-DOE entities on such matters.

- (8) Charter and lead the NEASG, including approving steering group membership and serving as final decision-making authority for issues when steering group members cannot reach consensus.
- (9) Assist DoW and other non-DOE entities in designating nuclear command-and-control critical equipment and ensuring that it is developed to meet criteria specified in National Security Directives.
- (10) Ensure collaboration among NA-12, NA-11, NA-18, and NA-19 to establish programs to incorporate improved UC measures in the stockpile and promote those programs found to be cost effective and feasible.
- (11) Manage periodic deliberate unauthorized act, DUU, and DAU assessments of nuclear explosives and nuclear weapons to evaluate and document existing and emerging threats and technological advancements associated with deliberate unauthorized acts, DUU, and DAU.
- (12) Accept risk for the Office of the Deputy Administrator for Defense Programs throughout the product realization life cycle for stockpile systems, life extension programs, and alterations, including those identified by NEA activities.

h. Assistant Deputy Administrator for Secure Transportation (NA-15).

- (1) Ensure active and continuous review of the aspects of nuclear explosives and weapon security, and UC under NA-15 cognizance, to identify program concerns and to ensure implementation of improvements or controls to address identified concerns.
- (2) Assess the effectiveness of the integrated system of controls to protect nuclear explosives and nuclear weapons under NA-15 cognizance against deliberate unauthorized acts.
- (3) Periodically evaluate and document existing and emerging threats and technological advancements associated with deliberate unauthorized acts.

i. Assistant Deputy Administrator for Research, Development, Test and Evaluation (NA-11).

- (1) Manage the R&D aspects of nuclear explosives and weapon security, UC, and NEA activities.
- (2) Manage R&D efforts on a broad range of surety methods, devices, and technologies to improve the security and UC of nuclear weapons and nuclear weapon systems and to protect, detect, and mitigate subversion of nuclear weapons and nuclear weapon-enabling capabilities.

- (3) Coordinate with NA-12 and establish security and UC priorities for R&D efforts, resources, and designated critical components for UC development.
- (4) Allocate R&D resources and pursue technologies, measures, and controls identified in the REQUIREMENTS section.
- (5) Work with NA-12 to establish programs to incorporate improved UC measures in the stockpile.

j. Director, Office of Stockpile Production Integration (NA-121).

- (1) Establish and maintain directives to govern NEA implementation.
- (2) Ensure NEA requirements are applied to all nuclear weapon programs throughout the respective nuclear weapon life cycle, including protection of nuclear weapon-enabling capabilities and cross-cutting functions.
- (3) Establish and maintain intelligence information and communication processes and protocols to facilitate NNSA and DOE/IN collaboration to effectively implement NEA requirements.
- (4) Develop and implement processes and protocols for interagency and Nuclear Security Enterprise information sharing and cooperation regarding threat identification, supplier vetting, and risk mitigation.
- (5) Establish a review and decision-making steering group for NEA activities comprised of senior federal officials from NNSA and DOE Headquarters, including DOE/IN, and others as approved by NA-12.
- (6) Recommend offices for membership in the NEASG to NA-12.

k. NNSA Field Office Managers.

- (1) Ensure implementation of nuclear explosives and weapon security, UC, and NEA programs and activities where applicable.
- (2) Conduct audits, based on competent, independent reviews, to ensure each authorized NEO meets the UC elements of DOE O 452.1 applicable to NEOs, and retain documentation of these reviews, conclusions, and resolution of findings.

- (3) Conduct audits based on competent, independent reviews that ensure deliberate unauthorized acts, DUU, and DAU reviews for non-NEO production do not jeopardize conformance with UC elements of DOE O 452.1, and retain documentation of these reviews, conclusions, and resolution of findings.
 - (4) Notify contracting officers of which contracts are affected by contractor applicability under this Order.
 - 1. Contracting Officers. For all applicable contracts and upon notification that a site/facility management contract is affected by this Order, the Contracting Officer(s) shall incorporate the requirements into the affected contract(s) via the “Laws, Regulations, and DOE Directives” clause of the contract, or through negotiation and modification, as appropriate.
- 6. DEFINITIONS.
 - a. Cybersecurity. The physical, technical, and administrative controls and risk management processes for providing the required and appropriate level of confidentiality, integrity, availability, and accountability for DOE/NNSA information stored, processed, or transmitted on electronic systems and networks.
 - b. Delay. The effect achieved by administrative controls, physical features, technical devices, security measures, or protective forces that impedes an adversary from gaining access to an asset being protected or from completing a malevolent act.
 - c. Deliberate Unauthorized Use (DUU). Any of the following consequences resulting from deliberate malevolent acts: (a) a nuclear explosive detonation that is not authorized by the National Command Authorities or (b) theft of nuclear explosives.
 - d. Denial of Authorized Use (DAU). Any unauthorized act, including deliberate unauthorized acts, that would prevent the authorized use or intended functionality of a nuclear weapon.
 - e. Digital Assurance. Practices, measures, and/or controls applied to digital technologies that implement functions within a nuclear weapon, or nuclear weapon design, production, or test capability, in order to ensure functional, performance, and security-related requirements are met while protecting against compromise or subversion.
 - f. Measures. The total spectrum of characteristics, devices, equipment, procedures, and administrative processes used to ensure timely authorized use only when directed by national authority, and to increase the difficulty of or add to the delay in achieving the deliberate unauthorized use of a nuclear explosive.

- g. Nuclear Command-and-Control Critical Equipment. Specifically designated equipment, including software, used to build, encode, decode, transmit, or receive emergency action messages; identify nuclear targets; select nuclear weapons to be used against specific targets; route nuclear-weapons-carrying platforms to appropriate launch points; and support or inhibit delivery, arming, fusing, and firing of nuclear weapons.
- h. Nuclear Enterprise Assurance (NEA). A countersubversion program established to prevent, detect, and/or mitigate potential consequences of subversion of nuclear weapons or the enabling capabilities throughout the nuclear weapon life cycle, including deliberate unauthorized acts that may lead to denial of authorized use or degradation of reliability or performance.
- i. Nuclear Enterprise Assurance Steering Group. A review and decision-making body consisting of senior federal officials from NNSA and DOE Headquarters who provide leadership regarding NEA activities, including facilitating collaboration with the DoW.
- j. Nuclear Explosive. An assembly containing fissionable and/or fusionable materials and main-charge high-explosive parts or propellants capable of producing a nuclear explosive detonation.
- k. Nuclear Explosive Operation. Any activity involving a nuclear explosive, including activities in which main-charge high-explosive parts and pit are collocated.
- l. Nuclear Security Enterprise. The collection of DOE laboratories, the Nevada National Security Site, production plants, and processing facilities involved in the design, production, and testing of nuclear weapons.
- m. Nuclear Weapon. A nuclear explosive configured for DoW use.
- n. Nuclear Weapon Crosscutting Functions and Programs. Functions and programs implemented across the Nuclear Security Enterprise to enable and support nuclear weapon capabilities that use controls and measures to detect, prevent, or minimize the effects of subversion in support of NEA.
- o. Nuclear Weapon Enabling Capabilities. The infrastructure, processes, equipment, materials, and tools that provide the Nuclear Security Enterprise with the ability to ensure reliability and performance of the nuclear weapon stockpile throughout its life cycle.
- p. Recapture. Regaining control of a nuclear weapon or special nuclear material under unauthorized possession while still within the confines of a Departmental site or facility.
- q. Recovery. Regaining control of a nuclear weapon or special nuclear material under unauthorized possession after removal from within the confines of a Departmental site or Departmental possession.

- r. Security. An integrated system of activities, systems, programs, facilities, and policies for the protection of classified information or matter, controlled unclassified information, nuclear materials, nuclear weapons, nuclear weapon components, or DOE and contractor facilities, property, and equipment.
- s. Surety. Safety, security, and UC of nuclear explosives and nuclear weapons.
- t. System Assurance. The justified confidence that the system functions as intended and is free of exploitable vulnerabilities, either intentionally or unintentionally designed or inserted as part of the system at any time during the life cycle.
- u. Unauthorized Act. Any action that has not been authorized and approved by proper authority. In the context of the Nuclear Explosive Surety Standards, an unauthorized act is one that is not sanctioned as part of an approved nuclear explosive operation or associated activity, but which could affect a nuclear explosive or main-charge high-explosive part in a nuclear explosive area.
- v. Use Control. The application of systems, devices, or procedures that ensure timely authorized use of a nuclear explosive while precluding or delaying unauthorized nuclear detonation.

7. REFERENCES.

- a. 10 CFR § 712, *Human Reliability Program*.
- b. 10 CFR §1017, *Identification and Protection of Unclassified Controlled Nuclear Information*.
- c. 10 CFR §1045, *Nuclear Classification and Declassification*.
- d. Presidential Policy Directive (PPD)-35, “United States Nuclear Command Control, Safety and Security.”
- e. “Joint Policy Statement on Nuclear Weapons Surety,” dated June 27, 1991.
- f. “Memorandum of Understanding Between the Department of Defense and Department of Energy on Objectives and Responsibilities for Joint Nuclear Weapon Activities,” dated January 17, 1983.
- g. Chairman of the Joint Chiefs of Staff Instruction 3260.01D, “Joint Policy Governing Positive Control Material and Devices.”
- h. Technical Manual (TP) 50-2, *Procedures for the Use and Control of Logistics Codes for Permissive Action Link (PAL) Equipped Weapons*.
- i. DOE P 470.1, *Safeguards and Security Program*, current version.
- j. DOE O 151.1, *Comprehensive Emergency Management System*, current version.
- k. DOE O 205.1, *Department of Energy Cybersecurity Program*, current version.

- l. DOE O 226.1, *Implementation of Department of Energy Oversight Policy*, current version.
- m. DOE O 243.1, *Records Management Program*, current version.
- n. DOE O 251.1, *Departmental Directive Program*, current version.
- o. DOE O 414.1, *Quality Assurance*, current version.
- p. DOE O 452.1, *Nuclear Explosive and Weapon Surety Program*, current version.
- q. DOE O 452.2, *Nuclear Explosive Safety*, current version.
- r. DOE O 452.6, *Nuclear Weapon Surety Interface with the Department of Defense*, current version.
- s. DOE O 461.1, *Packaging and Transportation for Offsite Shipment of Materials of National Security Interest*, current version.
- t. DOE O 470.3, *Design Basis Threat*, current version.
- u. DOE O 470.4, *Safeguards and Security Program*, current version.
- v. DOE O 471.1, *Identification and Protection of Unclassified Controlled Nuclear Information*, current version.
- w. DOE O 471.6, *Information Security*, current version.
- x. DOE O 475.2, *Identifying Classified Information*, current version.
- y. NNSA SD 452.4, *Implementation and Evaluation of Controls to Prevent Deliberate Unauthorized Use*, current version.
- z. NNSA SD 452.4-1, *Nuclear Enterprise Assurance*, current version.
- aa. *DOE/DoD Procedures for Assessment of Use Control Effectiveness*, dated January 28, 1981.
- bb. Executive Order 12344, “Naval Nuclear Propulsion Program,” codified at 50 U.S.C. §§ 2406, *Deputy Administrator for Naval Reactors*, and 2511.
- cc. Public Law 106-65, *National Defense Authorization Act for Fiscal Year 2000*, Section 3212(d), “Policy Authority.”

8. CONTACT. Questions concerning this Order should be addressed to the Office of Stockpile Management (NA-12).

BY ORDER OF THE SECRETARY OF ENERGY:



JAMES P. DANLY
Deputy Secretary