DoD Instruction 3150.02

DoD Nuclear Weapon Systems Surety Program

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Approved by:	William LaPlante, Under Secretary of Defense for Acquisition and Sustainment

Purpose: This issuance reissues the 2023 DoD directive (DoDD) as a DoD instruction (DoDI) in accordance with the authority in DoDD 5135.02 and the policy and guidance in DoDDs 5134.08 and S-5210.81 and Presidential Policy Directive Number 35, to:

- Establish policy and assign responsibilities pertaining to DoD nuclear weapon systems surety, particularly the safety, security, and control of U.S. nuclear weapon systems and nuclear weapons in DoD custody.
- Establish the DoD Nuclear Weapon Systems Surety Program.
- Incorporate existing cybersecurity, supply chain risk management (SCRM), and emerging and disruptive technology threat assessment requirements into the current DoD Nuclear Weapon Systems Surety Program outlined in DoDI S-3150.07, and DoD Manuals (DoDMs) 3150.02 and S-5210.41.
- Assign responsibility for the nuclear weapons technical inspection (NWTI) process.

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SECTION 1: GENERAL ISSUANCE INFORMATION

1.1. APPLICABILITY.

This issuance applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff (CJCS) and the Joint Staff, the Combatant Commands (CCMDs), the Office of Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the DoD (referred to collectively in this issuance as the "DoD Components").

1.2. POLICY.

a. The President, as Commander in Chief of the Armed Forces of the United States, is the sole authority for the employment of U.S. nuclear weapons.

b. U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody require special protection because of their political and military importance, destructive power, and the potential consequences of a nuclear weapon incident or unauthorized act.

(1) The assured safety, security, and control of U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody are of paramount importance to the security of the United States, its allies, and partners. Nuclear command and control (NC2) safety, security, and control also remain of paramount importance in accordance with DoDD S-5210.81.

(2) The DoD Nuclear Weapon Systems Surety Program integrates safety, security, and control policies with organizational responsibilities and formalized procedures to assess and mitigate risk throughout a nuclear weapon system's life cycle. Robust risk management processes are necessary to ensure the proper identification, assessment, mitigation, and reporting of risks.

c. Standards, plans, procedures, and other positive measures will be developed and maintained to ensure the DoD can accomplish its nuclear mission in a safe, secure, and reliable manner through the prevention of deliberate unauthorized use. The four DoD nuclear weapon surety standards provide positive measures to:

(1) Prevent nuclear weapons involved in accidents or 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) Prevent unauthorized access or unauthorized actions, by physical or digital means, that may result in loss or unauthorized pre-arming, arming, launching, or releasing of a nuclear weapon.

d. 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 the others.

e. Safety rules and technical and operational procedures will be developed and approved for each U.S. and allied nuclear weapon system and U.S. nuclear weapon in DoD custody through a formal approval process adhering to the four DoD nuclear weapon surety standards, in accordance with DoDM 3150.02.

f. U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody will not be intentionally exposed to abnormal physical environments, and there will be no deviation from established procedures, except in an emergency.

g. Personnel involved in U.S. nuclear weapon operations will receive appropriate training, to include information and operations security, and be continuously evaluated for reliability pursuant to DoDI 5210.42 and DoDM 5210.42. Additionally, personnel granted Department of Energy (DOE) Sigma 14 access are prohibited from being part of a two-person control team that may afford access to a nuclear weapon.

h. Protection for all U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody will incorporate policies, procedures, and equipment in a layered approach of security, personnel actions, procedures, and nuclear weapon design features as determined through risk analysis and in accordance with DoDD 5210.41 and DoDM S-5210.41.

i. Procedures, personnel, equipment, software, facilities, and organizations will be certified through a formal process before conducting nuclear operations and are routinely evaluated throughout a nuclear weapon system's life cycle for compliance with the four DoD nuclear weapon system surety standards through a formal study and review process, in accordance with DoDM 3150.02.

j. U.S. and allied nuclear weapon systems will be evaluated throughout their DoD life cycles for compliance with the four DoD nuclear weapon surety standards through a formal study and review process in accordance with DoDM 3150.02.

k. Using the four DoD nuclear weapon surety standards as the foundation, nuclear weapon systems will be designed or improved to the maximum extent practical with approved advanced safety and security technologies, as determined through design, hazard, and risk analysis, consistent with operational feasibility.

l. U.S. nuclear weapons in DoD custody will be maintained, transported, stored, deployed, and employed to incorporate nuclear weapons surety, consistent with operational requirements.

1.3. IMPLEMENTATION REQUIREMENTS.

Implementation of modifications to nuclear weapons surety standards will not take effect until after the publication of implementing issuance(s) and appropriate revisions of Military Service issuances. Existing implementing issuances will remain in effect until superseded by the publication of the new implementing issuance(s) and revised Military Services issuances.

SECTION 2: RESPONSIBILITIES

2.1. UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND SUSTAINMENT (USD(A&S)).

The USD(A&S):

a. Provides oversight and guidance for DoD nuclear weapons surety.

b. Approves Military Department nuclear weapon systems safety rules.

c. Provides oversight to U.S. nuclear weapons and U.S. and allied nuclear weapon systems over their life cycle to ensure safety, security, and control against threats.

d. Ensures compliance with nuclear surety during the acquisition and sustainment of U.S. and allied nuclear weapon systems.

e. Coordinates with the DoD Chief Information Officer (DoD CIO), the Secretaries of the Military Departments, the CJCS, and other DoD Component heads as required on processes or procedures for cybersecurity, SCRM, and other emerging and evolving threats.

f. Provides technical advice and assistance to the Joint Staff and the Military Departments in the oversight of DoD nuclear weapons surety SCRM.

g. Provides special attention to the supply chain for cybersecurity awareness and compliance.

h. In accordance with DoDI 5200.44, considers the supply chain during sustainment to protect systems from inherent risk.

i. Develops and implements SCRM policies in coordination with the Under Secretary of Defense for Research and Engineering (USD(R&E)), in accordance with DoDI 4140.01.

2.2. ASSISTANT SECRETARY OF DEFENSE FOR NUCLEAR, CHEMICAL, AND BIOLOGICAL DEFENSE PROGRAMS (ASD(NCB)).

Under the authority, direction, and control of the USD(A&S), the ASD(NCB):

a. Is principal advisor to the Secretary of Defense, Deputy Secretary of Defense, and the USD(A&S) on U.S. nuclear weapons in accordance with DoDD 5134.08.

(1) Develops policies, standards, and procedures for surety of U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody.

(2) Monitors efforts to assess and mitigate against threats to U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody (e.g., cybersecurity, supply chain

threats, and other emerging and disruptive technologies) and shares those efforts with the Military Departments.

(3) Develops nuclear weapons personnel reliability assurance policies, standards, and procedures. Monitors the effectiveness of nuclear weapons personnel reliability assurance programs (PRAPs) to support nuclear weapons surety.

b. As directed, prepares and submits annual reports on nuclear weapons surety and certification to the President or Congress. These reports will include Military Departments' submitted risk assessment information, including cybersecurity, SCRM, and emerging disruptive threat assessment reports.

c. Provides oversight of the Military Departments' nuclear weapon systems certification processes.

d. Participates in the development of NWTI policy. Provides safety topics of special interest to the Military Departments and the Joint Staff to be addressed during NWTIs and monitors the effectiveness of NWTIs to assess unit compliance with the DoD Nuclear Weapon Systems Surety Program.

e. Notifies the Secretaries of the Military Departments when DoD personnel have been granted access to DOE Sigma's 14 and 15.

f. Serves as the OSD principal point of contact with the DoD Components; the DOE; the Department of State; the joint DoD-DOE Nuclear Weapons Council (NWC) established in Section 179 of Title 10, United States Code; and other government departments and agencies in executing nuclear weapon surety responsibilities. Communication with the CCMDs will be through the CJCS.

g. In the event of an U.S. nuclear weapon incident, directs a review of policies, practices, and procedures to ensure the safe handling and control of nuclear weapons, as necessary.

h. Provides oversight and develops plans, policies, and procedures for U.S. nuclear weapons in DoD custody safety, security, transportation, and use control.

i. Plans and implements the modernization and upgrading of the nuclear stockpile.

j. Provides oversight of the protection of U.S. nuclear weapons in DoD custody coding equipment consistent with DoDI S-5210.82 and the logistic transportation of U.S nuclear weapons in DoD custody consistent with DoDI 4540.05. Establishes and maintains the Nuclear Transportation Working Group to provide assistance in transporting U.S. nuclear weapons in DoD custody and components.

k. Plans and implements life cycle activities for the sustainment and modernization of the nuclear weapons stockpile, including the development, manufacture, and use of U.S. nuclear weapons in DoD custody.

l. Exercises policy and oversight responsibility for physical security of U.S nuclear weapons in DoD custody and critical NC2 facilities and platforms consistent with DoDD S-5210.81.

m. Serves as the proponent for and monitors compliance with this issuance.

n. Ensures records and information established and created in accordance with this issuance are retained in accordance with DoDI 5015.02 and DoD Component records management disposition schedules.

2.3. DIRECTOR, DEFENSE THREAT REDUCTION AGENCY.

Under the authority, direction, and control of the USD(A&S), through the ASD(NCB), the Director, Defense Threat Reduction Agency:

a. Provides technical, operational, and acquisition support, advice, recommendations, and assistance to OSD, the Joint Staff, and the Military Departments in the oversight of DoD nuclear weapon systems surety when tasked in accordance with DoDD 5105.62.

b. Supports the Military Departments and the CCMDs on U.S. nuclear weapons surety matters when tasked in accordance with DoDD 5105.62.

c. Develops, implements, and operates the DoD nuclear weapons surety training program.

d. Conducts Defense nuclear surety inspection oversight, Defense nuclear surety monitor inspections, and nuclear weapons technical inspection inspector training on behalf of the CJCS.

e. Attends joint DoD-DOE NWC meetings and provides scientific and technical advice and assistance.

2.4. UNDER SECRETARY OF DEFENSE FOR POLICY.

The Under Secretary of Defense for Policy:

a. Develops counter-terrorism and counter-weapons of mass destruction policies, including those involving U.S. loss of control of nuclear material.

b. Coordinates with the USD(A&S) counter-terrorism policies and counter-weapons of mass destruction policies concerning improvised nuclear devices (INDs) when those INDs are the result of the loss of control of a U.S. nuclear weapon.

c. Coordinates with the USD(A&S) to provide defense crisis management support in scenarios when INDs are the result of the loss of control of U.S. nuclear material.

2.5. USD(R&E).

The USD(R&E):

a. Provides direction for and aligns research and development programs for DoD nuclear weapon system surety investment in technology and capability, pursuant to DoDD 5137.02, to respond to emerging threats and technology opportunities.

b. Provides technical leadership and oversight for policies, guidance, and standards for DoD Nuclear Weapon System Surety Program for the responsibilities and functions established in DoDD 5137.02.

c. In coordination with the Under Secretary of Defense for Intelligence and Security (USD(I&S)) and the USD(A&S), establishes DoD technology protection policy to implement and align DoD-wide activities to maintain technological advantage and mitigate the exploitation of critical nuclear weapon systems programs and technologies by adversaries.

(1) Leads the DoD in assessment, promotion, and development of emerging technology and the manufacturing innovation base. Assesses potential and emerging threats to technologies and recommends actions and investments to:

(a) Prevent and combat exploitation of critical information, missions, programs, and technologies.

(b) Exploit adversary vulnerabilities and defeat their capabilities.

(2) Provides expert technical review of supply chain matters related to the Committee on Foreign Investment in the United States issues.

(3) In support of the cyber-secure Defense Industrial Base:

(a) Performs cybersecurity incident damage assessments of technical information losses when Defense Industrial Base members report a cybersecurity incident.

(b) Assesses cybersecurity and supply chain risks of DoD programs and technologies.

(c) Identifies potential mitigations.

d. In coordination with the USD(I&S) and other senior officials, where appropriate, advises the joint DoD-DOE NWC and supports USD(R&E) acquisition program equities including:

(1) Assured software and hardware.

(2) Program and technology protection.

(3) Technical information and data protection.

(4) Technology vulnerability, exploitation mitigation, and assurance.

(5) Anti-tamper, reliability, maintainability, and SCRM.

(6) Cybersecurity and resiliency.

(7) Program protection planning.

(8) Conduct of program and technology assessments, system engineering, technical risk, joint mission engineering, joint architectures, prototyping and experimentation outcomes, and technology-related recommendations.

e. In coordination with the USD(A&S):

(1) Ensures the effective consideration of nuclear weapon systems acquisition program governance where both officials have equities, such as the USD(R&E) responsibility for completion of independent technical risk assessments.

(2) Ensures the effective consideration of nuclear weapon systems sustainment factors and system attributes early in the weapon system design, in accordance with Section 2443 of Title 10, United States Code.

2.6. USD(I&S).

The USD(I&S):

a. Provides input on establishing DoD technology protection policy consistent with Paragraph 2.5.c. of this issuance.

b. Advises the joint DoD-DOE NWC on intelligence equities consistent with Paragraph 2.5.d. of this issuance, as appropriate.

2.7. DIRECTOR, DEFENSE INTELLIGENCE AGENCY.

Under the authority, direction, and control of the USD(I&S), the Director, Defense Intelligence Agency:

a. Provides the DoD Components with an annual threat assessment on foreign threats to U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody.

b. Produces intelligence and counterintelligence assessments of supplier threats to acquisition programs providing critical weapons, information systems, or Military Service capabilities. Coordinates, as required, with the USD(I&S), the USD(A&S), the DoD CIO, and the DoD Components heads to establish prioritization of intelligence support.

2.8. DIRECTOR, NATIONAL SECURITY AGENCY/CHIEF, CENTRAL SECURITY SERVICES.

Under the authority, direction, and control of the USD(I&S) and the authority, direction, and control exercised by the DoD CIO over the activities of the National Security Agency Cybersecurity Directorate, or any successor organization of the National Security Agency, funded through the Information System Security Program, the Director, National Security Agency/Chief, Central Security Service:

a. Provides cybersecurity products and services to support those systems used to transmit, process, store, or display information related to U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody.

b. Disseminates information on cybersecurity threats and vulnerabilities impacting nuclear weapon systems to the responsible CCMDs and other DoD Components.

c. Provides cybersecurity support to DoD Components to assess cybersecurity vulnerabilities and develops security technical and operational implementation guidance.

d. In coordination with the Military Departments and DOE, identifies, monitors, and analyzes vulnerabilities of software, firmware, and hardware used by the DoD in nuclear weapon systems.

e. Prescribes minimum standards, methods, and procedures for protecting cryptographic and other technical security material, techniques, and information related to national security system owners as the National Manager for National Security Systems.

f. Supports the development and application of trusted systems and networks requirements, best practices, and processes.

g. Advises and guides the DoD Component heads in the application of processes, tools, techniques, and methods to minimize vulnerabilities and risk of malicious intent in procured and developed software and hardware for applicable systems.

2.9. DOD CIO.

The DoD CIO:

a. Develops and establishes the DoD communications security policy and guidance for identifying, developing, and prescribing communications security standards for nuclear weapon systems in accordance with DoDI S-5200.16.

b. Develops and establishes the DoD cybersecurity policy and guidance for identifying, developing, and prescribing cybersecurity standards for nuclear weapon systems.

c. Prescribes information technology and SCRM standards that apply throughout the DoD, including national security systems.

d. Provides SCRM policy and guidance for products and services related to information and communications technology supporting those systems used to transmit, process, store, or display information related to nuclear weapons, in accordance with DoDI 5200.44 and the February 2, 2022 Deputy Secretary of Defense Memorandum.

2.10. DIRECTOR OF OPERATIONAL TEST AND EVALUATION.

The Director of Operational Test and Evaluation:

a. In accordance with DoDI 5000.89, observes, reviews, and independently reports on the operational and live fire test and evaluation intended to support the evaluation of realistic survivability of nuclear weapons in DoD custody, nuclear weapon systems, and NC2 systems in contested, multi-domain operational environments.

b. Develops and establishes policy in accordance with DoDD 5141.02 for cybersecurity testing and evaluation during operational evaluations within the DoD, including but not limited to the April 3, 2018, Director of Operational Test and Evaluation Memorandum describing the cybersecurity testing process.

c. Conducts independent cybersecurity assessments during operational test and evaluation for acquisition systems and reports the findings as part of the acquisition process.

d. Oversees cybersecurity assessments by test agencies during both acquisition and exercise events as mandated by relevant statutory requirements.

e. Reviews and approves cybersecurity operational test and evaluation documentation for all information technology, information system, platform information technology, and special interest programs as required.

2.11. SECRETARIES OF THE MILITARY DEPARTMENTS.

The Secretaries of the Military Departments:

a. Ensure the surety of all nuclear weapons and nuclear weapon systems for which their Department has a DoD life cycle management responsibility.

b. Submit pertinent risk assessment information, including cybersecurity, SCRM, and emerging disruptive threat assessment reports, to the ASD(NCB) in order to inform risk assessments and input to annual presidential and congressional reports on surety and certification.

c. Establish surety design and evaluation criteria for nuclear weapon systems.

d. In accordance with DoDI 5200.44, protect systems from inherent risk resulting from the government and industrial supply chain during acquisition, sustainment, and operations.

e. Conduct certifications of procedures, personnel, hardware, software, facilities, and organizations before conducting nuclear operations and throughout the systems' life cycle.

f. Publish detailed DoD technical and operational procedures that, with approved safety rules and other positive measures, govern all DoD nuclear weapons operations, transportation, storage, and maintenance through the complete stockpile-to-target sequence (STS) while taking steps to protect operations security critical information and indicators not approved for public release, in accordance with DoDD 5205.02E.

g. Conduct nuclear weapon system safety studies, reviews, and surety assessments on U.S. nuclear weapons and allied systems using U.S. nuclear weapons to support the DoD Nuclear Weapon System Surety Program.

h. Implement PRAP regulations and directives to ensure that assigned personnel meet DoD PRAP policy requirements in accordance with DoDI 5210.42.

i. In the event of a nuclear weapons incident, review policies, practices, and procedures to ensure safe handling and control of nuclear weapons, as necessary.

j. Conduct NWTIs on all nuclear weapons-certified nuclear capable units in accordance with CJCS Instruction (CJCSI) 3263.05.

k. Notify the ASD(NCB) of any unsatisfactory NWTI ratings within 24 hours of the formal critique or out-brief, in accordance with CJCSI 3263.05. Provide the ASD(NCB) with a detailed description of deficiencies that caused the unsatisfactory condition.

l. Track personnel who have been briefed into DOE Sigma 14. Personnel granted access to DOE Sigma 14 are prohibited from being part of a two-person control team that may afford access to an U.S. nuclear weapon in DoD custody.

m. Plan, program for, and execute the modernization and upgrading of nuclear stockpile and weapon system programs in cooperation with National Nuclear Security Administration.

n. Plan, program, and implement life cycle activities for the sustainment and modernization of the nuclear weapons stockpile and weapon system programs, including the execution of development, manufacture, and use of nuclear weapons systems.

o. Ensure that procedures, personnel, equipment, hardware, software, facilities, and organizations are certified before conducting nuclear operations and throughout the system's life cycle and advise Combatant Commanders (CCDRs) on the status.

p. Conduct operational risk assessment to all U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody; use control studies and other assessments for U.S. nuclear weapons and allied systems for which they have responsibility to support the nuclear surety program.

q. In coordination with the USD(R&E); the DoD CIO; the USD(A&S); the USD(I&S); and the Commander, United States Cyber Command, identify intelligence requirements and review

intelligence and counterintelligence assessments of all known threats and determine associated risks affecting DoD networks and critical infrastructure supporting U.S. nuclear weapon systems and nuclear weapons in DoD custody.

2.12. CJCS.

The CJCS:

a. Advises the Secretary of Defense on U.S. nuclear weapons surety matters.

b. Coordinates nuclear weapons surety matters with other DoD Component heads as appropriate.

c. Develops NWTI policy and monitors implementation of the inspection system.

d. Verifies the ASD(NCB) is notified of any unsatisfactory NWTI ratings within 24 hours of the formal critique or out-brief, in accordance with CJCSI 3263.05. Provides the ASD(NCB) with final NWTI reports.

e. Assists the Military Departments concerned to conduct required safety studies, reviews, and inspections of U.S. and allied forces that will use U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody.

2.13. CCDRS WITH NUCLEAR WEAPON SURETY RESPONSIBILITIES.

The CCDRs with nuclear weapon surety responsibilities:

a. In coordination with the Secretaries of the Military Departments, in support of periodic and recurring assessments, provide the operational perspective of U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody against current and projected threats and the operational risks being accepted.

b. Ensure the safety, security, and control of all U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody for which they have responsibility.

c. Provide operational perspective and participate in operational risk assessment to the surety of all U.S. and allied nuclear weapon systems and U.S. nuclear weapons in DoD custody. Use control studies and other assessments for U.S. nuclear weapons and allied systems for which they have responsibility to support the nuclear system surety program.

d. Implement PRAP regulations and directives to ensure that assigned personnel for which they have responsibility meet DoD PRAP policy requirements in accordance with DoDI 5210.42.

e. Assist the responsible Military Departments to conduct required safety studies, reviews, and inspections of U.S. and allied forces that will use U.S. nuclear weapon systems and nuclear weapons in DoD custody.

GLOSSARY

G.1. ACRONYMS.

ACRONYM	MEANING
ASD(NCB)	Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs
CCDR	Combatant Commander
CCMD	Combatant Command
CJCS	Chairman of the Joint Chiefs of Staff
CJCSI	Chairman of the Joint Chiefs of Staff instruction
DoD CIO	DoD Chief Information Officer
DoDD	DoD directive
DoDI	DoD instruction
DoDM	DoD manual
DOE	Department of Energy
IND	improvised nuclear device
NC2	nuclear command and control
NWC	Nuclear Weapons Council
NWTI	nuclear weapons technical inspection
PRAP	personnel reliability assurance program
SCRM	supply chain risk management
STS	stockpile-to-target sequence
USD(A&S)	Under Secretary of Defense for Acquisition and Sustainment
USD(I&S)	Under Secretary of Defense for Intelligence and Security
USD(R&E)	Under Secretary of Defense for Research and Engineering

G.2. DEFINITIONS.

These terms and their definitions are for the purpose of this issuance.

TERM	DEFINITION
abnormal environments	Environments as defined in a weapon's STS and military characteristics in which a nuclear weapon is not expected to retain full operational reliability.

TERM	DEFINITION
access	Close proximity to a nuclear weapon in such a manner as to allow the opportunity to tamper with or damage a nuclear weapon.
arming	Readying a nuclear weapon so that a fuzing signal will operate the firing system; includes operation or reversal of safing items.
authorized access	Close physical proximity within the nuclear weapon exclusion area, obtained through proper control measures, to accomplish a specific authorized mission(s).
certification	A determination by the applicable Military Department that establishes the procedures, personnel, equipment, software, facilities, and organizations are capable of safely performing assigned nuclear weapon functions and missions.
control	The measures to control and direct nuclear forces to ensure against unauthorized use, and to ensure that physical control of nuclear weapons in DoD custody and weapon systems are maintained or restored. Includes operational, use, and physical control.
custody	Responsibility for the control of, transfer and movement of, and access to nuclear weapons and components. Custody may include accountability.
deliberate unauthorized use	Any consequence resulting from deliberate malevolent acts to include: A nuclear detonation not authorized by the President; A high explosive violent reaction that could result in an unauthorized nuclear detonation; or Theft of nuclear explosives. In the case of nuclear weapon systems, deliberate unauthorized use refers to loss or any intentional pre-arming, arming, launch, or release, or yield of a nuclear weapon that has not been approved by proper command authority.
digital means	Method(s) of logical access to (e.g., nuclear weapon system) information technology, operational technology, and interfaces, including hardware, firmware, software, and other mechanisms that generate, process, protect, store, or communicate data.

TERM	DEFINITION
DoD Nuclear Weapon Systems Surety Program	A program integrating safety, security, control policies, organizational responsibilities, and formalized procedures throughout a nuclear weapon system's life cycle to protect nuclear weapon systems. The program involves identifying, evaluating, controlling, and reducing risks related to nuclear weapons and nuclear weapon systems. Positive measures are used to enhance the surety of nuclear weapon systems.
DOE Sigma 14	The category of sensitive information (including bypass scenarios) concerning the vulnerability of nuclear weapons to a deliberate unauthorized nuclear detonation.
DOE Sigma 15	The category of sensitive information concerning the design and function of nuclear weapon use control systems, features, and components. This includes use control for passive and active systems. It may include security verification features or weapon design features not specifically part of a use control system. **Not** all use control design information is DOE Sigma 15.
emergency	An unexpected occurrence or set of circumstances in which personnel or equipment unavailability, due to accident, natural event, hostile act, or combat may demand immediate action that may require extraordinary measures to protect, handle, service, secure, transport, jettison, or employ nuclear weapons.
jettison	The intentional separation of an unarmed weapon from its delivery system or transport carrier in response to an emergency.
launching	Propulsion of a missile with a nuclear warhead into flight beyond the immediate area of the launching site. Specific definitions for each nuclear weapon or nuclear weapon system will be provided in the concept of operations, as appropriate.
life cycle	The cradle-to-grave activities applicable to a nuclear weapon and nuclear weapon system, which includes development, testing, production, operations, transportation, acceptance, storage, maintenance, upgrades, retirement, and dismantlement.
military characteristic	A DoD document submitted to DOE that specifies performance requirements and physical characteristics for a nuclear warhead, bomb, or basic assembly to be compatible with a specific weapon system or systems.

TERM	DEFINITION
NC2	The exercise of authority and direction by the President, as Commander in Chief of the Armed Forces of the United States, through established command lines, over nuclear weapon operations of military forces.
normal environments	The expected logistical, storage, and operational environments defined in the STS document, and the military characteristics that the weapon system is required to survive without degradation in operational reliability.
nuclear weapon	A complete assembly (e.g., implosion type, gun type, or thermonuclear type) in its intended ultimate configuration which, upon completion of the prescribed arming, fusing, and firing sequence, is capable of producing the intended nuclear reaction and release of energy.
nuclear weapon incident	An intentional act attempting damage, theft, unauthorized use, unauthorized movement, or loss of control of a nuclear weapon or nuclear weapon component involving suspected adversary, criminal, or terrorist activity.
nuclear weapon system	A nuclear weapon and a means for delivering it to the target, with associated support equipment, facilities, procedures, personnel, and any vehicles peculiar to the system used for weapon transport.
nuclear weapons surety	Policies, procedures, controls, and actions that encompass safety, security, and control measures, which ensure there will be no nuclear weapon incidents, unauthorized detonation, or degradation of weapon effectiveness during the activities set forth in its STS.
nuclear yield	The nuclear energy released in the detonation of a nuclear explosive measured in terms of the weight of trinitrotoluene required to produce the same energy released in an explosion.
positive measures	The combination of procedural and administrative actions, safeguards, and design features expressly for the purpose of ensuring security, safety, and control of nuclear weapons and systems, including associated personnel.
pre-arming	Nuclear weapon system operations that configure a nuclear weapon so that arming, launching, or releasing will start the sequence necessary to produce a nuclear detonation.

TERM	DEFINITION
prevent	To minimize the possibility of occurrence of an undesired event. It does not imply absolute assurance that the event will not occur.
releasing	The separation of a missile or gravity bomb with a nuclear warhead, for use in its intended mode of operation, from a delivery aircraft.
safety	The application of engineering and management principles, criteria, and techniques to protect nuclear weapons against the risks and threats inherent in their environments within the constraints of operational effectiveness, time, and cost throughout all phases of their life cycle.
security	Protection against loss of custody, theft, or diversion of a nuclear weapon system; unauthorized access; or unauthorized actions, vandalism, sabotage, and malevolent damage.
STS	A document that defines the logistic and employment concepts and related physical and digital environments involved in the delivery of a nuclear weapon from storage and assembling, testing, transporting, and delivery of a weapon to the target.
unauthorized access	Close physical proximity to nuclear weapons in such a manner as to allow the opportunity to tamper with or damage a nuclear weapon. In the absence of positive control and preventive measures, presence within the exclusion area constitutes unauthorized access. Possession or use of stand-off weapons of systems from outside the exclusion area does not constitute close physical proximity.
use control	The positive measures that allow the authorized use and prevent or delay unauthorized use of nuclear weapons. Use control is accomplished through a combination of design features, operational procedures, security, and system safety rules.

REFERENCES

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[1] This document is classified and has limited distribution. Direct questions to the Office of the Under Secretary of Defense for Policy.

[2] This document is classified and has limited distribution. Direct questions to Deputy Assistant Secretary of Defense for Nuclear Matters, 3050 Defense Pentagon, Room 3B884, Washington, DC 20301.

[3] This document is classified and has limited distribution. Direct questions to the DoD CIO, osd.pentagon.dod-cio.mbx.pubs-audits@mail.mil.

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[4] This document is classified and has limited distribution. Direct questions to Deputy Assistant Secretary of Defense for Nuclear Matters, 3050 Defense Pentagon, Room 3B884, Washington, DC 20301.