Joint Publication 3-72

Nuclear Operations



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PREFACE

1. Scope

This publication provides fundamental principles and guidance to plan, execute, and assess nuclear operations.

2. Purpose

This publication has been prepared under the direction of the Chairman of the Joint Chiefs of Staff (CJCS). It sets forth joint doctrine to govern the activities and performance of the Armed Forces of the United States in joint operations, and it provides considerations for military interaction with governmental and nongovernmental agencies, multinational forces, and other interorganizational partners. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders (JFCs), and prescribes joint doctrine for operations and training. It provides military guidance for use by the Armed Forces in preparing and executing their plans and orders. It is not the intent of this publication to restrict the authority of the JFC from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the accomplishment of objectives.

3. Application

a. Joint doctrine established in this publication applies to the Joint Staff, commanders of combatant commands, subordinate unified commands, joint task forces, subordinate components of these commands, the Services, the National Guard Bureau, and combat support agencies.

b. This doctrine constitutes official advice concerning the enclosed subject matter; however, the judgment of the commander is paramount in all situations.

c. If conflicts arise between the contents of this publication and the contents of Service publications, this publication will take precedence unless the CJCS, normally in coordination with the other members of the Joint Chiefs of Staff, has provided more current and specific guidance. Commanders of forces operating as part of a multinational (alliance

or coalition) military command should follow multinational doctrine and procedures ratified by the United States. For doctrine and procedures not ratified by the United States, commanders should evaluate and follow the multinational command's doctrine and procedures, where applicable and consistent with US law, regulations, and doctrine.

For the Chairman of the Joint Chiefs of Staff:

DANIEL T. O'DONOHUE
Lieutenant General, USMC
Director, Joint Force Development

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EXECUTIVE SUMMARY
COMMANDER'S OVERVIEW

- **Discusses the four principal roles for US nuclear forces that guide the development of US force capabilities and prescribes the use of these capabilities.**
- **Outlines the sources of *Policy Guidance on Nuclear Weapons.***
- **Describes nuclear forces and support structures.**
- **Discusses nuclear planning, targeting, intelligence support, and theater planning and targeting considerations.**
- **Describes nuclear command, control, and communications systems.**
- **Discusses the Department of Defense's and Department of Energy's shared responsibility to ensure US nuclear weapons are safe, secure, reliable, and under positive control, a concept commonly referred to as "surety."**

Overview of Nuclear Strategy

Purpose of Nuclear Forces in United States Strategy

The *National Security Strategy* and *National Defense Strategy* are supported through four principal roles for US nuclear forces that guide the development of US force capabilities and prescribe the use of these capabilities. These roles are:

- Deter nuclear and nonnuclear attack.
- Assure allies and partners.
- If deterrence fails, achieve US objectives.
- Hedge against an uncertain future.

Sources of Policy Guidance on Nuclear Weapons

- ***National Security Strategy of the United States of America.*** This presidential document states that nuclear weapons are the foundation of our strategy to preserve peace and stability by deterring aggression against the US, our allies, and our partners.
- ***National Defense Strategy of the United States of America.*** This Department of Defense (DOD)

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document establishes that the US will modernize the nation's nuclear weapons strategic triad, to include command and control and options to counter an adversary's coercive strategies.

- ***Nuclear Posture Review.*** This document establishes US nuclear policy, strategy, capabilities, and force posture. Presenting a 5- to 10-year vision, the *Nuclear Posture Review* establishes the roadmap for implementing the President's nuclear strategy.

- The President provides direction on the planning, command and control, safety, and security of nuclear weapons via written policy directives.

- The *Guidance for Employment of the Force,* Annex B, also known as the *Guidance for the Employment of Nuclear Weapons,* is a Secretary of Defense (SecDef) document implementing presidential guidance on nuclear planning.

- Chairman of the Joint Chiefs of Staff (CJCS) Instruction 3110.04, *(U) Nuclear Supplement to Joint Strategic Campaign Plan,* provides the CJCS's refinement of the SecDef's implementing guidance to the United States Strategic Command (USSTRATCOM) for preparing and coordinating plans to deploy and employ nuclear weapons.

Nuclear Forces and Support Structures

Characteristics

Nuclear forces provide capabilities to achieve US national objectives. Nuclear forces deter threats by sustaining modern, credible military capabilities. It is imperative that nuclear force capabilities are diverse, flexible, adaptable, effective, responsive, and survivable.

Strategic Triad

The US maintains a triad of strategic nuclear forces consisting of land-based intercontinental ballistic missiles, submarine-launched ballistic missiles, and long-range bombers. Each system provides strength to the US nuclear force posture through unique and complementary attributes. Further, the strategic triad reduces the

possibility that a technical problem in any one leg of the strategic triad or adversary technical advancement will leave the US at a strategic disadvantage.

Nonstrategic Forces

Dual-Capable Aircraft. The US and select North Atlantic Treaty Organization allies maintain dual-capable aircraft capable of delivering nuclear or conventional weapons in support of national strategic extended deterrence objectives and bolstering regional deterrence.

Nuclear Weapons Enterprise Infrastructure and Support Capabilities

Nuclear infrastructure and support includes those elements and structures organized, sized, and maintained to enable the full range of DOD nuclear operations. An effective support structure is critical for nuclear forces to be successful. Necessary infrastructure and support capabilities include certain US Government departments and agencies outside of DOD.

Planning and Targeting

Nuclear Planning

Developing nuclear contingency plans sends an important signal to adversaries and enemies that the US has the capability and willingness to employ nuclear weapons to defend itself and its allies and partners.

This planning provides:

- Tailored deterrence options, as a basis for dialogue between planners and decision makers before a crisis arises.
- An opportunity to identify intelligence requirements.
- A means to assess the anticipated effectiveness of options prior to execution.
- A means to assess the nature and extent of unintended consequences.
- The ability to rapidly implement select, flexible deterrent options and, if needed, predetermined nuclear employment options.

Targeting

The joint targeting cycle and supporting doctrine provide the geographic combatant commander (GCC), supported by USSTRATCOM, with a comprehensive, iterative, and logical methodology to perform nuclear targeting to generate desired effects and achieve objectives.

Intelligence Support

A variety of agencies within the intelligence community provide vital input to three areas:

- Identification of military targets (facilities or forces) that meet targeting objectives.
- Examination of facilities and forces to determine vulnerability to nuclear weapons effects.
- Monitoring of detonations and their effects. Such collection would likely require reallocation of selected assets; such reallocation (such as to USSTRATCOM) should be preplanned and would likely occur at declaration of hostilities.

Theater Planning and Targeting Considerations

GCC's Guidance. The employment or threat of employment of nuclear weapons could have a significant influence on ground operations. Therefore, the commander's guidance for integrating nuclear weapons in the combatant command's (CCMD's) campaign plan is established early in the planning process to effectively make such options and plans available to the President.

Emergent Targets and Adaptive Planning. In crisis or conflict, there may be a requirement to strike additional (follow on and/or emerging) targets in support of war-termination or other strategic objectives.

Weapon Application Considerations. The unique effects of nuclear weapons require the staff to consider additional factors when planning for their operational employment.

Operational Consequence of Execution

Survivability operations take on increased importance in a nuclear environment. The destructive power of nuclear weapons requires measures to reduce vulnerabilities and to increase survivability. The commander must employ appropriate protective measures to ensure mission-critical operations can continue after exposure to nuclear effects. Units must also protect personnel and/or equipment from chemical, biological, and radiological contamination so

mission-critical functions can continue following nonnuclear weapons of mass destruction attacks.

Command and Control

Nuclear command and control (NC2) requires both centralized control and centralized execution, a unique construct different than command and control of conventional joint force operations. Centralized control not only ensures US policy decisions made at the national level directly affect the deployment and employment of joint nuclear forces but also provides clarity of purpose and unity of command. Centralized execution ensures joint nuclear forces are responsive to the direction of national authority. Nuclear command, control, and communications (NC3) are varied systems stretching across Services, CCMDs, and other DOD entities that enable the execution of discrete portions of NC2. These NC3 systems comprise the Nuclear Command and Control System through which responsive centralized NC2 will be conducted following the direction of national authority.

National-Level Leadership and Release Authority

The President authorizes the use of nuclear weapons. The President bases this decision on, among other things, the recommendations of SecDef, the CJCS, combatant commanders, other senior advisors, and allies. The President directs employment of nuclear weapons via the CJCS in accordance with established emergency action procedures.

Operational Command and Control Considerations

GCCs will have insight on current conditions, operations, and regional sensitivities that may shape weaponeering parameters by planners and decision making by the President and other senior leaders. Initiation of such discussion can be from top-down or bottom-up, to achieve national and/or theater objectives.

Top-down communication ensures receipt of critical orders for execution and minimizes significant impacts to theater operations. For this reason, Commander, USSTRATCOM, and the supported GCC advise the President on nuclear options and are a critical component of the President's weapon engagement decision.

Nuclear Operations

Nuclear weapon capabilities constitute a vital element of national defense. Nuclear operations are those activities

within the range of military operations, to include deterrence, crisis response, strike, assessment, and return to stability.

Nuclear operations include unique requirements and processes within policy and plans. Any proposed nuclear strike option requires a presidential decision and has far-ranging diplomatic, strategic, operational, and legal implications.

A subordinate joint force will not have, and the CCMD may not have, the organic/internal ability to nominate, plan for, and/or refine nuclear targets. Joint forces may rely on external support from multiple agencies for assistance with targeting; nuclear/conventional planning integration; consequences of execution assessment; force protection; execution; and chemical, biological, radiological, and nuclear (CBRN) response or international CBRN response. This assistance may be provided via deployed support teams and through reachback.

Principles and Purpose

The strategic triad of nuclear forces serves a primary purpose of deterring nuclear attack on the US homeland and our allies and partners.

Operations in a Nuclear Environment

Possibly the greatest and least understood challenge confronting the joint force in a nuclear conflict is how to operate in a post-nuclear detonation radiological environment. Knowledge of the special physical and physiological hazards, and psychological effects of the nuclear battlefield, along with guidance and training to counter these hazards and effects, greatly improves the ground forces ability to operate successfully.

Modeling in Support of Nuclear Planning/ Operations

Several DOD agencies provide modeling tools that can support commanders' staffs in conducting nuclear planning. These tools generally enable planners to model effects of a nuclear weapons strike on both friendly and enemy forces to ensure the commander's intent is met. The Defense Threat Reduction Agency develops, manages, and continuously updates its models and tools to ensure they are capable of meeting the needs of commanders and their staffs.

Surety

A primary responsibility of the DOD and Department of Energy (DOE) stockpile mission is to ensure US nuclear weapons are safe, secure, reliable, and under positive control, a concept commonly referred to as "surety."

Dual-Agency Responsibilities. DOD and DOE, working through the National Nuclear Security Administration, share primary responsibility for the safety, security, and control of US nuclear weapons. In 2011, the Deputy Secretaries of Defense and Energy signed a DOD-DOE *Nuclear Physical Security Collaboration Memorandum,* which codified DOD-DOE commitment to develop common standards for the physical security of nuclear weapons and special nuclear material.

Safety

The four principal safety themes for nuclear weapons are isolation, incompatibility, inoperability, and independence. These themes are related to the protection concepts of "stronglinks," which must be activated to enable operation of the fusing system, and "weaklinks," which, if broken, will deactivate the weapon. The critical components necessary for a nuclear detonation are **isolated** from their surroundings by placing them within a physical barrier known as an exclusion region.

Security

Nuclear weapons security refers to the range of active and passive measures employed to protect a weapon from access by unauthorized personnel and to prevent loss or damage from unauthorized acts that would result in a nuclear yield, radiological dispersal/contamination, or rendering the weapon non-serviceable. These measures include nuclear security policy; security forces; equipment; technology; tactics, techniques, and procedures; and personnel security standards.

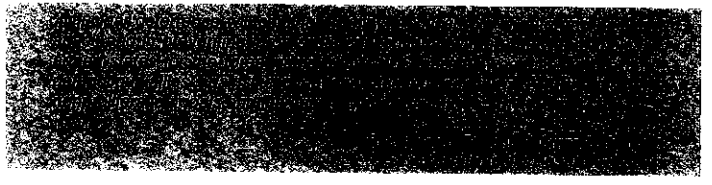
Control Measures

DOD Nuclear Weapons Personnel Reliability Assurance. DOD Manual 5210.42, *Nuclear Weapons Personnel Reliability Program (PRP) Regulation,* establishes the Personnel Reliability Assurance Program to manage individuals assigned to perform specific duties associated with nuclear weapons, weapon systems, components, and materials.

CONCLUSION

This publication provides fundamental principles and guidance to plan, execute, and assess nuclear operations.

CHAPTER I
OVERVIEW OF NUCLEAR STRATEGY



1. Introduction

Nuclear weapons are a key feature of the security environment. Adversaries increasingly rely on nuclear weapons to secure their interests. Those seeking ways to use nuclear weapons for coercion and war termination present complex deterrence and escalation management challenges. US nuclear weapons and the associated capabilities needed to conduct nuclear operations are essential to ensure an effective deterrent.

2. Purpose of Nuclear Forces in United States Strategy

US nuclear forces serve the national objective of maintaining peace through strength. The *National Security Strategy* and *National Defense Strategy* are supported through four principal roles for US nuclear forces that guide the development of US force capabilities and prescribe the use of these capabilities. These roles are complementary and interrelated, and the adequacy of US nuclear forces is assessed against each role and the strategy designed to fulfill it:

a. Deter nuclear and nonnuclear attack.

b. Assure allies and partners.

c. If deterrence fails, achieve US objectives.

d. Hedge against an uncertain future.

3. Deterrence

a. Deterrence is the prevention of action by the existence of a credible threat of unacceptable counteraction and/or belief that the cost of the action outweighs the perceived benefits. Credible deterrence operates by influencing adversary decision makers through the demonstration of US capability and strategic messaging of US resolve to employ capabilities that deny the benefits of adversary action and impose costs on them.

b. Credible nuclear capabilities are important, as the President must have the means to respond appropriately to an attack on the US, its allies, and partners. Nuclear forces must be prepared to achieve the strategic objectives defined by the President. Strategic deterrence does not stop once a conflict has started but continues throughout the entire range of military operations. The application of nuclear and/or conventional deterrence operations during all phases of planning and execution is critical to influence an adversary's decision-making process, regardless of the stage of conflict.

c. In addition to deterring adversaries from launching large-scale conventional attacks or using weapons of mass destruction (WMD), nuclear forces extend deterrence to allies and partners. This supports nonproliferation efforts by dissuading nation states from developing nuclear capabilities of their own.

d. There is no "one size fits all" for deterrence. Consequently, the US applies a tailored and flexible approach to effectively deter a spectrum of adversaries, threats, and contexts. Nuclear weapons proliferation, acquisition of nuclear materials of concern, and exchange of technical expertise follow pathways and threat networks similar to those of other WMD proliferation.

Refer to Joint Publication (JP) 3-40, Countering Weapons of Mass Destruction, *for more information on pathway defeat. Refer to JP 3-25,* Countering Threat Networks, *for more information on threat networks.*

4. Assurance of Allies and Partners

The US has formal deterrence commitments that assure European, Asian, and Pacific allies. Assurance is a common goal based on collaboration with allies and partners to deter or defeat the threats we face. No nation should doubt the strength of our deterrence commitments or the strength of US and allied capabilities to deter and, if necessary, defeat any threat's nuclear or nonnuclear aggression. In many cases, effectively assuring allies and partners depends on their confidence in the credibility of US nuclear deterrence, which enables most to eschew possession of nuclear weapons, thereby contributing to US nonproliferation goals.

5. Achievement of United States Objectives if Deterrence Fails

a. US forces, including nuclear forces, provide the President with various escalation control options to achieve military objectives and strategic goals with the minimum use of force.

b. Escalation control options support military objectives, demonstrating US capability and resolve to counter a threat's actions. These options should also avoid creating potential incentives for further escalation, and the threats must understand or perceive when and why the US would escalate. Options must balance the need for military action and the need to demonstrate resolve with the requirement to avoid further escalation.

c. US nuclear forces provide the means to apply force to a broad range of targets in a time and manner chosen by the President. Nuclear forces are prepared to execute preplanned options, adaptively planned options, or a combination of options to achieve national security objectives prescribed by the President.

6. Hedge Against an Uncertain Future

The US will continue efforts to create a more stable security environment but must also plan against prospective and unanticipated risks. Strategies can help reduce geopolitical, technological, operational, and programmatic risks and mitigate threats that may emerge over time.

7. Sources of Policy Guidance on Nuclear Weapons

a. ***National Security Strategy of the United States of America.*** This presidential document states that nuclear weapons are the foundation of our strategy to preserve peace and stability by deterring aggression against the US, our allies, and our partners.

b. ***National Defense Strategy of the United States of America.*** This Department of Defense (DOD) document establishes that the US will modernize the nation's nuclear weapons strategic triad, to include command and control and options to counter an adversary's coercive strategies.

c. ***Nuclear Posture Review.*** This document establishes US nuclear policy, strategy, capabilities, and force posture. Presenting a 5- to 10-year vision, the *Nuclear Posture Review* establishes the roadmap for implementing the President's nuclear strategy.

d. The President provides direction on the planning, command and control, safety, and security of nuclear weapons via written policy directives.

e. The *Guidance for Employment of the Force,* Annex B, also known as the *Guidance for the Employment of Nuclear Weapons,* is a Secretary of Defense (SecDef) document implementing presidential guidance on nuclear planning.

f. Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3110.04, *(U) Nuclear Supplement to Joint Strategic Campaign Plan,* provides the Chairman of the Joint Chiefs of Staff's (CJCS's) refinement of the SecDef's implementing guidance to the United States Strategic Command (USSTRATCOM) for preparing and coordinating plans to deploy and employ nuclear weapons.

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CHAPTER II
NUCLEAR FORCES AND SUPPORT STRUCTURES



1. Characteristics

a. Nuclear forces provide capabilities to achieve US national objectives. Nuclear forces deter threats by sustaining modern, credible military capabilities. It is imperative that nuclear force capabilities are diverse, flexible, adaptable, effective, responsive, and survivable.

b. **Diverse.** No single weapon system possesses all the characteristics required for deterrence; therefore, a variety of capabilities are necessary. Force diversity provides redundant and synergistic US capability and confronts any potential aggressor with insurmountable attack responses and defensive problems. The US maintains a strategic triad to protect against unforeseen developments that might threaten US retaliatory capabilities. Each leg of the strategic triad exhibits attributes and capabilities that complement those of the other legs. The US also maintains nonstrategic nuclear forces and capabilities to increase the regional deterrent value of US forces.

c. **Flexible.** Flexibility enables engaging the enemy at an appropriate level or place with the capability of escalating or de-escalating the level of conflict. Flexibility is important because deterrent credibility hinges on having a convincing capability to execute a variety of nuclear or nonnuclear options. US forces have the flexibility to provide nuclear and nonnuclear options that allow the US to maintain deterrence and, if necessary, successfully execute a broad array of missions against the full spectrum of potential targets. Flexible responses tailored to the provocation and what the threat values most afford greater control over the possible escalation of conflict.

d. **Adaptable.** Effective deterrence requires a force that is adaptable to changing strategic environments. Strategies should address the complex and ever-changing strategic environment resulting from geopolitical and regional instabilities, state and non-state actors, WMD proliferation, and rapid advances in technology. Adaptability is crucial because the traditional alignment of nuclear weapon states has diverged from a bipolar world to a multipolar world with more focus on regional competition and dominance.

e. **Effective.** Nuclear forces and a nuclear deterrent must be effective and credible. Nuclear forces are designed and deployed specifically to create a desired effect. Credibility depends on the appearance of the deterrent from the threat's point of view. The threat

should, in no way, miscalculate the consequences of nuclear first use, either regionally or against the US itself. This is achieved by a diverse nuclear force capability—the strategic triad—with different weapon systems and warheads to achieve both strategic and nonstrategic objectives. Additionally, effectiveness is achieved by commanders training the joint warfighter to survive, fight, and win in a nuclear environment. A safe, secure, and effective nuclear stockpile further strengthens credibility of the force. Commanders of nuclear forces hold their warfighters to the most rigorous training and operational standards, ensuring the warfighter understands their contribution to US nuclear capabilities and deterrence. Maintaining and sustaining leadership focus, a cadre of expertise, training, and operational excellence on nuclear capabilities is fundamental to the effectiveness and credibility of US nuclear forces. The readiness of our strategic and conventional forces to conduct nuclear operations lends to the credibility and effectiveness of the US nuclear deterrent.

f. **Responsive.** Responsiveness (measured as the interval between the decision to strike a specific target and detonation of a weapon against that target) is critical to engaging emerging targets. Some targets must be struck quickly once a decision to employ nuclear weapons has been made. Just as important is the requirement to promptly strike high-priority, time-sensitive targets that emerge after a conflict begins. Because force employment requirements may evolve rapidly and unexpectedly, some nuclear weapons must be capable of striking these targets within the brief time available.

g. **Survivable.** US nuclear forces and command and control structures are designed to survive enemy attacks to convince potential aggressors that, in any scenario, sufficient US capability will remain to deliver a retaliatory strike. Both warfighting utility and deterrence require survivable nuclear forces and command and control structures. Survivability is enhanced by a combination of redundant systems, mobility, sufficient number of weapons, hardened sites, and an effective deployment concept.

2. **Strategic Triad**

a. The US maintains a triad of strategic nuclear forces consisting of land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and long-range bombers. Each system provides strength to the US nuclear force posture through unique and complementary attributes. Further, the strategic triad reduces the possibility that a technical problem in any one leg of the strategic triad or adversary technical advancement will leave the US at a strategic disadvantage.

b. **ICBM.** The ICBM force remains continuously on alert and provides the President with responsive options. Flexibility in response options and the ability to rapidly retarget complicates enemy attack planning. With dispersed basing, responsiveness, and robust command and control, the ICBM force creates an extraordinarily high threshold for a successful, large-scale, conventional or nuclear attack on the US homeland. The ICBM force is survivable from the standpoint that an enemy would be required to commit a large-scale expenditure of nuclear warheads to target all ICBM launch facilities and control centers.

A discussion of ICBM capabilities is found in Air Force Doctrine Annex 3-72, Nuclear Operations.

c. **SLBM.** The ballistic missile submarine (nuclear-powered) (SSBN) and its associated SLBM provide an assured, survivable strike capability. The SSBN force provides the nation with a highly reliable, safe, secure, accurate, flexible, and effective deterrent capability that complicates a threat's planning, forcing them to consider the response capability from SSBNs.

For more information on SSBN/SLBM capabilities, refer to Navy Warfare Publication 3-72, Navy Strategic Nuclear Deterrence.

d. **Long-Range Bombers.** Long-range bombers are capable of striking targets around the globe, providing a visible and flexible nuclear deterrent capability, while assuring allies and partners. Bombers provide both standoff and penetrating capabilities needed to defeat a variety of threats, to include modern air defenses, mobile targets, and targets embedded in complex terrain. Unlike SLBMs and ICBMs, bombers are recallable.

A discussion of bomber capabilities is found in Air Force Doctrine Annex 3-72, Nuclear Operations.

3. Nonstrategic Forces

Dual-Capable Aircraft. The US and select North Atlantic Treaty Organization (NATO) allies maintain dual-capable aircraft capable of delivering nuclear or conventional weapons in support of national strategic extended deterrence objectives and bolstering regional deterrence. These nuclear forces offer an important capability against regional threats, assuring allies of the US commitment to their security and are a clear and visible message to any threat.

4. Nuclear Weapons Enterprise Infrastructure and Support Capabilities

a. **General.** Nuclear infrastructure and support includes those elements and structures organized, sized, and maintained to enable the full range of DOD nuclear operations. An effective support structure is critical for nuclear forces to be successful. Necessary infrastructure and support capabilities include certain United States Government (USG) departments and agencies outside of DOD.

b. **Aerial Refueling.** A robust air refueling fleet is essential to the mission of the long-range bombers. Air refueling provides the global strike and safe recovery capabilities necessary for an effective bomber nuclear deterrent. Air refueling also provides essential support to nuclear command and control (NC2) assets.

c. **National Nuclear Security Administration (NNSA).** Supporting DOD, the NNSA is the Department of Energy (DOE) entity responsible for developing and maintaining a safe, secure, and effective nuclear weapons stockpile. Additionally, the

NNSA is responsible for securing related nuclear and radiological materials, providing the United States Navy (USN) with safe and effective nuclear propulsion fuels and reactors, securing nuclear and radiological materials, and providing the nation with nuclear counterterrorism and emergency response capabilities.

d. **Maintenance, Storage, and Transportation.** Maintenance, storage, and transportation of nuclear weapons requires qualified, specially trained personnel. The decision to deploy or disperse nuclear weapons requires the deployment or availability at the destination of qualified storage facilities separate from conventional munitions and nuclear-certified ordnance tools and equipment, as well as additional safety and security requirements and technical manuals. Prior to moving nuclear weapons to a new location, planners review support issues and incorporate unique support requirements for nuclear operations away from established infrastructure, to ensure all support requirements are in place.

For descriptions of additional organizations that support the nuclear enterprise, see Appendix A, "Support Agencies' Roles and Responsibilities."

CHAPTER III
PLANNING AND TARGETING



1. Nuclear Planning

a. Comprehensive plans enable the US to employ nuclear forces in response to a variety of scenarios. Developing nuclear contingency plans sends an important signal to adversaries and enemies that the US has the capability and willingness to employ nuclear weapons to defend itself and its allies and partners. The US is prepared to take actions to restore strategic stability, limit damage, and/or terminate the conflict on the best achievable terms for the US, its allies, and partners.

b. It is necessary and prudent to preplan nuclear employment options for contingencies prior to a crisis. This planning provides:

(1) Tailored deterrence options, as a basis for dialogue between planners and decision makers before a crisis arises;

(2) An opportunity to identify intelligence requirements;

(3) A means to assess the anticipated effectiveness of options prior to execution;

(4) A means to assess the nature and extent of unintended consequences; and

(5) The ability to rapidly implement select, flexible deterrent options and, if needed, predetermined nuclear employment options.

c. The process begins with presidential guidance, establishing strategic objectives and broad employment guidance. SecDef and the CJCS issue policy and amplifying guidance consistent with presidential direction.

d. Preplanning also provides a baseline from which branches and sequels may be developed. Planning is initiated upon direction from the President, SecDef, CJCS, or combatant commander (CCDR) with support from the subordinate joint force commanders (JFCs) and component commanders. It may involve synchronizing emergent target strikes with existing force employment plans, modifying an existing plan of sufficient similarity to the developing crisis, or creating new plans.

e. Additional planning guidance is available in Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3130.03, *Planning and Execution Planning Formats and Guidance; the*

Emergency Action Procedures of the Chairman of the Joint Chiefs of Staff; and JP 5-0, *Joint Planning.*

f. In circumstances defined in Allied nuclear doctrine, Supreme Headquarters Allied Powers, Europe, can call on nuclear planners at US and Allied defense cooperation agreements organizations, and USSTRATCOM, for information to assist in formulating Supreme Allied Commander, Europe's, advice to NATO's Nuclear Planning Group.

2. Targeting

The joint targeting cycle and supporting doctrine provide the geographic combatant commander (GCC), supported by USSTRATCOM, with a comprehensive, iterative, and logical methodology to perform nuclear targeting to generate desired effects and achieve objectives. Pertinent references include JP 3-60, *Joint Targeting;* JP 3-09, *Joint Fire Support;* and CJCSI 3370.01, *Target Development Standards.*

3. Intelligence Support

a. A variety of agencies within the intelligence community provide vital input to three areas:

(1) Identification of military targets (facilities or forces) that meet targeting objectives. This requires looking at adversary facilities and force laydown by function and determining their impact on the functionality of the adversary system.

(2) Examination of facilities and forces to determine vulnerability to nuclear weapons effects. This step involves the physical characterization of the facility (e.g., size, construction, location); the location, movement, and disposition of forces; and adversary behavior to support planning to create the desired effect.

(3) Monitoring of detonations and their effects. Such collection would likely require reallocation of selected assets; such reallocation (such as to USSTRATCOM) should be preplanned and would likely occur at declaration of hostilities.

b. The resulting information is then coordinated and managed by the applicable joint force intelligence directorate to feed the target development process and produce a target nomination list. As a supported command, USSTRATCOM integrates the targeting processes and production elements to nominate a target list to achieve objectives. As a supporting command, USSTRATCOM adapts its battle rhythm and processes to complement the targeting objectives and requirements of the supported combatant command (CCMD) and joint force.

4. Theater Planning and Targeting Considerations

a. **GCC's Guidance.** The employment or threat of employment of nuclear weapons could have a significant influence on ground operations. Therefore, the commander's

guidance for integrating nuclear weapons in the CCMD's campaign plan is established early in the planning process to effectively make such options and plans available to the President. Clear guidance will assist the staff in understanding targeting and mitigation parameters and aiding in ensuring key elements the commander requires for conducting operations are available. Integration of nuclear weapons into a theater of operations requires the consideration of multiple variables. Using nuclear weapons could create conditions for decisive results and the restoration of strategic stability. Specifically, the use of a nuclear weapon will fundamentally change the scope of a battle and create conditions that affect how commanders will prevail in conflict. Weapons, platforms, weather conditions, and planning requirements are unique in the case of nuclear weapons due to their prompt and sustained effects. As such, careful deliberation of nuclear weapons use includes their impact on future operations throughout the operational environment.

Refer to JP 5-0, Joint Planning, *and JP 3-0,* Joint Operations, *for more information on commander's guidance.*

b. **Emergent Targets and Adaptive Planning.** In crisis or conflict, there may be a requirement to strike additional (follow on and/or emerging) targets in support of war-termination or other strategic objectives. Commanders must maintain the capability to rapidly identify and strike previously unidentified or newly emerging targets. This capability includes planning for, and being able to perform, time-sensitive or adaptive planning for newly identified targets by maintaining flexibility in planning for availability of weapons and delivery systems for striking these targets.

Refer to Emergency Action Procedures of the Chairman of the Joint Chiefs of Staff, *Volume VIII,* Adaptive Planning Procedures, *for guidance on the coordination between the CCMDs.*

c. **Weapon Application Considerations.** The unique effects of nuclear weapons require the staff to consider additional factors when planning for their operational employment. While not all-inclusive, the following considerations should be addressed during the planning process.

(1) **Yield Selection.** The intensity of the blast wave, thermal effects, radiation effects, and the size of the affected area depend on the amount of energy released by the detonation. US weapons have varying yields, enabling the planning staff to select a weapon commensurate with the desired effect.

(2) **Height of Burst (HOB).** A weapon may be set to detonate at or near the Earth's surface. Some weapons may be employed at higher altitudes. Selection of HOB enables planners to take advantage of the incident blast wave, with resulting dynamic air pressures to vary the effect on the target. A higher HOB may be selected to alter the weapons effects footprint or to avoid the production of fallout. Some high-altitude bursts, in excess of 100,000 feet, will produce widespread electromagnetic pulse (EMP) events, which may affect non-EMP-hardened systems. Adverse effects on adjacent allies and partners, as well as the enemy, must be considered.

(3) **Fallout.** The weapon debris from a nuclear burst, mainly remnants of fissioned atoms, is highly radioactive. Soil swept into the radioactive debris cloud from a near-surface, surface, or subsurface burst may become activated by and combine with the radioactive debris to create a radioactive hazard, particularly as it falls back to the ground. The heavier fallout particles reach the area around ground zero shortly after the burst. The lighter particles reach the ground at later times and at greater distances, depending on weather and atmospheric conditions.

(4) **Weapon System Selection.** The US nuclear arsenal consists of multiple capabilities to provide a credible, flexible deterrent for the US and its allies. These systems include gravity bombs and air-launched cruise missiles delivered by aircraft, ICBMs, and SLBMs. Each system in the arsenal has unique planning and employment advantages and disadvantages that should be considered.

(5) **Law of War.** The law of war governs the use of nuclear weapons, just as it governs the use of conventional weapons. For example, nuclear weapons must be directed against military objectives. In addition, attacks using nuclear weapons must not be conducted when the expected incidental harm to civilians is excessive compared to the military advantage expected to be gained. US policy on the use of nuclear weapons complies with all law of war requirements. CCDRs, and other subordinate commanders responsible for the conduct of nuclear operations, must ensure their staff judge advocate is involved in nuclear operations planning and targeting processes.

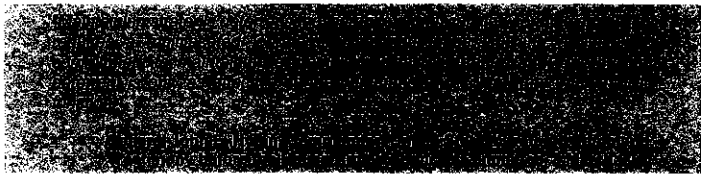
5. Operational Consequence of Execution

a. Survivability operations take on increased importance in a nuclear environment. The destructive power of nuclear weapons requires measures to reduce vulnerabilities and to increase survivability. The commander must employ appropriate protective measures to ensure mission-critical operations can continue after exposure to nuclear effects. Units must also protect personnel and/or equipment from chemical, biological, and radiological contamination so mission-critical functions can continue following nonnuclear WMD attacks.

b. Commanders must rapidly assess the effects of nuclear weapons and determine appropriate actions and responses, including long-term effects on future operations. The immediate impact on combat power can degrade the force's ability to accomplish current and future missions. The timeliness and effectiveness of such assessment depends on commanders' prior identification of measures that are clear, observable, and preferably quantifiable.

c. To minimize impacts to military operations, civilian casualties, population centers, and items critical to mission success, a series of safety distances are utilized to preclude the negative effects to friendly forces.

CHAPTER IV
COMMAND AND CONTROL



1. Introduction

NC2 refers to the command and control construct for forces conducting nuclear operations. NC2 requires both centralized control and centralized execution, a unique construct different than command and control of conventional joint force operations. Centralized control not only ensures US policy decisions made at the national level directly affect the deployment and employment of joint nuclear forces but also provides clarity of purpose and unity of command. Centralized execution ensures joint nuclear forces are responsive to the direction of national authority. Nuclear command, control, and communications (NC3) are varied systems stretching across Services, CCMDs, and other DOD entities that enable the execution of discrete portions of NC2. These NC3 systems comprise the Nuclear Command and Control System (NCCS) through which responsive centralized NC2 will be conducted following the direction of national authority.

2. National-Level Leadership and Release Authority

The President authorizes the use of nuclear weapons. The President bases this decision on, among other things, the recommendations of SecDef, the CJCS, CCDRs, other senior advisors, and allies. The President directs employment of nuclear weapons via the CJCS in accordance with established emergency action procedures.

3. Operational Command and Control Considerations

a. GCCs play a critical role and are involved in any consideration of employing nuclear weapons in theater, as their use will have significant effects on the execution of theater plans and can potentially affect friendly forces.

(1) GCCs will have insight on current conditions, operations, and regional sensitivities that may shape weaponeering parameters by planners and decision making by the President and other senior leaders. Initiation of such discussions can be from top-down or bottom-up, to achieve national and/or theater objectives.

(2) Top-down communication ensures receipt of critical orders for execution and minimizes significant impacts to theater operations. For this reason, Commander,

USSTRATCOM, and the supported GCC advise the President on nuclear options and are a critical component of the President's weapon engagement decision.

b. To facilitate NC2, robust, survivable, and redundant communications are available for real-time discussion between the CCDR and national-level leadership. These communication systems are hardened against nuclear attack. Specific systems and architecture may vary between CCMDs.

c. For the CCDR, a key element in NC2 is timing. The tempo of modern warfare dictates streamlined and efficient methods of NC2 to facilitate timely decision making, either in response to a CCDR request or to support a presidential-directed engagement. The President must have the most current information and intelligence available and must be familiar with the CCDR's plans and options.

d. NC2 relies on a collection of activities, processes, and procedures performed by appropriate military commanders and support personnel that, through the chain of command, support senior-level decisions on nuclear weapons employment. The President commands nuclear forces via NCCS. DOD ensures the communications architecture for the nuclear deterrent can serve as the core component of a broader national command and control system supporting the President. CCDRs advise the President, through SecDef, on the introduction of nuclear weapons into a conventional conflict.

e. The ability to move trusted data and advice from sensors to correlation centers, from presidential advisors to the President, from the President to the National Military Command System (NMCS), and from the NMCS to the nuclear weapons delivery platforms depends on NC3 systems. The NCCS relies on terrestrial, airborne relay, and satellite communication systems to transmit and receive voice, video, or data. Some of these systems may be able to operate through nuclear effects, while others are subject to nuclear effect disruption for periods ranging from minutes, days, months, or even permanent disruption.

f. Force direction implements decisions regarding the generation, execution, termination, destruction, and disablement of nuclear weapons. This function relates to nuclear surety, accomplished through procedures, physical security, electronic monitoring, internal warhead locks, and disabling mechanisms, to prevent unauthorized use of nuclear weapons. Force direction also relies on positive control, accomplished through procedures, continuous training, equipment, and communications, which ensures receipt and implementation of the President's nuclear control through the NC3 system.

g. NC3, managed by the Services, nuclear force commanders, and DOD agencies, provides the President with the means to authorize the use of nuclear weapons. The NC3 system performs five critical functions: detection, warning, and attack characterization; adaptive nuclear planning; decision-making conferencing; receiving/distributing presidential orders; and enabling the management and direction of forces. Many NC3 requirements are set forth in national and DOD policy; among these are the requirements that NC3 be reliable, assured, enduring, redundant, resilient, unambiguous, survivable,

secure, timely, flexible, and accurate. These requirements translate into specific, measurable, and testable criteria to evaluate the performance of NC3 through exercise, testing, and analysis.

h. Detection, warning, and attack characterization is accomplished through a combination of space-based and terrestrial sensors. North American Aerospace Defense Command is responsible for notifying national leaders of a missile attack against North America and all CCMDs. Space-based sensors usually provide indications of a missile launch, and ground-based radars provide additional information on launches and confirmation of nuclear attack. Nuclear detonation (NUDET) detection capabilities provide a persistent, global, and integrated sensor capability to provide surveillance coverage of critical regions of the globe and provide warning and assessment recommendations to the President, SecDef, and CCDRs, indicating location, altitude, and yield of NUDETs.

i. Mission-critical NCCS facilities and equipment can resist the effects of a nuclear explosion, especially EMP, which can interrupt or destroy sensitive electronics. Additionally, modern systems are capable of operating on networks to provide survivable, reliable support for senior USG officials, the US military, and allies, as appropriate. It is necessary to protect critical information and information systems against malicious cyberspace activity.

j. The US NC3 architecture consists of two layers.

(1) The first layer is the day-to-day and crisis architecture that supports US national policy by responding under all conditions in both peacetime and war to provide the means to exercise positive control and direction by the President, SecDef, and CCDRs. It provides secure, reliable, immediate, and continuous access to the President and provides robust command and control over nuclear and supporting government operations.

(2) The second layer provides the assured, unbroken, redundant, survivable, secure, and enduring architecture for connectivity between the President, SecDef, CJCS, and designated commanders through all threat environments to perform all necessary NC2 functions.

k. Theater-level NC2 architecture will vary from region to region. Integration with allies such as NATO may dictate a different communications architecture. Unilateral US NC2 varies by region as well.

l. NC2 relationships may differ when integrating conventional and nuclear operations. It is possible for Commander, USSTRATCOM, to control nuclear forces while the GCC provides command and control of conventional forces in a conventional conflict with a nuclear element.

For additional information on the NMCS, see JP 6-0, Joint Communications System, and *for additional information on protecting the DOD information network, see JP 3-12,* Cyberspace Operations.

4. Command of Nuclear Forces

a. As prescribed by Title 10, United States Code (USC), Section 162 (Combatant Commands), all nuclear forces are assigned to respective CCDRs, in accordance with assignment tables found in the *Global Force Management Implementation Guidance*. At present, strategic forces (i.e., ICBMs, SSBNs/SLBMs, and long-range bombers) are assigned to Commander, USSTRATCOM. Nonstrategic combat forces (i.e., dual-capable aircraft) are assigned to geographic CCMDs. As is the case with other CCMDs, the respective Service components exercise administrative control of forces and personnel, in support of CCDR priorities.

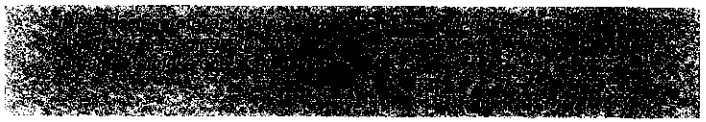
Refer to JP 1, Doctrine for the Armed Forces of the United States, *for a general discussion on command and control.*

b. JP 1 states, CCDRs have the authority to structure their command organizations as they see fit. Circumstances will dictate the specific organizational requirements related to the execution of nuclear operations as directed.

5. Command and Control in Post-Nuclear Environments

Environmental conditions in a post-NUDET environment will likely affect the NC3 system until those conditions dissipate. CCDRs and Services should be familiar with the effects EMP and radiation will have on critical weapon systems, command and control centers, and personnel. EMP and radiation shielding and hardening is one mean to ensure continuous command and control in a post-NUDET environment. Reference Chapter V, "Nuclear Operations," for specific effects.

CHAPTER V
NUCLEAR OPERATIONS



1. Introduction

a. Nuclear weapon capabilities constitute a vital element of national defense. Nuclear operations are those activities within the range of military operations, to include deterrence, crisis response, strike, assessment, and return to stability.

b. To deter an attack on the US, its allies, and partners, joint forces conduct nuclear deterrence operations as part of the US strategic security posture. These nuclear deterrence operations assure the security of allies and partners and reduce their need for their own nuclear capabilities.

Refer to JP 3-40, Countering Weapons of Mass Destruction, *for additional information.*

c. Nuclear operations include unique requirements and processes within policy and plans. Any proposed nuclear strike option requires a presidential decision and has far-ranging diplomatic, strategic, operational, and legal implications.

d. A subordinate joint force will not have, and the CCMD may not have, the organic/internal ability to nominate, plan for, and/or refine nuclear targets. Joint forces may rely on external support from multiple agencies for assistance with targeting; nuclear/conventional planning integration; consequences of execution assessment; force protection; execution; and chemical, biological, radiological, and nuclear (CBRN) response or international CBRN response. This assistance may be provided via deployed support teams and through reachback. For example, the United States Army Nuclear and Countering Weapons of Mass Destruction Agency's (USANCA's) nuclear employment augmentation teams (NEATs) assist in the integration of nuclear effects. Computer models for nuclear targeting reside within USSTRATCOM and effects estimation resides within the Defense Threat Reduction Agency (DTRA), which, without proper coordination between commands, would challenge the JFC to synchronize the ground scheme of maneuver, air tasking orders, friendly communications vulnerabilities, troop survivability, and force flow.

2. Principles and Purpose

a. The strategic triad of nuclear forces serves a primary purpose of deterring nuclear attack on the US homeland and our allies and partners. Moreover, there are several

principles underlying the strategic triad, comprising unique characteristics and capabilities that complement the others.

b. Joint forces provide **flexibility** and employment options that allow the US to provide effective deterrence and, if necessary, execute missions against the spectrum of potential targets. Flexibility allows the President to engage the enemy with the capability of escalating or de-escalating a conflict. Flexibility, such as that offered by long-range bombers and dual-capable fighter aircraft, is important because deterrent credibility hinges on having a convincing capability to execute a variety of nuclear and non-nuclear options. Furthermore, nuclear-capable aircraft offer the greatest degree of flexibility in the triad because they can be a highly visible sign of resolve and, once ordered to conduct a nuclear strike, are recallable.

c. The application of tailored responses to an enemy's provocation affords greater control over the possible escalation of conflict. At the operational level, joint forces are able to adapt to a rapidly changing operational environment to provide commanders as many options as possible to prevent conflict and manage escalation if conflict does occur.

d. The survivability of nuclear weapons, delivery systems, and NC3 systems communicate to the threat that the joint force is resilient in any phase of conflict. A combination of redundant systems, mobility, quantity of delivery systems and weapons, hardening/protection, and varied employment concepts enhance **survivability.** For example, mobility increases survivability because an enemy cannot attack joint forces with any certainty of destruction due to the unpredictability of their location at the time of attack. Survivability strengthens deterrence by providing nuclear forces for continued use, or the threat of use, against an enemy. Due to the difficulty in locating them at sea, SSBNs are the most survivable leg of the triad.

e. Conflict may require responsive strikes against emerging high-priority, time-sensitive targets. In some cases, surviving nuclear weapons must be capable of retaliatory strikes against enemy targets within a narrow window of opportunity. **Responsiveness** compels the enemy to fully commit forces during a preemptive or preventive attack, which raises the threshold for nuclear weapons use by an enemy. Continuously on alert, ICBMs provide the most responsive leg of the triad.

3. Operations in a Nuclear Environment

a. Possibly the greatest and least understood challenge confronting the joint force in a nuclear conflict is how to operate in a post-NUDET radiological environment. Knowledge of the special physical and physiological hazards, and psychological effects of the nuclear battlefield, along with guidance and training to counter these hazards and effects, greatly improves the ground forces ability to operate successfully.

b. Commanders and their staffs understand that, when planning operations, the use of nuclear weapons has specific, tangible implications that go well beyond the actual effects of the detonation. By design, nuclear weapons are highly destructive and have harmful

effects that conventional weapons do not have. Commanders must plan for and implement protective measures to mitigate these effects and continue operations.

c. Commanders should know how nuclear weapon effects can affect personnel, equipment and the dynamics of combat power. They should train for and implement survivability measures and techniques.

For additional information on the effects of operating in a post-NUDET environment, see JP 3-11, Operations in Chemical, Biological, Radiological, and Nuclear Environments.

d. The spectrum of nuclear warfare may range from tactical application, to limited regional use, to global employment by friendly forces and/or enemies. The use of a nuclear weapon in support of even tactical operations requires detailed planning at all levels. Whatever the scenario for employment of nuclear weapons, planning and operations must not assume use in isolation but must plan for strike integration into the overall scheme of fires.

e. Employment of nuclear weapons can radically alter or accelerate the course of a campaign. A nuclear weapon could be brought into the campaign as a result of perceived failure in a conventional campaign, potential loss of control or regime, or to escalate the conflict to sue for peace on more-favorable terms. The potential consequences of using nuclear weapons will greatly influence military operations and vastly increase the complexity of the operational environment.

f. Integration of nuclear weapons employment with conventional and special operations forces is essential to the success of any mission or operation.

(1) In a regional conflict, the USN and United States Air Force (USAF) provide nuclear support to the GCC by providing regional deterrence and/or flexible response options to the President.

(2) The United States Army (USA) and US Marine Corps no longer possess organic nuclear capability. However, these forces may be impacted by nuclear weapons effects disproportionally compared to other components. The land component and special operations forces, supported by joint assets, must be capable of conducting all operations in a post-NUDET radiological environment.

(3) The CCDR can nominate potential targets to consider for nuclear options that would support CCDR objectives in ongoing operations. The CCDR and staff must analyze any preplanned targets and provide options for mitigation of consequences of weapons employment or request reachback support and expertise to conduct the analysis.

For further information on operations in CBRN environments, see JP 3-11, Operations in a Chemical, Biological, Radiological, and Nuclear Environments, *and Field Manual 3-11/Marine Corps Reference Publication 10-10E.3/Navy Warfare Publication 3-11/Air*

Force Tactics, Techniques, and Procedures 3-2.42, Multi-Service Doctrine for Chemical, Biological, Radiological, and Nuclear Operations.

4. Modeling in Support of Nuclear Planning/Operations

a. Several DOD agencies provide modeling tools that can support commanders' staffs in conducting nuclear planning. These tools generally enable planners to model effects of a nuclear weapons strike on both friendly and enemy forces to ensure the commander's intent is met. DTRA develops, manages, and continuously updates its models and tools to ensure they are capable of meeting the needs of commanders and their staffs.

b. DTRA conducts training on these tools at the Defense Nuclear Weapons School (DNWS). In addition, the USANCA can provide vital training and resources for various staffs as they conduct planning.

c. US Special Operations Command's DOD Countering Weapons of Mass Destruction Fusion Center provides centralized countering weapons of mass destruction (CWMD) planning, exercises, assessments, and intelligence support for the DOD CWMD campaign plan and for the National Capital Region.

CHAPTER VI
SURETY



1. General

a. The primary responsibility of the DOD and DOE stockpile mission is to ensure US nuclear weapons are safe, secure, reliable, and under positive control, a concept commonly referred to as "surety."

b. **Dual-Agency Responsibilities.** DOD and DOE, working through the NNSA, share primary responsibility for the safety, security, and control of US nuclear weapons. In 2011, the Deputy Secretaries of Defense and Energy signed a DOD-DOE *Nuclear Physical Security Collaboration Memorandum*, which codified DOD-DOE commitment to develop common standards for the physical security of nuclear weapons and special nuclear material.

c. Because a nuclear weapon is in DOD custody for the majority of its lifetime, DOD is responsible for a wide range of operational requirements, including accident prevention and response. DOE/NNSA is responsible for the design, production, assembly, surety technology, disassembly, and dismantlement of US nuclear weapons. DOE/NNSA is also responsible for the transportation of weapons to and from the first military destination. There are, however, overlaps in responsibility between DOD and DOE/NNSA, requiring considerable coordination between the two regarding surety issues. For example, DOD and DOE/NNSA share responsibility for the interface between the weapon and the delivery system.

d. **National policy** provides guidance for coordinated interagency efforts concerning safety, security, and control across the nuclear enterprise.

e. **DOD and DOE Surety Standards.** DOD surety standards are promulgated under Department of Defense Directive (DODD) 3150.02, *DOD Nuclear Weapons Surety Program*. DOE surety standards are prescribed in DOE O 452.1E, *Nuclear Explosive and Weapon Surety Program*. Although the operating environments differ significantly, DOD and DOE standards share many similarities.

(1) DOD surety standards.

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

(b) Prevent deliberate pre-arming, arming, launching, or releasing of nuclear weapons, except when directed by NC3.

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

(d) Ensure adequate security of nuclear weapons, as governed by DODD 5210.41, *Security Policy for Protecting Nuclear Weapons;* deny unauthorized access to nuclear weapons; and, failing denial of unauthorized access, all authorized actions shall be taken immediately to reestablish security, prevent loss, or regain control of nuclear weapons.

(2) DOE nuclear explosive surety standards.

(a) For all nuclear explosive operations, there must be a positive measure that will effectively interrupt each credible scenario that leads to an unintended nuclear explosive detonation or main charge high-explosive violent reaction (HEVR).

(b) Effectively interrupt each credible scenario that leads to an unintended nuclear explosive detonation or main charge HEVR given the first measure fails.

(c) There must be positive measures to prevent unauthorized access, intentional physical damage, misuse, and theft of nuclear explosives.

(d) There must be positive measures (a combination of site, facility, or nuclear explosive operation-specific as appropriate) to prevent malevolent acts that could lead to deliberate unauthorized use.

(e) New and refurbished nuclear weapons must have design attributes to prevent nuclear explosive detonation and main charge HEVR given an adverse environment or unauthorized act.

(f) New and refurbished nuclear weapons must have design attributes to prevent deliberate unauthorized use, given a malevolent act.

2. Safety

a. The four principal safety themes for nuclear weapons are isolation, incompatibility, inoperability, and independence. These themes are related to the protection concepts of "stronglinks," which must be activated to enable operation of the fusing system, and "weaklinks," which, if broken, will deactivate the weapon. The critical components necessary for a NUDET are **isolated** from their surroundings by placing them within a physical barrier known as an exclusion region. It is critical to ensure only a deliberate act activates the stronglinks and opens the energy circuit. An **incompatible** pattern will cause the switch to lock up and remain in a safe condition. Weaklinks perform the opposite function of stronglinks. They must be functional for a NUDET, but weaklinks are designed

to fail in a predictable manner at lower environmental levels than stronglinks, thus rendering the weapon **inoperable.** Typically, two different stronglinks with different patterns are used in each weapon to provide the required assurance of safety. With **independent** stronglinks, a flaw may cause one stronglink to fail, but the other stronglink will still protect the weapon.

b. **Insensitive High Explosive.** Nuclear weapon design safety is increased through the use of insensitive high explosive as opposed to conventional high explosive. By reducing sensitivity to shock or heat, a weapon is more resistant to accidental detonation and represents a great advance in safety by reducing the likelihood of fissile material dispersal.

c. **Fire-Resistant Pit.** Another feature of nuclear weapons design safety is the fire-resistant pit. In an accident, fissile material can be dispersed if it is aerosolized by intense heat, such as that from ignited jet fuel. To prevent this, the nuclear weapon pit can be designed with a continuous barrier to contain the highly corrosive, molten fissile material, which provides sufficient time to extinguish the fire.

3. Security

a. **Nuclear weapons security** refers to the range of active and passive measures employed to protect a weapon from access by unauthorized personnel and to prevent loss or damage from unauthorized acts that would result in a nuclear yield, radiological dispersal/contamination, or rendering the weapon non-serviceable. These measures include nuclear security policy; security forces; equipment; technology; tactics, techniques, and procedures; and personnel security standards. Ensuring security is vital throughout the entire life cycle of a weapon, as it contributes directly to the shared surety objectives of both DOD and DOE/NNSA.

b. **Nuclear Custody.** DOD and DOE are responsible for providing appropriate security for all nuclear weapons in their custody. Custody is the responsibility for controlling the transfer, movement, and access to a nuclear weapon or its components. Inherent in these custodial responsibilities is control, and the custodial agent must secure the weapon to ensure positive control is maintained at all times.

c. **DOD Nuclear Weapon Security Standard.** DODD 5210.41, *Security Policy for Protecting Nuclear Weapons,* establishes the DOD Nuclear Weapon Security Standard and implements measures to ensure consistency with Presidential Policy Directive-35, *US Nuclear Weapons Command and Control, Safety, and Security.* The objectives of the standard include:

(1) Deny unauthorized access to nuclear weapons;

(2) Prevent damage or sabotage to nuclear weapons;

(3) Prevent loss of control of nuclear weapons;

(4) Prevent unauthorized NUDET;

(5) Prevent, to the maximum extent possible, radiological contamination caused by unauthorized acts or damage, emergency destruction actions, or security force actions. Security forces must not let the concern over possible contamination deter their actions to neutralize an adversary; and

(6) Ensure weapons are operationally available to the President.

d. To develop a standardized approach to nuclear security, as it is applied to DOD-DOE nuclear weapons environments, the 2011 DOD-DOE *Nuclear Physical Security Collaboration Memorandum* pledges to develop and use a common threat assessment, the Nuclear Security Threat Capabilities Assessment (NSTCA), and methodology to identify and assess threat capabilities and determine nuclear weapons security vulnerabilities. The Nuclear Security Threat Capabilities Assesament is developed, reviewed annually, and updated as necessary to support the preparation of unit or facility vulnerability assessments.

4. Control Measures

a. **DOD Nuclear Weapons Personnel Reliability Assurance.** Department of Defense Manual (DODM) 5210.42, *Nuclear Weapons Personnel Reliability Program (PRP) Regulation,* establishes the Personnel Reliability Assurance Program (PRAP) to manage individuals assigned to perform specific duties associated with nuclear weapons, weapon systems, components, and materials. The DOD PRAP is designed to ensure the highest possible standards of individual reliability for those personnel assigned to nuclear weapons duties. It emphasizes the importance of the individual's loyalty, integrity, trustworthiness, behavior, and competence. The program applies to all personnel who handle nuclear weapons, nuclear weapon systems, or nuclear components, as well as to those who have access to nuclear weapons.

b. **Procedural Security.** The most important aspect of procedural security is the **two-person rule,** which requires the presence of at least two cleared, PRAP-certified, task-knowledgeable individuals whenever there is authorized access to a nuclear weapon. Each person is required to be capable of detecting incorrect or unauthorized actions pertaining to the task being performed. Restricted entry to exclusion areas based on strict need-to-know criteria reduces the possibility of unauthorized access.

c. **Use Control.** The term "use control" refers to the collection of measures that facilitate authorized use of nuclear weapons and protects against unauthorized use. These measures include a combination of weapon design features and operational procedures. Use control is achieved by designing weapon systems with electronic and mechanical features that prevent unauthorized use and allow authorized use. Not all use control features are installed on every weapon system.

(1) **Weapons System Coded Control.** Both nuclear missile systems and bomber aircraft use system coded control. ICBM and SSBN crews require externally transmitted codes to launch an ICBM or SLBM. Bomber crews use a pre-arming circuit that also requires an externally transmitted authorization code to employ nuclear bombs or cruise missiles.

(2) **Coded Control Device.** A coded control device is a use control component that may be a part of the overall weapons system coded control.

(3) **Command Disablement System (CDS).** The CDS enables manual activation of the non-violent disablement of essential weapons components, which renders the weapon inoperable. The CDS may be internal or external to the weapon and requires human initiation. The CDS is not installed on all weapon systems.

d. **Active Protection System.** The active protection system senses attempts to gain unauthorized access to weapon-critical components. In response to unauthorized access, critical components are physically damaged or destroyed automatically. This system requires no human intervention for activation and is not installed on all weapons systems.

e. **Environmental Sensing Device.** The environmental sensing device is a feature placed in the arming circuit of a weapon providing both safety and control. It prevents inadvertent functioning of the circuit until the weapon is launched or released and experiences environmental parameters specific to its particular delivery system. For example, accelerometers are a common tool employed for this purpose.

f. **Permissive Action Link.** A permissive action link is a device included in or attached to a nuclear weapon system to preclude arming and/or launching until the insertion of a prescribed, discrete code or combination. It may include equipment or cabling external to the weapon or weapons system to activate components within the weapon or weapons system. Most modern US permissive action link systems include a multiple coded switch.

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APPENDIX A
SUPPORT AGENCIES' ROLES AND RESPONSIBILITIES

The following are specified duties and responsibilities executed by DOD nuclear enterprise support agencies.

a. **DTRA.** DTRA enables DOD, the USG, and international partners to counter and deter WMD and improvised threats networks. Implied in this mission is the strategic imperative to enable a safe, secure, and effective nuclear deterrent. DTRA provides nuclear experts and mission support to the Office of the Secretary of Defense (OSD), Joint Staff, the Services, CCMDs and partners with the NNSA, and other USG departments and agencies. DTRA provides or participates in:

(1) **Mission Assurance.** Conducts mission assurance assessments in support of OSD, the Joint Chiefs of Staff, CCMDs, the Services, and other DOD and USG departments and agencies.

(2) **Contingencies and Exercises.** DTRA serves as the DOD lead for US nuclear weapon incident training and manages the Nuclear Weapon Accident Incident Exercise program. DTRA also provides CWMD-related operational expertise and capabilities to support special operations forces, nuclear exercises and training, and international CBRN response exercise support to CCMDs and interagency partners.

(3) **Nuclear Inspections.** The Defense Nuclear Surety Inspection Oversight Team supports the nuclear surety inspection oversight of both USAF and USN nuclear surety inspection teams, while visiting every nuclear-capable base or ship every 48 months. Additionally, they instruct the Nuclear Weapons Technical Inspectors Course, ensuring inspection standards across both Services.

(4) **Nuclear Logistics Operations.** Responsible for policy support and technical and operational matters for managing and sustaining the US nuclear weapons stockpile, including the reliability, accountability, safety, security, and control of nuclear weapons.

(5) **Nuclear Surety.** Focal point for nuclear surety; nuclear and physical security research, development, test, and evaluation; Explosive Ordnance Disposal Steering Group; use control and weapons project officer groups; nuclear safety; weapons system safety reviews; policy support; and the NATO Joint Theater Surety Management Group. The Mighty Guardian program executes force-on-force exercises to evaluate nuclear weapon security policy.

(6) **DTRA Planners and Liaison Officers.** Provide a crucial link between theater planners and DTRA technical assets to support theater nuclear planning.

(7) **Nuclear Technologies.** Researches, develops, and transitions technologies and capabilities to mitigate the threat and/or effects of nuclear/radiological events and to enhance the safety, security, survivability, and performance of US nuclear systems and facilities.

Technologies include nuclear detection, nuclear effects, treaty verification assurance technologies, nuclear forensics, and nuclear survivability. The National CWMD Technical Reachback Enterprise provides DOD with time-sensitive access to CBRN subject matter experts and modeling and technical information for planning, execution/response, and assessment.

(8) **On-Site Inspection.** DTRA reduces the threat of WMD through arms-control treaty monitoring and on-site inspections and by providing advice and support on WMD and nonproliferation matters. Under international arms-control treaties and agreements, DTRA conducts USG inspections of foreign facilities, units, or events and coordinates and escorts foreign inspections at US facilities, units, or events.

(9) **DNWS.** DNWS provides nuclear weapons core competencies and response training for WMD and CBRN incidents to DOD; national laboratories personnel; and other federal, state, and local agencies to ensure our nation maintains a safe, reliable, and credible nuclear deterrent and a robust incident response capability. Additionally, the DNWS maintains DOD's only radiological training site and the Nuclear Weapons Instructional Museum, which houses an example of every nuclear weapon in the US arsenal.

(10) **Hard Target Research and Analysis Center.** DTRA's Hard Target Research and Analysis Center provides support to the CCDRs and the intelligence community through a unique partnership with the Defense Intelligence Agency's (DIA's) Underground Facility Analysis Center. The center:

(a) Develops new techniques to characterize complex proliferation threats.

(b) Maintains a collaborative capability for information sharing that combines intelligence collection and all-source analysis expertise with science and engineering research and development capabilities.

(c) Integrates DTRA, intelligence community, and other expertise in a multi-disciplined effort to address hard and deeply buried target developments.

(d) Develops innovative collection and analysis processes and technical capabilities to understand hard and deeply buried targets.

b. **Intelligence Community.** Provides worldwide threat assessments that include regional and country assessment of nuclear technology, tests, weapon development, and fielded nuclear forces. The Underground Facilities Analysis Center, a government-wide consortium managed by the DIA, will:

(1) Analyze foreign facility design, construction, and physical vulnerability trends.

(2) Perform computational, static, and dynamic structural analysis of nuclear weapons effects on structures.

(3) Produce and maintain nuclear vulnerability data in the National Production Workshop.

(4) Maintain nuclear weapons effects reference documents.

(5) Lead the US hard and deeply buried target knowledge-building activities and work with partner nations and allies to ensure broad-based substantive cooperation.

(6) Maintain an enduring, interactive relationship with each operational, policy, and weapons development/acquisition entity with essential underground facility knowledge.

(7) Examine new ways to collect against, analyze, and exploit underground facilities of all types.

c. **USANCA**

(1) USANCA's NEATs are an integral part of nuclear planning in support of the geographic CCMDs, subordinate unified commands, and Army Service component commands. NEATs deploy on order to support the GCC with additional nuclear expertise. The teams provide the ability to assist in the integration of nuclear effects with theater objectives and potential impacts to the conventional scheme of maneuver. This includes the analysis of nuclear weapons effects on US, allies, and multinational partners' systems, structures, and forces.

(2) The NEAT provides a preclusion focused analysis to allow the commander to understand the effects and advise/recommend potential mitigation options.

d. **20th Chemical, Biological, Radiological, Nuclear, and Explosives Command** integrates, coordinates, deploys, and provides trained and ready chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) forces.

(1) Exercises command and control of specialized CBRNE operations to support JFCs and USA commanders primarily for overseas contingencies and warfighting operations but also in support of homeland defense.

(2) Maintains technical links with appropriate joint, USA, federal, and state CBRNE assets, as well as the research, development, and technical communities to assure USA CBRNE response readiness.

e. **Armed Forces Radiobiology Research Institute (AFRRI).** Provides response and consultation in the event of any accident or incident involving radiation or radioactive materials by way of the medical radiobiology advisory team (MRAT) and/or reachback. Provides consultation specializing in the health effects of radiation, biodosimetry, and treatment of radiation casualties. The AFRRI also provides educational outreach via the

Medical Effects of Ionizing Radiation course, Biodosimetry Assessment Tool, and Medical Management of Radiological Casualties handbook.

f. **Army Public Health Center**

(1) Provides consultation on all aspects of nuclear and radiation health effects in support of all of DOD. This includes radiation dose assessments and health risk assessments for military personnel and the general public.

(2) Provides response and consultation in the event of any accident or incident involving radiation or radioactive materials by way of the MRAT.

(3) Provides consultation on operational exposure guidance and the Radiation Exposure System as a reachback resource, or through onsite evaluation. The Army Public Health Center also offers operational exposure guidance and Radiation Exposure System training to other units.

(4) Provides technical reachback capability in a post-NUDET environment to deployable medical units with nuclear medicine science officer and/or preventive medicine specialist health physics.

g. **Regional Public Health Command-Europe and Regional Public Health Command-Pacific**

(1) The Regional Public Health Command-Europe provides support to both US European Command and US Central Command areas of responsibility. The Regional Public Health Command-Pacific provides support to US Indo-Pacific Command areas of responsibility.

(2) Provides consultation on all aspects of nuclear and radiation health effects, including radiation dose assessments and health risk assessments for the Armed Forces of the United States and the general public.

(3) Provides response and consultation in the event of any accident or incident involving radiation or radioactive materials.

(4) Provides consultation on operational exposure guidance and the Radiation Exposure System as a reachback resource, or through onsite evaluation, and offers operational exposure guidance and Radiation Exposure System training to other units.

(5) Provides technical reachback capability in a post-NUDET environment to deployable medical units with nuclear medicine science officer and/or preventive medicine specialist health physics.

h. **Air Force Nuclear Weapons Center (AFNWC).** AFNWC is Air Force Materiel Command's supported center for synchronizing nuclear materiel management across the

USAF. AFNWC delivers nuclear capabilities used by US nuclear forces to deter our adversaries and assure our allies. This includes the development of solutions to acquire, sustain, recapitalize, and modernize nuclear capabilities to ensure safe, secure, and effective nuclear weapon systems and related nuclear-certified systems in support of the President, as well as supporting operational objectives. AFNWC is assigned direct support authority to facilitate and synchronize nuclear materiel management support to Air Force Global Strike Command, to include direct communication at all levels regarding nuclear materiel management. The Commander, AFNWC, is also the USAF Program Execution Officer for Strategic Systems. AFNWC mission responsibility includes the following:

(1) **ICBM Systems Capabilities.** Responsible for life cycle of ICBMs and infrastructure for the ground-based leg of the nuclear triad. They are also responsible for interagency synchronization of ICBM delivery systems with applicable warheads managed by NNSA.

(2) **Air-Delivered Capabilities.** Responsible for acquiring and sustaining air-delivered nuclear capabilities and integration with aircraft. Manages the life cycle integrated weapon systems management of nuclear bomb, warhead, and air-launched cruise missile programs and oversees the Weapon Storage and Security System program. Also responsible for interagency synchronization with applicable air-delivered warheads and bombs managed by NNSA.

(3) **NC3 Weapon System Integration.** Responsible for integrating the NC3 weapon system across the USAF, to include authority and responsibility for weapon system architecture, weapon system configuration management, overall integration, system test, system verification, and system certification.

(4) **Nuclear Technology and Integration.** Responsible for nuclear certification, to include assessing the safety, security, and effectiveness of USAF nuclear weapon systems. Analyzes the full spectrum of weapons effects to support acquisition programs and inform tactics and procedures; assesses current and future nuclear systems to identify and mitigate potential vulnerabilities.

i. **USN Strategic Systems Programs.** The Strategic Systems Programs manages development, production, and life cycle support of the USN's fleet ballistic missile strategic weapons system.

(1) Maintains and extends the life of the Trident II Strategic Weapons System.

(2) Assures the security of nuclear weapons in USN custody.

(3) Provides rapid and cost-effective expansion of submarine-based capabilities that fill validated joint warfighting gaps.

(4) Assures Department of Navy compliance with all applicable arms control treaties and agreements.

j. **Defense Logistics Agency (DLA).** DLA is a DOD combat support agency that provides effective and efficient logistics solutions to CCMDs and Military Departments. In this role, DLA recognizes that nuclear enterprise weapon systems require special consideration because of their strategic and military importance to national security.

(1) Establishes and enforces processes and procedures necessary to optimize nuclear enterprise sustainment to USSTRATCOM and Military Departments by dedicating resources in DLA's supply chains, demand chains, and process areas specifically to support the DOD nuclear enterprise.

(2) Provides nuclear enterprise customer materiel requirements. Ensures DLA-managed materiel is not a limiting factor for nuclear enterprise warfighters by intensively managing inventory investment to satisfy customer requirements.

(3) Collaborates closely with the Military Departments' weapon system program offices and sustainment organizations.

k. **Air Force NC3 Center.** This center is tasked by Air Force Global Strike Command to provide technical and operational support to maintain the health of communication links between the National Military Command Authority and the nuclear warfighters of the USAF. The center's mission is to ensure national leadership has a survivable, secure, and resilient communications path for issuing nuclear orders to the warfighter. It also provides a focal point for support to all USAF elements of the national NC3 system.

(1) Provides NC3 systems operational, logistics, planning, programming, and communications support.

(2) Provides "direct support" to the Headquarters Air Force Global Strike Command staff.

(3) Provides liaison support to NC3 using and supporting major commands.

(4) Provides governance support for the National Leadership Command Capability/NC3 Council framework.

l. **Air Force Technical Applications Center.** As an Air Combat Command field operating agency, the center performs research and development of nuclear proliferation detection technologies to enhance nuclear treaty verification and encourage nuclear nonproliferation.

(1) Performs nuclear treaty monitoring and nuclear event detection.

(2) Provides national authorities with quality technical measurements to monitor nuclear treaty compliance.

APPENDIX B
POINTS OF CONTACT

Joint Staff/J-7/Doctrine Division

Website:	http://www.jcs.mil/doctrine/
E-mail Support:	js.pentagon.j7.jedd-support@mail.mil
Phone Number:	703-692-7273 (DSN 222)

Joint Staff Doctrine Sponsor/J-36/Nuclear Operations Division

At the time of this publication:

E-mail Support:	js.pentagon.j3.list.nod-nuclear-strike-branch-mbx@mail.smil.mil
Phone Number:	701-697-9168 (DSN 227)

Chief of Naval Operations/N3N5

At the time of this publication:

	Nuclear Weapons and Arms Control Policy
Phone Number:	703-693-2775 (DSN 223)

Headquarters Air Force/HAF A-10

At the time of this publication:

Mailing Address:	1488 Air Force Pentagon, Suite 4E235 Washington, DC 20330
Phone Number:	703-693-9747 (DSN 223)

Headquarters Department of the Army/US Army Nuclear and Countering Weapons of Mass Destruction Agency (USANCA)

At the time of this publication:

Mailing Address:	5915 16th Street Fort Belvoir VA 22060-0529
Phone Number:	703-805-1284/1136/7855 (DSN 656)

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APPENDIX C
REFERENCES

The development of JP 3-72 is based upon the following primary references.

1. General

a. Title 10, USC.

b. *The National Security Strategy of the United States of America.*

c. *National Defense Strategy of the United States of America.*

d. *National Military Strategy.*

e. *Defense Strategy Review.*

f. *Guidance for Employment of the Force.*

g. *Nuclear Posture Review, 2018.*

h. *2016 Nuclear Matters Handbook.*

2. Department of Defense Publications

a. DODD 2060.02, *DOD Countering Weapons of Mass Destruction (WMD) Policy.*

b. DODD 3020.26, *DOD Continuity Policy.*

c. DODD 3100.10, *Space Policy.*

d. DODD 3150.02, *DOD Nuclear Weapons Surety Program.*

e. DODD 3150.08, *DOD Response to Nuclear and Radiological Incidents.*

f. DODD S-3710.01, *(U) National Leadership Command Capability (NLCC).*

g. DODD 5100.03, *Support of the Headquarters of Combatant and Subordinate Unified Commands.*

h. DODD 5105.62, *Defense Threat Reduction Agency (DTRA).*

i. DODD 5210.41, *Security Policy for Protecting Nuclear Weapons.*

j. DODD S-5210.81, *(U) US Nuclear Weapons Command and Control Safety, and Security.*

k. Department of Defense Instruction (DODI) 2000.21, *DOD Support to International Chemical, Biological, Radiological, and Nuclear (CBRN) Incidents.*

l. DODI 3020.45, *Mission Assurance (MA) Construct.*

m. DODI 3020.52, *DOD Installation Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Preparedness Standards.*

n. DODI S-3150.07, *(U) Controlling the Use of Nuclear Weapons.*

o. DODI 3150.09, *The Chemical, Biological, Radiological and Nuclear (CBRN) Survivability Policy.*

p. DODI 3150.10, *DOD Response to US Nuclear Weapon Incidents.*

q. DODI O-3710.02, *Secretary of Defense Communications (SDC).*

r. DODI S-3730.01, *(U) Nuclear Command, Control, and Communications (NC3) System.*

s. DODI 4540.05, *DOD Transportation of US Nuclear Weapons.*

t. DODI S-5200.16, *(U) Objectives and Minimum Standards for Communications Security (COMSEC) Measures Used in Nuclear Command and Control (NC2) Communications.*

u. DODI 5210.42, *DOD Nuclear Weapons Personnel Reliability Assurance.*

v. DODI 5210.83, *DOD Unclassified Controlled Nuclear Information (UCNI).*

w. DODI 8330.01, *Interoperability of Information Technology (IT), Including National Security Systems (NSS).*

x. DODM 3150.02, *DOD Nuclear Weapons System Safety Program Manual.*

y. DODM 5210.42, *Nuclear Weapons Personnel Reliability Program (PRP) Regulation.*

z. DOD S-5210.92M, *(U) Physical Security Requirements for Nuclear Command and Control (NC2) Facilities.*

3. Chairman of the Joint Chiefs of Staff Publications

a. CJCSI 2310.01C, *Implementing Procedures for Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War Between the United States of America and the Russian Federation.*

b. CJCSI 3110.01K, *(U) Joint Strategic Campaign Plan (JSCP).*

c. CJCSI 3110.04B, *(U) Nuclear Supplement to Joint Strategic Capabilities Plan for FY05.*

d. CJCSI 3150.04B, *(U) Nuclear Weapons Stockpile Logistics Management and Nuclear Weapons Reports Under the Joint Reporting Structure.*

e. CJCSI 3222.01B, *(U) CJCS Requirements for High Altitude Electromagnetic Pulse Protection of Nuclear C3 Nodes and Systems.*

f. CJCSI 3231.01C, *Safeguarding Nuclear Command and Control Extremely Sensitive Information.*

g. CJCSI 3260.01E, *(U) Joint Policy Governing Positive Control Material and Coded Control Devices.*

h. CJCSI 3261.01C, *(U) Recapture and Recovery of Nuclear Weapons.*

i. CJCSI 3262.01J, *(U) Nuclear Command and Control Staff Assessment Visit (SAV) Program.*

j. CJCSI 3263.01D, *Nuclear Command and Control Command Assistance Visit (CAV) Program.*

k. CJCSI 3263.05D, *Nuclear Weapons Technical Inspections.*

l. CJCSI 3264.01F, *(U) Nuclear Command, Control, and Communications (NC3) Operational Assessment Programs.*

m. CJCSI 3265.01A, *Command and Control Governance and Management.*

n. CJCSI 3280.01D, *(U) National Military Command System (NMCS).*

o. CJCSI 3401.04A, *Alert System of the Chairman of the Joint Chiefs of Staff.*

p. CJCSI 3420.01E, *CJCS Conferencing Systems.*

q. CJCSI 3431.01E, *Joint Nuclear Accident and Incident Response Team.*

r. CJCSI 3500.02B, *Universal Joint Task List Program.*

s. CJCSI 3520.01D, *Nuclear Command and Control Mission-Essential Tasks and Computer-Based Training.*

t. CJCSI 5220.01B, *Security Classification Policy for Multiple Independently Targetable Reentry Vehicles and Maneuverable Reentry Vehicles.*

u. CJCSM 3122.01A, *Joint Operation Planning and Execution System (JOPES) Volume I, Planning Policies and Procedures.*

v. CJCSM 3150.01C, *Joint Reporting Structure General Instructions.*

w. CJCSM 3150.03D, *Joint Reporting Structure Event and Incident Reports.*

x. CJCSM 5222.01E, *(U) National Military Command System Security Classification Manual.*

y. JP 1, *Doctrine for the Armed Forces of the United States.*

z. JP 3-0, *Joint Operations.*

aa. JP 3-11, *Operations in Chemical, Biological, Radiological, and Nuclear Environments.*

bb. JP 3-40, *Countering Weapons of Mass Destruction.*

cc. JP 3-41, *Chemical, Biological, Radiological, and Nuclear Response.*

dd. JP 5-0, *Joint Planning.*

APPENDIX D
ADMINISTRATIVE INSTRUCTIONS

1. User Comments

Users in the field are highly encouraged to submit comments on this publication using the Joint Doctrine Feedback Form located at: https://jdeis.js.mil/jdeis/jel/jp_feedback_form.pdf and e-mail it to: js.pentagon.j7.mbx.jedd-support@mail.mil. These comments should address content (accuracy, usefulness, consistency, and organization), writing, and appearance.

2. Authorship

a. The lead agent and Joint Staff doctrine sponsor for this publication is the Joint Staff Operations Directorate (J-3).

b. The following staff, in conjunction with the joint doctrine development community, made a valuable contribution to the revision of this joint publication: lead agent and Joint Staff doctrine sponsor, CDR Christopher Blais, Joint Staff J-3; Mr. Alan Armitstead, Joint Staff J-7, Joint Doctrine Analysis Division; and Mr. Larry Seman, Joint Staff J-7, Joint Doctrine Division.

3. Change Recommendations

a. To provide recommendations for urgent and/or routine changes to this publication, please complete the Joint Doctrine Feedback Form located at: https://jdeis.js.mil/jdeis/jel/jp_feedback_form.pdf and e-mail it to: js.pentagon.j7.mbx.jedd-support@mail.mil.

b. When a Joint Staff directorate submits a proposal to the CJCS that would change source document information reflected in this publication, that directorate will include a proposed change to this publication as an enclosure to its proposal. The Services and other organizations are requested to notify the Joint Staff J-7 when changes to source documents reflected in this publication are initiated.

4. Lessons Learned

The Joint Lessons Learned Program (JLLP) primary objective is to enhance joint force readiness and effectiveness by contributing to improvements in doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy. The Joint Lessons Learned Information System (JLLIS) is the DOD system of record for lessons learned and facilitates the collection, tracking, management, sharing, collaborative resolution, and dissemination of lessons learned to improve the development and readiness of the joint force. The JLLP integrates with joint doctrine through the joint doctrine development process by providing lessons and lessons learned derived from operations, events, and exercises. As these inputs are incorporated into joint doctrine, they become institutionalized for future use, a major goal of the JLLP. Lessons and lessons learned are

routinely sought and incorporated into draft JPs throughout formal staffing of the development process. The JLLIS Website can be found at https://www.jllis.mil (NIPRNET) or http://www.jllis.smil.mil (SIPRNET).

5. Distribution of Publications

Local reproduction is authorized, and access to unclassified publications is unrestricted. However, access to and reproduction authorization for classified JPs must be IAW DOD Manual 5200.01, Volume 1, *DOD Information Security Program: Overview, Classification, and Declassification,* and DOD Manual 5200.01, Volume 3, *DOD Information Security Program: Protection of Classified Information.*

6. Distribution of Electronic Publications

a. Joint Staff J-7 will not print copies of JPs for distribution. Electronic versions are available on JDEIS Joint Electronic Library Plus (JEL+) at https://jdeis.js.mil/jdeis/index.jsp (NIPRNET) and https://jdeis.js.smil.mil/jdeis/generic.jsp (SIPRNET), and on the JEL at http://www.jcs.mil/doctrine (NIPRNET).

b. Only approved JPs are releasable outside the combatant commands, Services, and Joint Staff. Defense attachés may request classified JPs by sending written requests to Defense Intelligence Agency (DIA)/IE-3, 200 MacDill Blvd., Joint Base Anacostia-Bolling, Washington, DC 20340-5100.

c. JEL CD-ROM. Upon request of a joint doctrine development community member, the Joint Staff J-7 will produce and deliver one CD-ROM with current JPs. This JEL CD-ROM will be updated not less than semi-annually and when received can be locally reproduced for use within the combatant commands, Services, and combat support agencies.

GLOSSARY

PART I—ABBREVIATIONS, ACRONYMS, AND INITIALISMS

AFNWC	Air Force Nuclear Weapons Center
AFRRI	Armed Forces Radiobiology Research Institute
CBRN	chemical, biological, radiological, and nuclear
CBRNE	chemical, biological, radiological, nuclear, and high-yield explosives (USA/NGB/USCG)
CCDR	combatant commander
CCMD	combatant command
CDS	command disablement system
CJCS	Chairman of the Joint Chiefs of Staff
CJCSI	Chairman of the Joint Chiefs of Staff instruction
CJCSM	Chairman of the Joint Chiefs of Staff manual
CWMD	countering weapons of mass destruction
DIA	Defense Intelligence Agency
DLA	Defense Logistics Agency
DNWS	Defense Nuclear Weapons School
DOD	Department of Defense
DODD	Department of Defense directive
DODI	Department of Defense instruction
DODM	Department of Defense manual
DOE	Department of Energy
DTRA	Defense Threat Reduction Agency
EMP	electromagnetic pulse
GCC	geographic combatant commander
HEVR	high-explosive violent reaction
HOB	height of burst
ICBM	intercontinental ballistic missile
JFC	joint force commander
JP	joint publication
MRAT	medical radiobiology advisory team
NATO	North Atlantic Treaty Organization
NC2	nuclear command and control
NC3	nuclear command, control, and communications
NCCS	Nuclear Command and Control System
NEAT	nuclear employment augmentation team

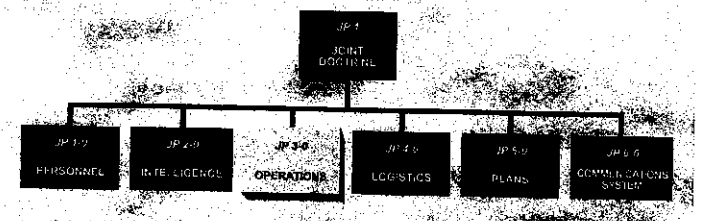
NMCS	National Military Command System
NNSA	National Nuclear Security Administration (DOE)
NUDET	nuclear detonation
OSD	Office of the Secretary of Defense
PRAP	Personnel Reliability Assurance Program
SecDef	Secretary of Defense
SLBM	submarine-launched ballistic missile
SSBN	ballistic missile submarine (nuclear-powered)
USA	United States Army
USAF	United States Air Force
USANCA	United States Army Nuclear and Countering Weapons of Mass Destruction Agency
USC	United States Code
USG	United States Government
USN	United States Navy
USSTRATCOM	United States Strategic Command
WMD	weapons of mass destruction

PART II—TERMS AND DEFINITIONS

There are currently no terms sourced to JP 3-72.

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JOINT DOCTRINE PUBLICATIONS HIERARCHY



All joint publications are organized into [illegible] Publication (JP) 1, Joint Warfare of the Armed Forces of the United States, is the capstone publication for all joint doctrine and presents fundamental principles that guide the employment of US military forces in operations across the range of military operations. It provides the [illegible] information overview of the joint doctrine publication hierarchy.

STEP #4 - Maintenance

- JP published and continuously assessed by users
- Formal assessment begins 24-27 months following publication
- Revision begins 3.5 years after publication
- Each JP revision is completed no later than 5 years after signature

STEP #1 - Initiation

- Joint doctrine development community (JDDC) submission to fill extant operational void
- Joint Staff (JS) J-7 conducts front-end analysis
- Joint Doctrine Planning Conference validation
- Program directive (PD) development and staffing/joint working group
- PD includes scope, references, outline, milestones, and draft authorship
- JS J-7 approves and releases PD to lead agent (LA) (Service, combatant command, JS directorate)

Maintenance

Initiation

ENHANCED JOINT WARFIGHTING CAPABILITY

Approval

Development

STEP #3 - Approval

- JSDS delivers adjudicated matrix to JS J-7
- JS J-7 prepares publication for signature
- JSDS prepares JS staffing package
- JSDS staffs the publication via JSAP for signature

STEP #2 - Development

- LA selects primary review authority (PRA) to develop the first draft (FD)
- PRA develops FD for staffing with JDDC
- FD comment matrix adjudication
- JS J-7 produces the first coordination (FC) draft, staffs to JDDC and JS via Joint Staff Action Processing (JSAP) system
- Joint Staff doctrine sponsor (JSDS) adjudicates FC comment matrix
- FC joint working group

