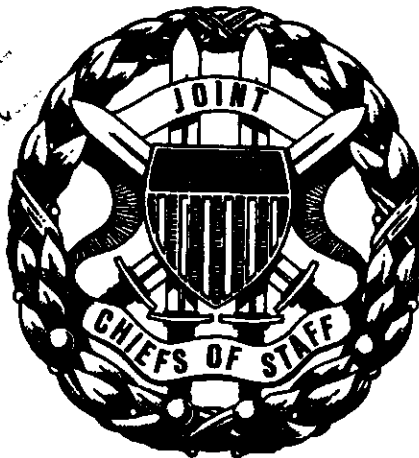


JOINT PUB 3 -12



# DOCTRINE FOR JOINT NUCLEAR OPERATIONS

Obtained Under the  
Freedom of Information Act  
by Hans M. Kristensen  
10 MAR. 94  
2 NOV. 94



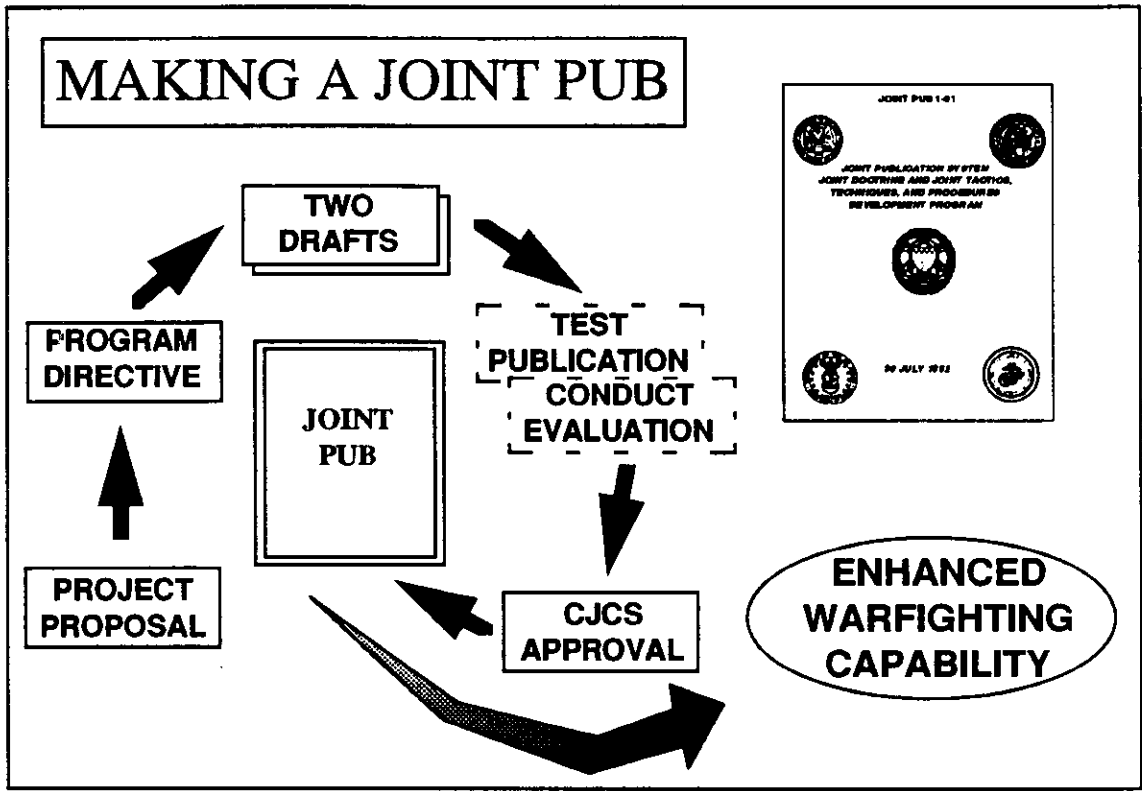
Obtained Under the  
Freedom of Information Act  
by Hans M. Kristensen

10 MAR. 94  
2 NOV. 94

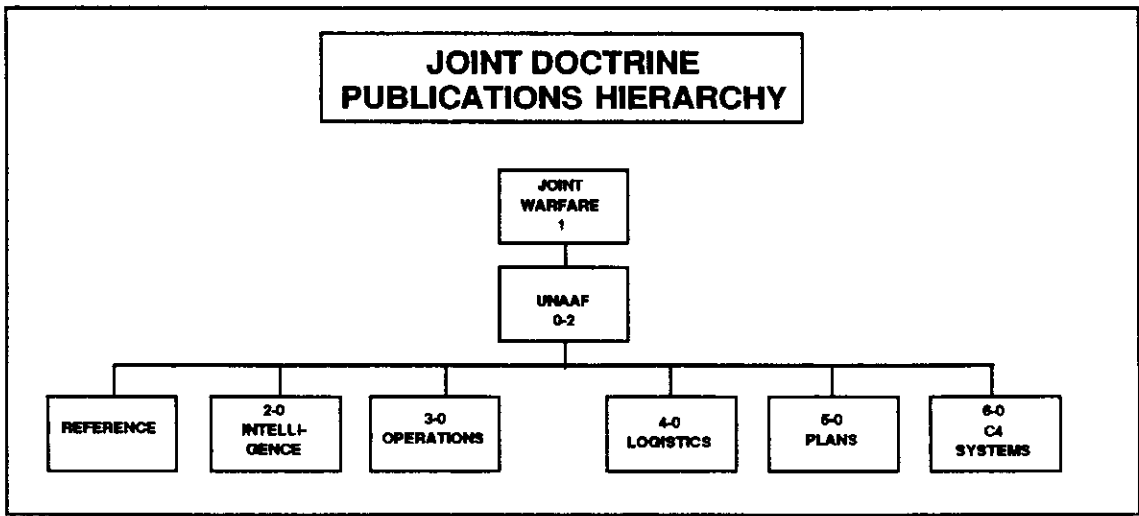
29 APRIL 1993



A large body of joint doctrine (and its supporting tactics, techniques, and procedures) has been and is being developed by the US Armed Forces through the combined efforts of the Joint Staff, Services, and combatant commands. The following chart displays an overview of the development process for these publications.



All joint doctrine and tactics, techniques, and procedures are organized into a comprehensive hierarchy. Joint Pub 3-12 is located in the operations series of joint publications.



Joint Pub 1-01, "Joint Publication System," provides a detailed list of all joint publications. Joint pubs are also available on CD-ROM through the Joint Electronic Library (JEL). For information, contact: Joint Doctrine Division, J-7, Joint Staff, Washington, D.C. 20318-7000.



**OFFICE OF THE CHAIRMAN  
THE JOINT CHIEFS OF STAFF  
WASHINGTON, D.C. 20318-0001**

Reply ZIP Code:  
20318-0400

Joint Pub 3-12  
29 April 1993

MEMORANDUM FOR: Distribution List

Subject: Joint Publication 3-12, "Doctrine for Joint Nuclear Operations"

1. This publication has been developed under the direction of the Chairman of the Joint Chiefs of Staff. It sets forth doctrine and military guidance to govern the joint activities and performance of the Armed Forces of the United States.
2. Recommendations for changes to this publication should be submitted to the Director for Operational Plans and Interoperability (J-7), Joint Staff, Washington, D.C. 20318-7000.
3. When a Joint Staff directorate submits a proposal to the Chairman of the Joint Chiefs of Staff 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.
4. The Military Services and other organizations are requested to notify the Director, J-7, Joint Staff, when changes to source documents reflected in this publication are initiated.
5. Additional copies of this publication can be obtained through Service publication centers.
6. Local reproduction is authorized and access to unclassified publications is unrestricted. However, access to and reproduction authorization for classified joint publications must be in accordance with DOD Regulation 5200.1-R.

7. The lead agent for this publication is the US Strategic Command.

8. The Joint Staff doctrine sponsor for this publication is the J-5 (Strategic Nuclear Policy Branch, Nuclear, and Chemical Division).

For the Chairman of the Joint Chiefs of Staff:



H. L. SHEEFIELD  
Captain, USN  
Secretary, Joint Staff

Enclosure

Distribution:

By Secretary, Joint Staff:

Joint Staff	OSD	NSA	CIA	JWC	USELMNORAD
FEMA	DISA	DIA	DLA	DMA	DNA
NDU	MCCDC	JEWC	AFSC	JDC	DISA-JIEO
CIO					

Additional copies may be obtained from the Secretary, Joint Staff (Documents Division).

Five copies each to: Offices of CSA, CNO, CSAF, CMC, USCG

Copies each to:

USLANTCOM (25) USCENTCOM (25) USEUCOM (25) FORSCOM (25)  
 USPACOM (25) USSOUTHCOM (25) USSPACECOM (25)  
 USSOCOM (25) USSTRATCOM (25) USTRANSCOM (25)

Additional copies should be obtained from the Military Service assigned administrative support responsibility by DOD Directive 5100.3, 1 November 1988, "Support of the Headquarters of Unified, Specified and Subordinate Joint Commands."

By Military Services:

Army: US Army AG Publication Center,  
 2800 Eastern Boulevard  
 Baltimore, MD 21220-2898.

Air Force: Air Force Publications Distribution Center,  
 2800 Eastern Boulevard  
 Baltimore, MD 21220-2896.

Navy: CO, Navy Aviation Supply Office,  
 Distribution Division (Code 03443)  
 5801 Tabor Ave, Philadelphia, PA 19120-5000.

Marine Corps: Marine Corps Logistics Base,  
 Albany, GA 31704-5000.

(INTENTIONALLY BLANK)



## LIST OF EFFECTIVE PAGES

The following is a list of effective pages. Use this list to verify the currency and completeness of your document. An "O" indicates a page in the original document.

PAGE	CHANGE	PAGE	CHANGE
i thru vi	O	III-1 thru III-10	O
I-1 thru I-8	O	A-1 thru A-2	O
II-1 thru II-8	O	B-1 thru B-10	O
		GL-1 thru GL-2	O

Deleted pages: None.



## DOCTRINE FOR JOINT NUCLEAR OPERATIONS

### PREFACE

1. Purpose. This publication sets forth doctrine for the combatant commander to use for the conduct of joint nuclear operations. This manual:
  - a. Guides the joint planning and employment of US nuclear forces.
  - b. Provides the US Government position for combined doctrine, consistent with existing security procedures.
  - c. Provides a basis for joint training.
  - d. Provides instructional material for the military education system.
  - e. Informs US Government agencies concerning the joint employment of US nuclear forces.
2. Application
  - a. Doctrine established in this publication applies to the Joint Chiefs of Staff, the Joint Staff, combatant commands, components, subordinate unified commands, joint task forces, and other subordinate commands. The principles and guidelines contained herein also apply when significant forces of one Service are attached to forces of another Service or when significant forces of one Service support forces of another Service.
  - b. The doctrine in this publication is authoritative but not directive. Commanders will exercise judgment in applying the procedures herein to accomplish their missions. This doctrine should be followed, except when, in the judgement of the commander, exceptional circumstances dictate otherwise. If conflicts arise between the contents of this publication and the contents of Service publications, this publication will take precedence unless the Chairman of the Joint Chiefs of Staff, normally in consultation with the other members of the Joint Chiefs of Staff, has provided more current and specific guidance.

3. Scope. This publication provides guidelines for the joint employment of forces in nuclear operations. It is written for those who:

- a. Provide strategic direction to joint forces (Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and commanders of combatant commands).
- b. Employ joint forces (combatant commanders, commanders of subunified commands, or joint task forces).
- c. Support or are supported by joint forces (combatant commanders, component commands, joint task forces, and Chiefs of the Services).

4. Basis. The following documents provide the basis for this publication:

- a. Joint Pub 1-02, "DOD Dictionary of Military and Associated Terms."
- b. NUWEP, "Guidance for the Employment of Nuclear Weapons"
- c. Joint Strategic Capabilities Plan--Annex C (Nuclear).
- d. National Military Strategy Document--Annex B (Nuclear).
- e. Joint Pub O-2, "Unified Action Armed Forces."
- f. Joint Pub 3-0, "Doctrine for Joint Operations."
- g. SIOP-(YR) (Basic).

TABLE OF CONTENTS

CHAPTER	PAGE
I OBJECTIVES.....	I-1
General.....	I-1
The Spectrum of Potential Conflict.....	I-2
II EMPLOYMENT OF FORCES.....	II-1
Fundamental Considerations.....	II-1
Considerations in Force Planning and Employment.....	II-2
Targeting Considerations.....	II-4
Operations in a WMD Environment.....	II-7
III INTEGRATED OPERATIONS.....	III-1
Strategic Force Integration.....	III-1
Nonstrategic Nuclear Force Integration.....	III-2
Offense/Defense Integration.....	III-6
 APPENDIX	
A TREATY OBLIGATIONS.....	A-1
B USER EVALUATION REPORT.....	B-1
 GLOSSARY	
Part I--Abbreviations and Acronyms.....	GL-1
Part II--Terms and Definitions.....	GL-2

(INTENTIONALLY BLANK)

CHAPTER I  
OBJECTIVES

1. General

a. National Security Objectives and Nuclear Forces. The permanent security interest of the United States is its survival as a free and independent nation, with its fundamental values intact and its institutions and people secure. This is best achieved by a defense posture that makes possible war outcomes so uncertain and dangerous, as calculated by potential enemies, as to remove all incentive for initiating attack under any circumstance. Thus, the fundamental purpose of US nuclear forces is to deter the use of weapons of mass destruction (WMD), particularly nuclear weapons, and to serve as a hedge against the emergence of an overwhelming conventional threat.

b. Strategy. Creditable and capable nuclear forces are essential for national security. During World War II, nuclear weapons were instrumental in ending the war on terms favorable to the allies. The US post-war strategy has been one of deterrence, and nuclear forces have been developed, deployed, and maintained for the purpose of deterring large-scale aggression against the United States and its allies.

c. Object of Deterrence. The political leadership of an opposing nation is the central object of deterrence because that is where the ultimate decision to use military force lies. Deterrence in the form of a large-scale attack (either WMD or conventional) requires that US forces and command and control (C2) systems be viewed by enemy leadership as capable of inflicting such damage upon their military forces and means of support, or upon their country, as to effectively deny them the military option. Deterrence of the employment of enemy WMD, whether it be nuclear, biological, or chemical, requires that the enemy leadership believes the United States has both the ability and will to respond promptly and with selective responses that are credible (commensurate with the scale or scope of enemy attacks and the nature of US interests at stake) and militarily effective. Any deterrence assumes an opposing nation's political leadership will act according to the logic of national self-interest, although this self-interest will be viewed through differing cultural perspectives and the

dictates of given situations. Although nations possessing WMD have largely refrained from using them, their continuing proliferation and the means to deliver them increases the possibility that someday a nation may, through miscalculation or by deliberate choice, employ those weapons. This assumption does not rule out the possibility that an opponent may be willing to risk destruction or disproportionate loss in following a course of action based on perceived necessity, whether rational or in a totally objective sense. In such cases deterrence, even based on the threat of massive destruction, may fail.

d. Force Capabilities. Deterrence is founded in real force capabilities and the national determination to use those forces if necessary. To have a credible effect on an adversary, US military forces must be capable of achieving US national objectives throughout the operational continuum. Capabilities must range from nation building or civil military operations through direct denial of battlefield objectives and conventional defeat of enemy forces to the full-scale destruction of enemy warmaking and economic infrastructures, while minimizing the enemy's ability to retaliate. These capabilities require maintaining a diverse mix of conventional forces capable of high-intensity, sustained, and coordinated air, land, and sea operations; survivable and capable nuclear forces; and the command, control, communications, and computer systems required to control these forces. The mix of these forces must be capable of holding at risk those assets most valued by enemy leaders and providing a range of options in response to attack. It is possible, however, that an adversary may misperceive or purposefully ignore a credible threat. Therefore, should deterrence fail, forces of all types (both conventional and nuclear) must be structured, deployed, and ready to provide a variety of options designed to control escalation and terminate the conflict on terms favorable to the United States and its allies.

2. The Spectrum of Potential Conflict. US nuclear forces serve to deter the use of WMD across the spectrum of potential conflict. From a massive exchange of nuclear weapons to limited use on a regional battlefield, US nuclear capabilities must confront an enemy with risks of unacceptable damage and disproportionate loss should the enemy choose to introduce WMD in a conflict.

a. Peacetime and Crisis Considerations

(1) Forces and Strategy. Deterrence must be carefully weighed in the design of US forces and strategy. As a minimum, nuclear forces and strategy must pass the following tests:

(a) Survivability. US forces must be able to survive a first strike and endure conventional and escalatory attrition with sufficient retaliatory strength to inflict unacceptable damage on the enemy in a counterstrike.

(b) Credibility. The potential aggressor must believe the United States could and would use nuclear weapons to attain its security objectives.

(c) Safety. The risk of failure through accident, unauthorized use, or miscalculation must be minimized.

(d) Security. Secure manufacture, transportation, and storage that are free from terrorist threat, theft, loss, and unauthorized access must be provided.

(2) Regional Contingencies. WMD deterrence should be the first priority. The proliferation of WMD technologies and industrial capabilities in the world may allow a potential aggressor to develop a WMD arsenal capable of being employed against US forces deployed to a regional crisis. WMD used on US forces would cause a significant tactical or operational loss; greatly change the character of the war, putting the outcome in doubt and threatening escalation; leave the United States with a difficult choice: to retaliate or not to retaliate. A selective capability of being able to use lower-yield weapons in retaliation, without destabilizing the conflict, is a useful alternative for the US National Command Authorities (NCA).

(3) Conventional Threats. Because nuclear forces also serve as a hedge against the emergence of an overwhelming conventional threat, the deterrent effect of nuclear weapons extends to enemy calculations concerning conventional conflict as well. The potential employment of nuclear weapons at theater level, when combined with the means and

resolve to use them, makes the prospects of conflict of any type more dangerous and the outcome more difficult to assess. The resulting uncertainty could reduce a potential aggressor's willingness to risk escalation by initiating conflict. At the same time, a credible defensive capability that includes the means to threaten to employ nuclear weapons could bolster the resolve of allies to resist enemy attempts at political coercion.

(4) Conflict Avoidance. Conflict can often be avoided by pursuing alternative mechanisms and disincentives to conflict such as nonproliferation, counterproliferation, arms control and verification, and confidence building measures during peacetime operations. These measures make conflict or war less likely by improving communication, reducing opportunities for miscalculation, providing ways to resolve crises, and reducing the destructive capacity of available arsenals.

(5) Readiness. Increased readiness levels may be necessary to deter aggression. Consequently, an increased risk of attack, prompted by enemy war readiness measures, may require that US forces be maintained at visibly increased states of alert. Certain types of delivery systems can be postured to send a clear warning. Alert posturing of nuclear delivery systems to dispersal locations can send a forceful message that demonstrates the national will to use nuclear weapons if necessary. For example, the generation of nuclear forces to higher alert levels during the October 1973 Mideast Crisis sent a strong signal. However, the danger also exists that the enemy may perceive either an exploitable vulnerability or the threat of imminent use. Therefore, increased readiness postures intended to signal national resolve must be accompanied by measures that would allow for deescalation. Public affairs measures must also be taken to minimize the possibility that public concern over the conflict might develop into mass panic upon implementation of US readiness measures.

(6) Escalation. Should a crisis become so severe as to prompt the United States to place all its nuclear forces at a high level of readiness, the United States must also be prepared to posture its nuclear forces as quickly as possible. Nuclear forces should be generated and managed to ensure a sustained high



level of readiness. Conventional forces and intelligence activities would have to be prudently managed to ensure avoidance of inadvertent escalation or mistaken warnings of nuclear attack. In the event the crisis is successfully resolved without employment of nuclear weapons, reductions in the alert posture of nuclear forces must be carefully managed, taking into account enemy force readiness. This would ensure that no destabilizing military advantage accrued to the enemy during the de-escalation phase of the conflict.

b. Wartime Considerations

(1) Detering the Use of WMD. In war, as in peacetime or during crisis, deterrence of WMD attack depends on the enemy's perception of its warfighting (and winning) capabilities and will relative to those of the United States. However, wartime circumstances may alter such perceptions, possibly because of changes in the strategic situation. Shifts in the strategic balance may result from military action in which one side suffers significant destruction of military forces and industrial and economic infrastructures. Thus, a prolonged conventional conflict may lower the nuclear threshold by posing greater costs to a nation and, therefore, make nuclear attack appear to be a less risky option.

(2) Failure of Deterrence. Should deterrence fail, it is the objective of the United States to repel or defeat a military attack and terminate the conflict on terms favorable to the United States and its allies. Accomplishing this objective requires the capability for measured and effective response to any level of aggression while seeking to control the intensity and scope of conflict and destruction. Employment plans, in conjunction with political and other military action, must provide for selected military operations. Specific nuclear objectives are specified in Annex C to the Joint Strategic Capabilities Plan (JSCP).

(3) Controlling Escalation. Nuclear weapons may influence the objectives and conduct of conventional warfare. Additionally, conventional warfare may result in attrition of nuclear forces and supporting systems (through antisubmarine warfare, conventional attacks in theater, sabotage, or antisatellite warfare), either unintended or deliberate, which

could affect the forces available for nuclear employment. If this attrition results in a radical change in the strategic force posture by eliminating intermediate retaliatory steps, there may be a rapid escalation. The ability to precisely gauge the attrition of conventional and nuclear forces will directly effect calculations on the termination of war and the escalation to nuclear war.

c. Post-Wartime Considerations

(1) War Termination. The fundamental differences between a potential nuclear war and previous military conflicts involve the speed, scope, and degree of destruction inherent in nuclear weapons employment, as well as the uncertainty of negotiating opportunities and enduring control over military forces. Depending on the scope and intensity of a nuclear war, how and under what conditions it is brought to a conclusion may be very different from previous wars. Terminating a global war involving the use of large numbers of WMD on both sides and the degradation and or destruction of their central means of control could be vastly more difficult than ending a theater or regional nuclear conflict involving the relatively constrained use of a limited number of nuclear weapons. In the latter case, war-termination strategies may more readily lead to a cessation of hostilities, assuming that the belligerents' interests in war termination are mutual.

(2) Termination Strategy. The objective of termination strategy should be to end a conflict at the lowest level of destruction possible, consistent with national objectives. However, there can be no assurances that a conflict involving weapons of mass destruction could be controllable or would be of short duration. Nor are negotiations opportunities and the capacity for enduring control over military forces clear. Therefore, US nuclear forces, supporting command control, communications, computer, and intelligence (C4I) systems (e.g., sensors, communications, command facilities), and employment planning must provide the capability to deny enemy war aims, even in a conflict of indefinite duration.

(3) Reserve Forces. Adequate nuclear reserve forces reduce opportunities for another nation to dominate or coerce behavior before, during, or after the use of WMD. Such forces provide the US with the capability to continue to deny enemy war aims, influence other nations, and exert leverage for war termination.

(INTENTIONALLY BLANK)

## CHAPTER II

## EMPLOYMENT OF FORCES

1. Fundamental Considerations

a. Implementing the National Military Strategy. The decision to employ nuclear weapons at any level requires the explicit decision of the President. Senior commanders should be consulted and, based on their considered judgment, make recommendations affecting nuclear policy decisions on force structure, weapons and/or force capabilities, and alternative employment options. Consequently, those responsible for the operational planning and the direction of US nuclear forces must fully appreciate the numerous and often complex factors that influence the US nuclear planning process, and would likely shape US decisions on the possible use of nuclear weapons. Clearly, the use of nuclear weapons represents a significant escalation from conventional warfare and is caused by some action, event, or perceived threat. However, the fundamental determinant of action is the political objective sought in the use of nuclear or other types of forces. The decision to use nuclear weapons involves many political considerations. Together, these considerations will have an impact not only on the decision to use nuclear weapons, but also on how they will be employed. Other prominent planning and employment factors include the strategic situation, type and extent of operations to be conducted, military effectiveness, damage-limitation measures, environmental and ecological impacts, and how such considerations may interact.

b. International Reaction. International reaction toward the nation that first employs WMD is an important political consideration. The United States and its allies have articulated their abhorrence of unrestricted warfare, codifying "laws of war" and turning to definitions of "just war." The tremendous destructive capability of WMD and the consequences of their use have given rise to a number of arms control agreements (refer to Appendix A) restricting deployment and use, and in the case of the 1987 Intermediate-range Nuclear Forces Treaty, even prohibiting the development of an entire class of weapons. At the same time, it is important to recognize that there is no customary or conventional international law to prohibit nations from employing nuclear weapons in armed conflict. Therefore, the use of

nuclear weapons against enemy combatants and other military objectives is lawful. The nation that initiates the use of nuclear weapons, however, may find itself the target of world condemnation.

## 2. Considerations in Force Planning and Employment

a. Employment Options. Combatant commanders responsible for the employment of nuclear forces must ensure those forces are fully capable of executing the full range of employment options required by the NCA. To this end, employment planning must fully consider the characteristics and limitations of the nuclear forces available and seek to optimize both the survivability and combat effectiveness of these forces.

b. Characteristics. To provide the desired capabilities, nuclear forces must be diverse, flexible, effective, survivable, enduring, and responsive. If no one weapon system possesses all of the desired characteristics, a variety of systems may be necessary.

(1) Force Diversity. To confront any potential aggressor with insurmountable attack and defensive problems and to hedge against the failure of any one US component, nuclear forces must be diverse. The United States maintains a strategic Triad of intercontinental ballistic missiles (ICBMs), sea-launched ballistic missiles (SLBMs), and bombers as a hedge against unforeseen developments that might threaten US retaliatory capabilities. Each leg of the Triad has unique capabilities that complement those of the other legs. Nonstrategic nuclear forces (NSNF) offer options short of strategic response in those situations where escalation control is desired. In addition, NSNF increases the overall deterrent value of US forces by their direct deterrence at regional level. Both strategic and nonstrategic nuclear forces hold regional targets at risk.

(2) Flexibility and Effectiveness. To provide deployment and employment options that allow the United States to maintain effective deterrence and, if necessary, successfully execute a broad array of missions against the full spectrum of potential targets, forces must be flexible and effective. Flexibility allows engaging the enemy at an appropriate level or place with the capability of escalating or de-escalating the level of conflict, if desired. Flexibility is important because deterrent credibility hinges on having a convincing capability

to execute a variety of nuclear and nonnuclear options. The flexible application of responses tailored to the provocation would afford greater control over the possible escalation of conflict. Flexibility is also essential in escalation management because available nuclear and conventional weapons can be tailored for specific military and political outcomes without destabilization of the conflict. ((

(3) Survivability and Endurance. US nuclear forces and C4I must be able to survive enemy attacks to convince potential aggressors that, in any scenario, sufficient US capability will remain to deliver a devastating retaliatory strike. Nuclear forces and C4I must also be able to survive enemy attacks for both warfighting utility and deterrence purposes. Survivability is enhanced by a combination of multiple redundant systems, mobility, number of weapons, hardened sites, and employment concept. (For example, mobility, increases survivability, because the forces cannot be attacked with any certainty of destruction due to the unpredictability of the location of the weapon at the time of attack.) Survivability also strengthens deterrence by providing nuclear forces for continued retaliation against the enemy.

(4) Responsiveness. 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 the conflict begins. Because force employment requirements may evolve at irregular intervals, some surviving nuclear weapons must be capable of striking these targets within the brief time available. Responsiveness (measured as the interval between the decision to strike a specific target and detonation of a weapon over that target) is critical to ensure engaging some emerging targets.

c. Other Considerations. Strategic stability, centralized control, and C4I systems are also important considerations in nuclear force planning and employment.

(1) Strategic Stability. A crucial goal in designing and fielding US nuclear forces is to forge a balance of military capabilities between the United States and potential adversaries that reduces the incentives for potential adversaries to seek a

decisive military advantage (in peacetime military operations or in hostilities other than war) or to initiate conflict. Such stability is a function of relative capabilities at all potential levels of conflict and requires the constant assessment of nuclear and conventional forces.

(2) Centralized Control. Centralized control ensures that US national policy decisions directly affect deployment or employment of nuclear forces. Militarily, centralized control provides clarity of purpose and unity of command while ensuring nuclear forces are responsive, properly used, and integrated. It guides a broad plan of action while providing the flexibility for subordinate commanders to plan authorized attacks in the most operationally effective manner.

(3) C4I. C4I must support the employment of nuclear weapons through all phases of a conflict. C4I must be able to provide the appropriate political and military authority with a survivable, secure, and enduring C4I capability through which execution, direction, assessment, and termination of nuclear operations can be ensured during all phases of a conflict, especially in its termination. Reporting residual capability assessment information through C4I systems is essential to providing the NCA with an understanding of the military capabilities remaining in a post-attack environment. Because of their central importance to US response capabilities, the destruction or degradation of C4I systems will likely be a primary enemy objective. Consequently, such systems must be robust, redundant (where essential to guarantee continuity of operations), and rapidly recoverable.

### 3. Targeting Considerations

a. Preplanning. Guidance for planning nuclear strikes is promulgated from the NCA to the combatant commanders through documents such as National Security Directives, the Policy Guidance for Nuclear Weapons Employment, and/or the JSCP, Annex C. The combatant commanders then preplan nuclear targets using this guidance.

b. Target Planning. Conditions leading to US employment of nuclear weapons may not necessarily lead to an all-out exchange of WMD. Consequently, several strategies or factors must be considered in planning joint nuclear operations.



(1) Countervalue Targeting. Countervalue targeting strategy directs the destruction or neutralization of selected enemy military and military-related activities, such as industries, resources, and/or institutions that contribute to the enemy's ability to wage war. In general, weapons required to implement this strategy need not be as numerous or accurate as those required to implement a counterforce targeting strategy, because countervalue targets generally tend to be softer and unprotected in relation to counterforce targets.

(2) Counterforce Targeting. Counterforce targeting is a strategy to employ forces to destroy, or render impotent, military capabilities of an enemy force. Typical counterforce targets include bomber bases, ballistic-missile submarine bases, ICBM silos, antiballistic and air defense installations, C2 centers, and WMD storage facilities. Generally, the nuclear forces required to implement a counterforce targeting strategy are larger and weapon systems more accurate, than the forces and weapons required to implement a countervalue strategy, because counterforce targets generally tend to be harder, more protected, difficult to find, and more mobile than countervalue targets.

(3) Prioritization of Targets. Targets are normally prioritized based upon the overall targeting strategy. Further refinement of target priorities will be made within each target category (e.g., industrial, military, energy facilities, storage facilities, weapon storage areas) based on the operational situation and the objectives established by the appropriate command authority.

(4) Layering. Layering is a targeting methodology that plans employing more than one weapon against a target to increase the probability of its destruction or to improve the confidence that a weapon will arrive and detonate on that target and achieve a specified level of damage.

(5) Crosstargeting. At the same time it incorporates the concept of "layering," crosstargeting also uses different platforms for employment against one target to increase the probability of at least one weapon arriving at that target. Using different

delivery platforms such as ICBMs, SLBMs, or aircraft-delivered weapons increases the probability of achieving the desired damage or target coverage.

(6) Preplanned Options. Preplanned options are a means of maintaining centralized control while minimizing the impact on response time. These options should be capable of being executed individually or in combination with other options to expand the attack either functionally or geographically.

(7) Emergent Targets and Adaptive Planning. Even after the initial laydown of nuclear weapons, there may be a residual requirement to strike additional (follow on and/or emerging) targets in support of retaliatory or war-termination objectives. Commanders must maintain the capability to rapidly strike previously unidentified or newly emerging targets. This capability includes planning for and being able to perform "ad hoc" planning on newly identified targets and maintaining a pool of forces specifically reserved for striking previously unidentified targets. It is important to recognize that success in engaging emerging targets depends heavily upon the speed with which they are identified, targeted, and struck.

(8) Collateral Damage. US forces will limit collateral damage consistent with employment purposes and desired effect on the target (see JSCP, Annex C, for a more detailed discussion).

(9) Damage Criteria. Damage criteria are standards identifying specific levels of destruction or materiel damage required for a particular target category. These criteria are normally levied on the executing commander by higher authority, in accordance with national strategy and policy. These criteria vary for the intensity of the damage and also vary by particular target category, class, or type. Commanders must estimate the number and characteristics of the weapons and delivery systems that will be needed to achieve the level of desired damage to designated targets while minimizing undesirable collateral effects. Damage criteria, based on the nature of the target (size, hardness, mobility) as well as its proximity to military or nonmilitary assets, provide a means by which to determine how

best to strike particular targets and, following the attack, to evaluate whether the target or target sets received the amount of damage required to meet operational objectives.

#### 4. Operations in a WMD Environment

a. WMD Effects. The immediate and prolonged effects of WMD--including blast, thermal radiation, prompt (gamma and neutron) and residual radiation--pose unprecedented physical and psychological problems for combat forces and noncombatant populations alike. Not only must US forces be prepared to survive and perhaps, operate in a WMD environment for long periods of time, but they must have effective, sustained C4I to accomplish their missions. Military planners must contend with significant challenges in a WMD environment. When planning operations in such an environment, planners should refer to authoritative documents detailing WMD effects published by the Department of Defense, Department of Energy, or qualified scientific authority and incorporate mitigating or avoidance measures into operational planning.

b. Mitigation Efforts. Mitigation of WMD effects, and at least partial preservation of the operational and functional capabilities of people and equipment, requires the following specific actions be taken by commanders:

(1) Plan in advance and warn personnel. Planning and warning, in conjunction with systematic, precautionary survivability measures (such as dispersal of vital combat and support assets, increased force mobility, concealment, deception, individual protective measures, and nuclear hardening) can reduce the physical and psychological trauma.

(2) Partially offset long-term degradation of effectiveness produced by nuclear, biological, and chemical warfare through comprehensive force training, preconditioning, and protection.

(3) Establish and carefully assess operating procedures to avoid disproportionate or unacceptable loss of personnel, units, or equipment and to ensure continuity of operations during the initial and subsequent phases of a conflict involving WMD.

(INTENTIONALLY BLANK)