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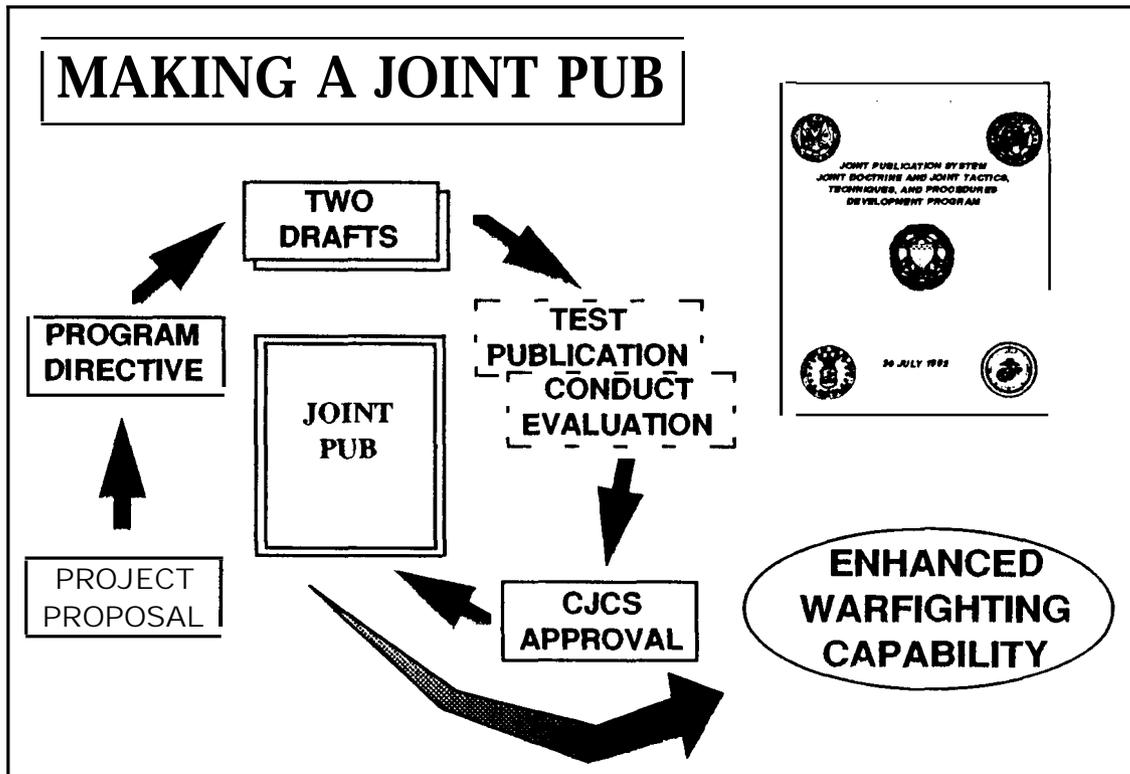
DOCTRINE FOR JOINT NUCLEAR OPERATIONS



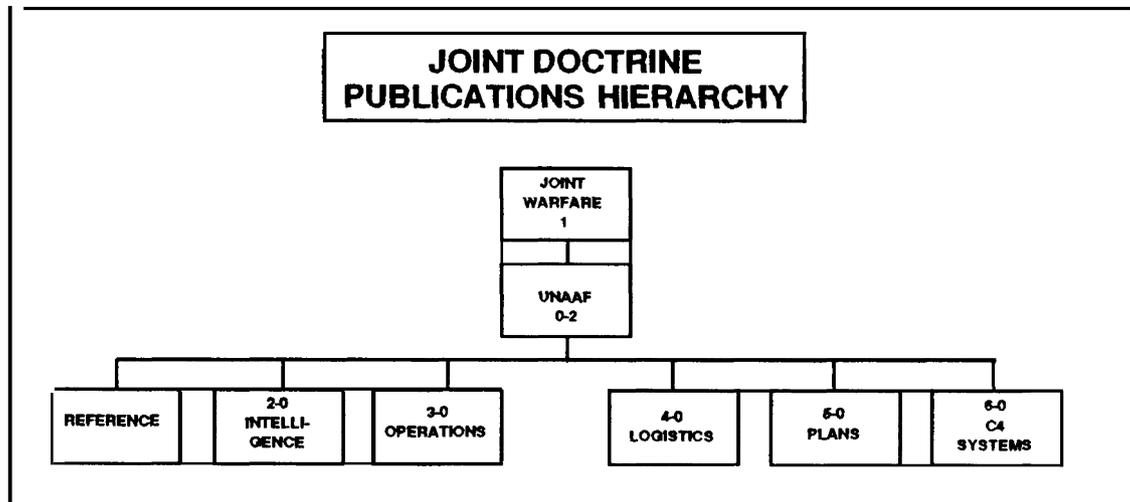
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Joint Pub 3-12
29 April 1993

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H. L. SHEFFIELD
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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 0-2, "Unified Action Armed Forces."
- f. Joint Pub 3-0, "Doctrine for Joint Operations."
- g. SIOP-(YR) (Basic).

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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.

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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 endurable 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 counter-force 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.

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CHAPTER III

INTEGRATED OPERATIONS

1. Strategic Force Integration

a. Effective Integration. To effectively integrate nuclear operations into a coherent whole is a fundamental national requirement: the most efficient use of available resources to ensure national security. By eliminating duplicate target coverages and ensuring optimal tasking and synchronization of US nuclear forces prior to and during conflict or war through systematic and thorough coordination of mission planning, commanders can promote economy of effort.

b. Integrated Operational Planning. An integrated operational plan, or a series of sequential plans, predicated on commonly agreed strategic objectives, is an absolute prerequisite to unity and, hence, economy of effort. Clarity of joint operational guidance as well as a common appreciation of its fundamental objectives are vital prerequisites to a more effective identification, prioritization, and assignment of targets, and the deconfliction of their associated means of coverage.

c. Global Force Integration. United States Strategic Command accomplishes detailed analyses of weapons effects and targeting systems and optimizes weapons application. These targeting functions include deconflicting nuclear operations by time, space, and geography.

(1) Integration of aircraft forces should be accomplished for the employment of nuclear weapons in support of the Single Integrated Operational Plan (SIOP) and theater nuclear options. Aircraft and air-launched missile planning factors should be developed to include pre-launch survivability, probability to penetrate, weapons systems reliability, circular error probable, weapon system performance characteristics, and sortie separation criteria.

(2) ICBMs or SLBMs should be employed based on an analysis of weapon-system characteristics, capabilities, and limitations. ICBM or SLBM pre-launch survivability and probability to penetrate planning factors must also be developed. Analyzing the effects of nuclear environments before and during launch, in powered and ballistic flight, and during reentry is essential. Equally important is consideration of the effect of enemy defense capabilities and limitations.

(3) Strategic nuclear forces may also be used to target and hold regional targets at risk.

2. Nonstrategic Nuclear Force Integration

a. General. The employment of NSNF such as dual-capable aircraft and nuclear TOMAHAWK land-attack missiles is bound by the same nuclear policy constraints as strategic nuclear forces. Approval for their use rests with the President. Weapons and systems may be deployed into theaters, but local commanders have no authority to employ them until it is specifically granted. NCA control and constraint of NSNF weapons has seven elements:

- (1) A decision to use nuclear weapons.
- (2) The number, type, and yields of weapons.
- (3) Types of targets to be attacked.
- (4) Geographical area for employment.
- (5) Timing and duration of employment.
- (6) Damage constraints.
- (7) Target analysis.

Treaties and agreements between the United States and its allies may impose additional restrictions on the use of nuclear weapons (refer to Appendix A). Host-nation governments have legitimate interests and affect what otherwise could be prudent unilateral operations. Command and coordination chains may become complex and lengthy. Specific consultation and coordination procedures are stated in treaties or should be developed by specific agreements prior to deployment of nuclear forces into a theater.

b. Theater Nuclear Posture. Nuclear forces deployed to or tasked to support theater nuclear requirements link conventional forces to the full nuclear capability of the US. This linkage must be strong and visible to the extent of being capable of deterring a potential enemy from believing political and/or military advantage can be achieved by means of threats to employ nuclear, biological, or chemical weapons or by the threatened or actual execution of an all-out conventional offensive. Specific conditions for employment are provided in Annex C to JSCP.

c. NSNF Employment. In the event of a deteriorating military situation, employment of NSNF weapons must be capable of favorably altering the operational situation to the advantage of the user. Otherwise, the risks of using nuclear weapons might outweigh any conceivable advantage. Complete destruction of enemy forces is not necessarily required to achieve the desired objective; rather, containment and a demonstrated will to employ additional nuclear firepower toward a specific goal is the preferred method. Employment of weapons and yields must be kept at the lowest level possible to reduce the possibility that the enemy will in turn escalate the conflict.

d. Employment Options. NSNF employment options define the type and number of weapons as well as the employment area. Options can range from the selective employment of a limited number of nuclear weapons against a carefully constrained preplanned or emerging target set to a general laydown of weapons against a larger and/or more diverse set of targets. An option or portion of an option can be used to send a signal. Such an option should be very restrictive, with tight limits on area and time so that the adversary will recognize the "signal" and not simply assume that we have moved to general nuclear war.

e. Planning and Coordination

(1) The employment of nonstrategic nuclear weapons is constrained, both politically and militarily, to a greater degree than employment of conventional weapons. High-level political and military decisions, treaties, and agreements dealing with employment of nuclear weapons will continue to cause the evolution of nuclear weapon employment doctrine. However, advance planning and coordination must be part of employment.

(2) Theater combatant commanders are responsible for defining theater objectives, selecting targets, and developing plans required to support those objectives. Detailed mission planning, when required, is generally accomplished at the theater combatant commander level, with USSTRATCOM assistance where appropriate. Combatant commanders may also be tasked to develop adaptively planned options to strike previously unidentified targets. Because the strike is meant to be decisive, it takes precedence over other missions.

(3) After conflict occurs, combatant commanders may also be tasked to develop adaptively planned options to strike targets not previously identified. Nuclear

weapons planning is continuous and is fully integrated with planning for conventional weapons. Each commander with a nuclear planning capability identifies and requests authorization to strike any targets necessary to accomplish his mission. Individual nuclear target requests are further refined, approved, or disapproved and combined at each command echelon into an option or sub-option. Ad hoc planning can also use preplanned options as starting points and modify the preplanned option or sub-option given the situation actually experienced. When recommendations from combatant commanders and the situation result in a Presidential decision to escalate the conflict to employment of nuclear weapons, specific guidance, including target identification, refinement, and constraints, along with selected number of weapons are released to the theater combatant commander for employment. If the decision is to disapprove escalation or employment of nuclear weapons, the planned strikes may be retained as a basis for further target planning or for strike by other weapons.

(4) Joint nuclear operations are planned, coordinated, and controlled by the combatant commander. Component commanders also plan and coordinate execution of their portions of the joint operation. The possibility that conventional theater operations may escalate to use of nuclear weapons within the theater must be a key planning consideration. Planning should consider enemy capabilities and intentions and the vulnerability of US forces to those capabilities. Planning should also encompass recommendations for response to an enemy first use of any weapon of mass destruction, a battlefield asymmetry, or an operational-level situation offering potential for conflict termination.

(5) The planning and coordination of multinational military operations is extremely complex, owing to differences in tactical and operational doctrine and the diversity of kinds of combat and combat support systems employed by the various national forces. Nuclear operations will compound the complexity inherent in coalition operations. Standard combined nuclear operational procedures and terminology, organization of liaison teams, and combined training must be developed and its use encouraged. Commanders must anticipate that combined NSNF operations will prove difficult to plan, coordinate, and execute but must be prepared to carry out these operations as directed by the NCA.

(6) Theater-level combined and joint planning of nuclear resources must include consideration and evaluation of certain basic parameters:

(a) The quantity of nuclear weapons available (NSNF generation and reconstitution capabilities of the Services), characteristics of these weapons, and the delivery requirements to place them over approved targets at the correct time.

(b) The trade-off considerations on selection of delivery systems for nuclear weapons for specific targets; i.e., flexibility, mobility, mission survivability, availability, and competing mission requirements.

(c) Weapons and delivery systems that should be kept in reserve.

(d) The expected survivability and vulnerability of remaining and reserve assets.

(e) Deconfliction criteria and measures to prevent or reduce fratricide.

(f) Collateral damage restrictions consistent with target damage criteria.

(g) The magnitude and nature of follow-on conventional, nuclear, or mixed operations.

(h) The expected retaliation--conventional, nuclear, biological, or chemical.

(7) Basic employment considerations are closely tied to the capabilities of assigned nuclear weapons systems (assigned forces are those weapons, delivery systems, and supporting systems under the combatant command (command authority) of the combatant commander). Dual-capable aircraft can strike a variety of targets in the battle area as well as deep targets. Sea- and air-launched cruise missiles also provide the capability for nuclear strikes against targets of known location.

f. Command and Control. The combatant commander has the pivotal role in deciding how best to employ NSNF resources. For the combatant commander, the key element in C2 is timing. The pace of modern war dictates streamlined and efficient methods of C2. To facilitate timely decisionmaking, either in response to a combatant commander request

or to support a "top-down" release, the NCA must have the most current and available situation information and intelligence and must be familiar with the commander's plans and options. Top-down communication does not mean the NCA should directly target nuclear weapons or conduct a piecemeal, weapon-by-weapon release. Top-down communications ensure critical orders are received for execution and can also be helpful in reducing survivability and vulnerability problems of C4I systems.

3. Offense-Defense Integration

a. General. Offensive and defensive forces should be integrated to ensure interoperability. For integration to be successful, offensive and defensive forces should be doctrinally and procedurally linked. Defensive systems include space warning and defense capabilities, air defense warning and interceptors, ballistic-missile defense warning, and a worldwide Integrated Tactical Warning and Attack Assessment (ITW/AA) system. These systems, coupled with additional passive defense measures, offer a damage limitation potential to US warfighting capabilities. Active theater ballistic-missile defense interception capabilities add an additional dimension to defense capability. Defensive forces can directly support offensive forces in five important areas.

(1) In a strategic application, strategic defensive systems offer the potential of improving US deterrent posture by increasing the enemy's uncertainty of achieving its attack objectives.

(2) In regional conflicts, missile defense offers protection against potential adversaries acquiring ballistic-missile technology. Although offense is necessary for retaliation and conflict control, defense may also play an important, complementary role in nonstrategic applications (e.g., irrational actor scenarios).

(3) In a synergistic application, defenses allow a regional commander to consider employing offensive counterforce strikes on the enemy, while enjoying some sense of security from catastrophic results if the enemy launches under attack.

(4) Early warning forces include an integrated tactical warning and assessment capability, providing the NCA with enough warning to maximize the survivability of US

and allied forces. Deterrence is, therefore, enhanced because of the increased survivability of US retaliatory force.

(5) Air defenses against an air breathing threat also serve to enhance our deterrent capabilities by increasing the enemy's uncertainty that weapon systems will arrive at their targets.

b. Integration. Considerations include flight corridors; land, air, and sea forces; impact point prediction (IPP) information; priority of defended assets and enemy targets; decision timelines; employment concepts; and C4I linkages of the offensive and defensive forces.

(1) Flight Corridors. When strategic offensive nuclear forces launch, ballistic missiles and aircraft could be in the same flight corridors simultaneously. Blue-on-blue engagements over the friendly territory could affect both strategic aircraft and ICBM flyout. Commanders should create and ensure strict adherence to flight plans through corridors that avoid potential enemy launch sites and defense intercept areas. This planning should include using alternate landing sites (in case the primary runway is under attack during the return flight) and (when friendly defenses are active) immediately identifying and transmitting ingress and egress routes. These routes should avoid areas scanned by defenses to reduce potential execution against friendly aircraft.

(2) Land, Air, and Sea Forces. The employment of land, air, and sea forces into or through an area that has a high probability of having enemy nuclear warheads or nuclear delivery systems must be avoided to the maximum extent practical. These areas may be high-priority targets and, therefore, have the greatest potential for nuclear detonations (NUDETs), as the result of attack operations or defensive intercepts.

(3) Utilize Impact Point Prediction Information. Ground and space systems can provide the commander near-real-time IPP information following the launch of enemy missiles. Dependent on the location of forces, the commander can use the IPP data to move threatened forces or other targets, execute intercept of enemy missiles, or allow a missile to reach its predicted impact point when it is expected to detonate in a nonthreatening area (e.g., desolate, uninhabited land or waters).

(4) Defended Assets and Enemy Targets. A priority list for defended assets and enemy targets must be maintained. This list should help commanders in their decision process for employment of forces as resources are reduced over time in a conflict including execution of passive protection measures. (Based on these priorities, active defenses should be deployed near the highest priority resources to maintain effective execution of offensive forces). Priority lists for defended assets should include protection of C4 nodes, supply points, and population centers.

(5) Decision Timelines. The decisionmaker may be required to review and select defensive and offensive actions within severely compressed timelines. Consideration must be given to procedures and equipment allowing informed decisions in this environment. Predelegated defensive engagement authority should be considered under certain conditions to permit efficient engagement of ballistic-missile threats. The commander must evaluate the situation, weigh the options, and execute the optimum offense-defense force in a relatively short period of time. The time is limited because of the relatively short flight time of tactical missiles (TM) and potential increased uncertainty of mobile offensive force target locations. Deployment of air defenses against an air-breathing threat should be accomplished early enough to send an unmistakable signal of NCA concern and resolve, thereby maximizing the deterrent potential of these forces.

(6) Employment Concepts

(a) Command. Normally, unity of command is greatly desired. However, strategic offense or defense integration may be a case where the United States must promote integrated operations without requiring absolute unity of command. Very short timelines impact decisions that must be made. In a matter of seconds for the defense, and minutes for the offense, critical decisions must be made in concert with discussions with the NCA. It may be beyond the capability of one commander to do this for both strategic offensive and strategic defensive forces. However, force commonalities must be considered and conflicts avoided. Nevertheless, the joint force commander should have access to near-real-time tradeoff analysis when considering the execution of any forces.

(b) Independent Operations. Independent operations should be employed to maximize the output of the offense and defense. Under situations where the offense and defense are not utilizing the same flight corridors or airspace, independent operations will allow both forces freedom to execute operations without restriction.

(7) C4I linkages. C4I linkages assets may be shared by both offense and defense to acquire information and get the execution orders to the forces. The offense and defense C4I nodes should maintain survivable (robust and redundant) communications with each other and be able to operate independently if enemy attacks eliminate individual nodes (for this reason, collocation of offense and defense nodes should be avoided). In addition to providing warning of a nuclear attack and the data necessary to initiate a defensive response, defensive C4I systems also provide valuable information to update the offensive commander regarding counterforce targeting options. C4I systems and processing nodes: Near-real-time data receipt and processing will be necessary to target the TM threats and their launchers (for counterforce actions). Adequate surveillance systems and associated C4I systems are required to provide timely warning of a bomber or cruise missile and ballistic-missile attack. Certain processing nodes will be required to analyze the proper intercept locations of launched enemy TMs and provide tradeoff information to the decisionmaker if deconfliction is required between offensive and defensive forces.

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APPENDIX A

TREATY OBLIGATIONS

1. Outer Space Treaty. Prohibits the placement, installation, or stationing of nuclear weapons in orbit around the earth, in outer space, or on celestial bodies. Suborbital nuclear missiles are not prohibited by this treaty. Withdrawal provision (Article XVI) requires 1 year prior written notice.*
2. Seabed Arms Control Treaty. Prohibits placement of nuclear weapons (nuclear launching devices, storage or testing facilities) on the ocean floor beyond a 12-nautical-mile coastal zone measured from the baseline of the territorial sea, as stated in the Convention of the Territorial Sea and the Contiguous Zone of 1958. Withdrawal provision (Article VIII) requires 3 months advance notice.*
3. Nuclear Test Ban Treaty. Prohibits testing of nuclear weapons in the atmosphere, outer space, and underwater (including territorial water or high seas). Restricts underground testing to the extent that radioactive debris would pass outside the testing state. Withdrawal provision (Article IV) requires 3 months advance notice.*
4. Nonproliferation Treaty. Prohibits nuclear states from passing nuclear weapons, weapons technology, and weapons grade fissionable material to nonnuclear states. Transfer of fissionable material to nonnuclear states for peaceful purposes is subject to safeguards to prevent diversion of the material into weapons development. Withdrawal provision (Article X) requires 3 months advance notice.*
5. Additional Protocols I and II of the Treaty of Tlatelolco. This treaty and its protocols essentially make Latin America a nuclear-free zone. The United States is not a party to the original treaty and ratified the Protocols subject to "understandings and declarations." Withdrawal provisions in Protocol I, Article 2, and Protocol II, Article 4, incorporate the denunciation provision in Article XXX of the original treaty.*
6. Antarctic Treaty. Prohibits establishment of military bases, fortifications, maneuver, any testing of any type of weapons, including nuclear, or disposal of nuclear wastes in Antarctica. Limited withdrawal provision (Article XII) requires 2 years notice.*
7. Bilateral Nuclear Arms Control Agreements. The United States and the former Soviet Union have concluded a number of bilateral agreements designed to restrain the development of nuclear

warheads and launchers and to lessen the danger of miscalculation that could trigger nuclear conflict. Among these agreements are the:

- a. Direct Communication MOU of 1963.
- b. Direct Communication Agreement of 1971.
- c. Accidents Measures Agreement of 1971.
- d. 1973 Agreement on Prevention of Nuclear War.
- e. Anti-Ballistic Missile Treaty of 1972 and its Protocol of 1974.
- f. Threshold Test Ban Treaty of 1974.
- g. 1976 Treaty on Peaceful Nuclear Explosions.
- h. Strategic Arms Limitations Talks (SALT) Agreement of 1973 and 1977 (SALT I, Interim Agreement has expired; SALT II was never ratified).
- i. Intermediate-range Nuclear Forces Treaty of 1987.
- j. Strategic Arms Reduction Talks (START) Agreement: Signed by Presidents Bush and Gorbachev on 31 July 1991; agreement awaits full ratification and entry into force.

Additionally, some US military basing rights agreements restrict the storage or installation of nuclear weapons in the host country.

* Withdrawal provisions of the identified agreements permit a state to denounce its treaty obligations if it decides that extraordinary events, related to the subject matter of any treaty, have jeopardized the supreme interests of the state. In time of conflict, or impending conflict, a state party to these treaties may take steps to begin the withdrawal process.

APPENDIX B

USERS EVALUATION REPORT
ON JOINT PUB 3-12

1. Users in the field are highly encouraged to directly submit comments on this pub. Please fill out and send in the following: Users' POC, unit address, and phone (DSN) number.
2. Content
 - a. Does the pub provide a conceptual framework for the topic?
 - b. Is the information provided accurate? What needs to be updated?
 - c. Is the information provided useful? If not, how can it be improved?
 - d. Is this pub consistent with other joint pubs?
 - e. Can this pub be better organized for the best understanding of the doctrine and/or JTTP? How?
3. Writing and Appearance
 - a. Where does the pub need some revision to make the writing clear and concise? What words would you use?
 - b. Are the charts and figures clear and understandable? How would you revise them?
4. Recommended urgent change(s) (if any).
5. Other
6. Please fold and mail comments to the Joint Doctrine Center (additional pages may be attached if desired) or FAX to DSN 564-3990 or COMM (804) 444-3990.

(FOLD)

FROM:

THE JOINT DOCTRINE CENTER
BLDG R-52
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Norfolk, VA 23511-2491

(FOLD)

GLOSSARY

PART I--ABBREVIATIONS AND ACRONYMS

BMD	ballistic missile defense
C2	command and control
C4	command, control, communications, and computers
C4I	command, control, communications, computers, and intelligence
ICBM	intercontinental ballistic missile
IPP	impact point prediction
ITW/AA	integrated tactical warning/attack assessment
JSCP	Joint Strategic Capabilities Plan
NCA	National Command Authorities
NSNF	nonstrategic nuclear forces
NUDET	nuclear detonation
SIOP	Single Integrated Operational Plan
SLBM	sea-launched ballistic missile
TM	tactical missile
USSTRATCOM	US Strategic Command
WMD	weapons of mass destruction

GLOSSARY

Part II--TERMS AND DEFINITIONS

command, control, communications, and computer systems. Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control, through all phases of the operational continuum. Also called C4 systems. (Joint Pub 1-02)

conflict. An armed struggle or clash between organized parties within a nation or between nations in order to achieve limited political or military objectives. While regular forces are often involved, irregular forces frequently predominate. Conflict is often protracted, confined to a restricted geographic area, and constrained in weaponry and level of violence. Within this state, military power in response to threats may be exercised in an indirect manner while supportive of other elements of national power. Limited objectives may be achieved by the short, focused, and direct application of force. (Identified in Joint Test Pub 3-0 as a term and definition for Joint Pub 1-02.)

crisis. An incident or situation involving a threat to the United States, its territories, citizens, military forces, and possessions or vital interests that develops rapidly and creates a condition of such diplomatic, economic, political, or military importance that commitment of US military forces and resources is contemplated to achieve national objectives. (Identified in Joint Test Pub 3-0 as a term and definition for Joint Pub 1-02.)

residual forces. Unexpended portions of the remaining United States forces that have an immediate combat potential for continued military operations, and that have been deliberately withheld from utilization. (Joint Pub 1-02)

withhold (nuclear). The limiting of authority to employ nuclear weapons by denying their use within specified geographical areas or certain countries. (Joint Pub 1-02)