

USAWC STRATEGY RESEARCH PROJECT

**MILITARY STRATEGY FOR
COMBATING NUCLEAR PROLIFERATION**

by

Lieutenant Colonel Brent B. Bredehoff
United States Army
IS 52B

Captain John Crochet, USN
Project Adviser

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ABSTRACT

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The gravest danger facing the United States is the nexus between terrorism and weapons of mass destruction (WMD). All forms of WMD (chemical, biological, radiological, and nuclear) can be devastating, but because of their unique attributes, nuclear weapons are by far the worst. While President Bush's National Strategy for Combating WMD articulates how the U.S. will deal with this threat, the military as a major element of national power is a critical player and must have a complementary strategy. This paper reviews the U.S. national-level strategy for combating nuclear weapons, defines the supporting military strategy, and analyzes the feasibility, suitability, and acceptability of the military objectives (ends), concepts (ways), and resources (means) in meeting the national security objectives.

TABLE OF CONTENTS

ABSTRACT..... iii

MILITARY STRATEGY FOR COMBATING NUCLEAR PROLIFERATION 1

WHY NUCLEAR WEAPONS ARE UNIQUE..... 1

NATIONAL STRATEGY FOR COMBATING WEAPONS OF MASS DESTRUCTION 3

 COUNTERPROLIFERATION 3

 NONPROLIFERATION 3

 WMD CONSEQUENCE MANAGEMENT..... 4

 “NEW” FEATURES OF THE NATIONAL STRATEGY FOR COMBATING WMD 4

MILITARY STRATEGY FOR COMBATING WMD..... 5

 ENDS 6

 WAYS 7

 MEANS 10

ANALYSIS OF THE MILITARY STRATEGY FOR COMBATING WMD..... 14

 NONPROLIFERATION VICE COUNTERPROLIFERATION 14

 PREEMPTIVE/PREVENTIVE COUNTERPROLIFERATION 16

 U.S. RELIANCE ON ITS OWN NUCLEAR CAPABILITY 17

CONCLUSIONS 18

ENDNOTES 19

BIBLIOGRAPHY 25

MILITARY STRATEGY FOR COMBATING NUCLEAR PROLIFERATION

The gravest danger to freedom lies at the crossroads of radicalism and technology. When the spread of chemical and biological and nuclear weapons, along with ballistic missile technology – when that occurs, even weak states and small groups could attain a catastrophic power to strike great nations. Our enemies have declared this very intention, and have been caught seeking these terrible weapons. They want the capability to blackmail us, or to harm us, or to harm our friends – and we will oppose them with all our power.

—President George W. Bush¹

What President Bush articulated is a vital United States (U.S.) national security interest – stopping rogue states and terrorists before they can threaten or use weapons of mass destruction (WMD) — chemical, biological, radiological, and nuclear (CBRN) — against the U.S. and its allies. This vital national security interest drives a U.S. strategy for combating WMD that applies the elements of national power (diplomatic, information, economic, and military) to the issue at hand. The military as an element of national power, therefore, must have a strategy that complements the national strategy.

This paper reviews the current U.S. national strategy for combating WMD and how it has evolved, defines and analyzes the military strategy for combating WMD in terms of its ends, ways, and means for meeting the national security objectives, and highlights some key issues associated with the military strategy regarding combating the proliferation of nuclear weapons. The paper concludes that the current military strategy for combating nuclear weapons relies too heavily on the concepts of counterproliferation—actions predominately taken after a proliferant has acquired a capability—at the expense of nonproliferation—actions taken to prevent proliferation. This over reliance on counterproliferation and the manner in which the Department of Defense (DoD) is implementing its strategy for combating WMD introduces risk in combating nuclear proliferation and in particular preventing a nuclear terrorist attack. This paper will show that neither counterproliferation nor nonproliferation activities are adequate, nor will either be foolproof. Therefore, a balanced approach is required. Unfortunately the current military strategy for combating nuclear proliferation is not balanced and emphasizes counterproliferation over nonproliferation.

WHY NUCLEAR WEAPONS ARE UNIQUE

The U.S. national and military strategies for combating WMD predominately address CBRN collectively; however, each type weapon necessitates unique programs and

considerations. This paper focuses on concepts and programs for addressing nuclear proliferation concerns within the context of the overarching strategy for combating WMD because, as argued in numerous authoritarian works on WMD proliferation, nuclear weapons are the “only true mass destruction weapons.”² Although chemical, biological, and radiological weapons are a serious threat, they have characteristics that make them harder to covertly employ or make them less catastrophic as compared to the effect and destruction capable from a nuclear weapon.³ As noted by a 1999 analysis of the threat from chemical or biological terrorism, “contrary to the conventional wisdom about the catastrophic nature of chemical and biological terrorism, actual attacks were few in number, small in scale, and generally produced fewer casualties than conventional bombs.”⁴ The Center for Nonproliferation Studies at the Monterey Institute of International Studies has compiled a database of global chemical and biological incidents that occurred from 1900 through May 1999. The 71 incidents of actual chemical and biological attacks recorded in the database produced 123 fatalities and 3,774 injuries and in only very few cases did the perpetrators seek to inflict mass casualties—defined as 1,000 or more deaths—and in none did they occur.⁵ Similarly, despite the hype and media sensationalism, the 2001 anthrax attacks in the U.S. resulted in only 5 deaths and 17 other infections.⁶ The relatively low casualty rates from these events are attributable to the technical hurdles associated with production, “weaponization,” and effective employment of chemical or biological agents in large enough quantity to achieve mass effects. Realistically, the crude or “low-tech” delivery methods most readily available to terrorist organizations can only achieve tens to hundreds of casualties.⁷

In contrast to chemical and biological weapons, “nuclear weapons...are so destructive there is no practical way to make the consequences of their use more bearable for civilian populations.”⁸ Like chemical and biological weapons, nuclear weapons are technically hard to develop, but unlike chemical and biological weapons, nuclear weapons are easy to employ for mass effects. For example, a ten kiloton nuclear weapon ? a size easily man portable ? would completely destroy everything in a 1/3 mile radius, and most people inside a 3/4 mile radius would be dead or seriously injured with serious damage to all buildings.⁹ The challenge for a proliferant is obtaining the special nuclear material required to make such a weapon, but according to Graham Allison’s 2004 analysis of nuclear terrorism, there are over 200 existing sources of nuclear weapons themselves and/or the special nuclear material to make one. Some disturbing trends noted by Allison are the lack of adequate safeguards at some of these sites and the potential for otherwise rational state actors with a nuclear capability to share their assets with terrorist.¹⁰ This potential availability, a single weapon’s terrifying capability for

massive destruction and the relative ease of covert employment once a weapon is obtained truly represent the “gravest danger.”¹¹ That is why this paper focuses on combating nuclear proliferation within the context of the national and military strategies for combating WMD.

NATIONAL STRATEGY FOR COMBATING WEAPONS OF MASS DESTRUCTION

The 2002 *National Security Strategy of the United States* specifies that the U.S. will “prevent our enemies from threatening us, our allies, and our friends with weapons of mass destruction.”¹² This integral component of the *National Security Strategy* is addressed in greater detail in a separate *National Strategy for Combating Weapons of Mass Destruction*, which has three principal pillars: counterproliferation to combat WMD use, strengthened nonproliferation to combat WMD proliferation, and consequence management to respond to WMD use. A description of each of the three pillars as found in the *National Strategy for Combating WMD* follows.

COUNTERPROLIFERATION

Counterproliferation is actions taken to defeat the threat and use of WMD.¹³ The *National Strategy for Combating WMD* specifies that “it is critical that the US military and appropriate civilian agencies be prepared to deter and defend against a full range of WMD employment scenarios” and defeat an adversary’s capability.¹⁴ The national strategy specifies that “all needed capabilities to combat WMD be fully integrated into the merging defense transformation plan...and that counterproliferation ...be fully integrated into the basic doctrine, training, and equipping of all forces to ensure that they can sustain operations to decisively defeat WMD armed adversaries.”¹⁵ The national strategy further specifies that counterproliferation entails: interdicting the movement of WMD materials, technology, and expertise; deterring use of WMD through a strong declaratory policy, backed up by effective military, political and intelligence capabilities that serve to devalue an adversary’s WMD and pose the prospect of overwhelming response; and when deterrence fails, defending against and mitigating the consequences of WMD.¹⁶

NONPROLIFERATION

Nonproliferation is actions taken to prevent proliferation by dissuading or impeding access to, or distribution of WMD technology, material, and expertise.¹⁷ The *National Strategy for Combating WMD* proclaims that the U.S., its allies, and the international community “must undertake every effort to prevent states and terrorists from acquiring WMD.”¹⁸ Specifically, the U.S. will strengthen nonproliferation through active diplomacy, supporting and strengthening

multilateral regimes and treaties, enhancing cooperative threat reduction programs, increasing controls on nuclear material, enhancing export controls, and using sanctions.

WMD CONSEQUENCE MANAGEMENT

WMD consequence management is actions taken to respond to and mitigate the effects of WMD after they are used. The *National Strategy for Combating WMD* focuses on minimizing the consequences of WMD use against the U.S. population. It also entails actions to respond to effects of WMD used against U.S. forces abroad and our friends and allies.¹⁹

“NEW” FEATURES OF THE NATIONAL STRATEGY FOR COMBATING WMD

The three pillars of the *National Strategy for Combating WMD* – counterproliferation, nonproliferation, and consequence management – are not new. What is new in President Bush’s strategy is the relative emphasis afforded them with counterproliferation ? specifically offensive counterproliferation or counterforce (the destruction of an adversary’s WMD capability) ? being most prominent.

Prior combating WMD strategies focused on establishing unilateral and multilateral regimes aimed at reducing vertical proliferation (arms control) and stopping horizontal proliferation (nonproliferation). This remained true throughout the 1990s despite counterproliferation’s growing importance as an integral part of American military strategy. The 1990-1991 Gulf War, which uncovered a robust Iraqi WMD program in spite of on-going nonproliferation efforts clearly demonstrated that nonproliferation was not foolproof. The Department of Defense (DoD) response was the 1993 Counterproliferation Initiative (CPI) that established counterproliferation as a hedge against the failure of nonproliferation means and focused on developing capabilities to allow the U.S. to fight and win wars in a nuclear, biological, or chemical (NBC) environment.²⁰ However, the Department of State (DOS) saw the CPI as an infringement on its traditional control of proliferation issues and expressed concerns that DoD’s new emphasis on counterproliferation would reduce DoD support of DOS led nonproliferation and arms control initiatives. In 1994 the National Security Council was tasked to resolve the debates between DOS and DoD on division of proliferation responsibilities and the result was a U.S. Government (USG) comprehensive policy against proliferation that still placed the primary emphasis on DOS led nonproliferation efforts. DoD’s role was basically limited to supporting USG nonproliferation efforts and assuring that U.S. forces and interests could be protected should they confront an adversary armed with weapons of mass destruction or missiles.²¹ DoD developed and improved offensive strike capabilities against WMD targets, but in practice, counterproliferation efforts were predominately limited to passive defense

measures to minimize the probability of and potential damage from an attack and management of consequences after use of WMD.

This strategy remained basically intact until the 11 September 2001 terrorist attacks against the U.S. homeland. The resulting new sense of vulnerability, coupled with indications that state and non-state actors were pursuing, developing, and transferring WMD technology at a rate greater than originally anticipated, increased the urgency for preventing the proliferation of WMD into the hands of those desiring to harm the U.S.^{22,23} The U.S. approach to combating WMD had to respond and the resulting 2002 *National Strategy for Combating WMD* “represents a fundamental change from the past.”²⁴

This “fundamental change” represented by President Bush’s *National Strategy for Combating WMD* is a change in emphasis from nonproliferation to counterproliferation with a “not-so-subtle shift in the balance of deterrence from a long-standing promise to punish any adversary that contemplated WMD use...to increasingly credible threats to deny adversaries any meaningful political or military advantage from using WMD.”²⁵ The President’s strategy emphasizes detecting and destroying “an adversary’s WMD assets before these weapons are used.”²⁶ In the *National Security Strategy*, when addressing the WMD threat, President Bush declared that “America will act against such emerging threats before they are fully formed”²⁷ and take “anticipatory action to defend ourselves, even if uncertainty remains as to the time and place of the enemy’s attack.”²⁸ These “offensive counterproliferation” actions are to be “principally applied after adversaries develop WMD, but they can also be applied early on in the WMD development and acquisition stages” and may be either preemptive or preventive.²⁹ Preemptive actions are those actions initiated on the basis of incontrovertible evidence that an enemy attack is imminent,³⁰ whereas preventive actions are taken in belief that conflict or nuclear weapons use, while not imminent, is inevitable and that to delay would involve greater risk.³¹ The concepts of preemptive and preventive counterproliferation are wrought with issues concerning their acceptance within international law and their ultimate effectiveness and these issues will be further analyzed in later sections. However, given the *National Strategy for Combating WMD*, its new emphasis on aggressive counterproliferation, and yet still an identified need to strengthen nonproliferation efforts, the military must have a feasible strategy for combating WMD that complements the national objectives.

MILITARY STRATEGY FOR COMBATING WMD

The military as a major element of national power plays a critical role in the implementation of the *National Strategy for Combating WMD*. Unfortunately, the current military

strategy for combating WMD is not as concisely articulated as the national strategy and must be inferred from numerous sources. This paper uses a common construct of strategy that defines strategy as a coherent set of ends, way, and means. “Ends” are the objectives towards which one strives; “ways” are the concepts or courses of actions to achieve the ends; and “means” are the instruments, resources, and capabilities for supporting the concepts.³² This section defines those ends, ways, and means that comprise the U.S. military’s strategy for combating WMD, based on current policy, doctrine and DoD reports.

ENDS

The military objectives (ends) for combating WMD are to prevent the proliferation of WMD, roll back proliferation where it has occurred, deter and/or prevent its use against the U.S., its allies, and U.S. and allied forces, and finally, when deterrence/prevention fails, detect, prevent, defeat and manage the consequences of the event.³³ These objectives are extrapolated from documents and policies that originated in the Clinton administration. Current Defense and Military strategic planning documents have not been updated to reflect the changes introduced in the 2002 *National Strategy for Combating WMD*. Additionally, the major Defense and Military strategies such as the *Defense Planning Guidance* and *National Military Strategy* do not specifically address the construct of a military strategy for combating WMD, despite WMD being labeled “one of the greatest security challenges facing the United States.”³⁴

DoD’s latest guidance that addresses counterproliferation policy and objectives predates the 2002 *National Strategy for Combating WMD*. The latest “official” policy from the Office of the Secretary of Defense (OSD) is articulated in the July 1996 DoD Directive 2060.2, “Department of Defense Counterproliferation (CP) Implementation” and further supplemented and emphasized by Secretary of Defense Cohen’s “Proliferation, Threat and Response,” last updated in January 2001. The latest Joint Staff references to military objectives for combating WMD are found in the Chairman’s (CJCS) overarching Counterproliferation Plan, CONPLAN 0400,—supplemented by an Aug 2000 CJCS Counterproliferation Charter, CJCSI 5113.02A (S)—and in a Feb 2001 Chairman’s Memorandum, “Approved Counterproliferation Strategy (S).” These documents vary slightly in terminology but all consistently define the military objectives as those listed above with one important nuance ? they all consistently characterize the military’s role in preventing proliferation as one of support for U.S. government efforts to prevent and reverse proliferation.³⁵ Additionally, in line with the 1993 Counterproliferation Initiative’s original concept, emphasis in these documents is placed on deterring and preventing effective use of WMD and managing the consequences should it occur.

Military strategy documents of the Bush administration, and particularly those after 9-11, have done little to update the previous administration's military objectives for combating WMD. The latest strategy document, the 2004 *National Military Strategy of the United States of America* (NMS), speaks in general terms of protecting the U.S. homeland, preventing conflict and surprise attack, and prevailing against adversaries.³⁶ Combating WMD is not a major focus of the NMS; it only mentions WMD as a type of threat and strictly in relation to its impact on force application and the military's ability to secure the battle space. The 2001 *Quadrennial Defense Review* (QDR) specifies that one of the transformation initiatives is to "protect bases of operation at home and abroad and defeat the threat of CBRNE [chemical, biological, radiation, nuclear, and explosives] operations."³⁷ The latest *Defense Planning Guidance* (DPG), under "joint warfare capability," specifies that the Department's most important mission is the defense of the U.S. homeland, particularly as it pertains to defense against CBRNE threats.³⁸ However, the QDR and DPG limit CBRNE objectives to force protection measures against chemical and biological attacks, establishment of WMD-Civil Support Teams (National Guard teams that provide WMD-consequence management expertise to civil authorities), active defense against missile threats, and deterrence through the capability to hold an adversary's CBRNE capability at risk.

Based on the limited treatment of the WMD threat in the current administration's defense and military strategy documents, the military objectives for combating WMD remain those articulated during the Clinton-era. This is not by itself a critical issue since the current national objectives have also remained basically unchanged from the Clinton-era. What has changed in the *National Strategy for Combating WMD* is the relative emphasis afforded the different elements of nonproliferation, counterproliferation, and consequence management and it is through an analysis of the military's application of ways and means for meeting the objectives that this emphasis will be evident.

WAYS

The ways (concepts) employed by the military are articulated in DoD policy statements and codified in doctrine. The recently published *Joint Doctrine for Combating Weapons of Mass Destruction* (JP 3-40) is the latest and most complete source providing the details of DoD's concepts for combating WMD. The concepts articulated in JP 3-40 parallel the national strategy by specifying that combating WMD necessitates an integrated and dynamic approach that leverages the activities of nonproliferation, counterproliferation, and consequence management.³⁹ Figure 1 graphically displays DoD's multi-tiered approach to combating WMD

and the military's specific roles for each of the national strategy pillars of nonproliferation, counterproliferation, and consequence management.



FIGURE 1, DOD'S MULTI-TIERED APPROACH TO COMBATING WMD⁴⁰

The military's concepts for meeting its nonproliferation objectives consist of detecting and monitoring the acquisition and development of WMD, conducting activities that deter the development or acquisition of WMD, and conducting security cooperation activities, including support for U.S. treaty obligations and in verifying other nations' adherence with treaties.⁴¹

Counterproliferation is "the full range of military activities" that will "deter, identify, deny, and counter adversary development, acquisition, possession, proliferation and use of WMD."⁴² The military accomplishes this through application of counterforce, active defense, and passive defense. Counterforce is offensive operations taken to eliminate the WMD threat by denying an adversary the asset. Counterforce includes interdicting, seizing, securing and/or destroying an adversary's WMD and related infrastructure. Active defense is preventing the delivery of an adversary's WMD via conventional or unconventional means. This is the detection and destruction of a weapon once it has been "fired". Passive defense is measures taken to reduce the vulnerability of friendly personnel and assets to WMD effects - basically the legacy NBC defense programs designed to ensure U.S. military forces can survive, fight, and win in an NBC contaminated environment.

The military concept of consequence management includes taking actions to mitigate the long-term effects and enable a rapid recovery from a WMD attack against the U.S. homeland (domestic CM), U.S. forces, and U.S. interests abroad, as well as assisting friends and allies to restore essential services (foreign consequence management). “Operations are intended to assist affected public, government, and US military installations to reduce a population’s vulnerability to the effects of WMD contaminants by supporting preventive or precautionary measures..., developing and rehearsing response plans/protocols..., and restoring necessary life-sustaining services...”⁴³ The military’s focus on consequence management is not just in regards to the military, but also includes civilians and civilian infrastructure. CJCS provides guidance and tasks Combatant Commanders (CCDRs) to prepare plans to support a USG lead federal agency’s domestic and OCONUS consequence management operations.

Concepts in JP 3-40 also reflect the QDR and DPG overall strategic themes of assure, dissuade, deter, and defeat. JP 3-40 specifies that CCDRs should focus on: demonstrating to an adversary the futility of pursuing WMD as a viable threat (dissuade); deterring use of WMD through a clear and overwhelming response (deter), should deterrence fail, detecting and neutralizing an adversary’s WMD assets before the weapons reach their targets (defeat), and ensuring that military forces retain the initiative and freedom of action in a contaminated environments (passive defense and consequence management measures that enable the functions of dissuade, deter, and defeat).⁴⁴ This focus on the “dissuade, deter, and defeat” strategic theme demonstrates a focus on counterproliferation and consequence management, neglecting nonproliferation.

On the other hand, the emphasis on counterproliferation is not seen in the congressionally mandated Counterproliferation Program Review Committee’s (CPRC)⁴⁵ description of DoD’s strategy. In its 2004 report to Congress, the CPRC described the key concepts of DoD’s combating WMD doctrine as “supporting diplomacy, arms control, and export controls [nonproliferation]; maintaining a strong deterrence capability; developing capabilities to identify, characterize, destroy, and interdict production storage, and weaponization of NBC; developing active defenses to interdict delivery means; developing passive defenses [counterproliferation]; training and equipping U.S. forces to operate effectively in an NBC contaminated environment; developing the ability to restore operations and manage the consequences of NBC use; and encouraging U.S. allies and coalition partners to make counterproliferation a part of their military planning [consequence management].”⁴⁶ The CPRC report infers that DoD integrates and balances the pillars of nonproliferation, counterproliferation

and consequence management, but still places DoD's nonproliferation efforts in a supporting role to other USG agencies.

Ultimately, DoD has a concept for meeting its combating WMD objectives that integrates the pillars of nonproliferation, counterproliferation and consequence management. Based on current strategy documents and reports there is an apparent focus on counterproliferation at the expense of nonproliferation and a subordination of DoD to other USG agencies in conducting nonproliferation activities. Analyzing how DoD applies resources - the means - to each of the pillars further demonstrates DoD's emphasis on counterproliferation and will highlight key issues with an over reliance on counterproliferation at the expense of nonproliferation activities.

MEANS

For its combating WMD strategy to be viable, the military must develop and maintain the capabilities and programs (means) that allow it to execute the concepts introduced above. The current means for implementing the military concepts are summarized in the CPRC's 2004 *Report on Activities and Programs for Countering Proliferation and NBC Terrorism*. This report concludes that DoD agencies have focused their expertise in CBRN information management, intelligence, strategic weapons dismantlement, arms control technologies, and other fields to provide core capabilities to support the CCDRs and that there are over 150 military programs currently supporting national efforts to combat WMD.⁴⁷ Table 1 shows the WMD mission area requirements as defined by the CPRC based on CCDRs' requirements and priorities. They are shown in DoD priority order with their associated FY 05 investments. From the CPRC rankings of on-going programs and capabilities and the allocated funding, DoD's programmatic priorities in descending order are: intelligence and detection of WMD, passive defense, active defense, counterforce, and consequence management. Non-proliferation programs such as securing WMD materials and supporting export control, arms control, and nonproliferation regimes are the lowest priorities.⁴⁸

DoD Priority	Combating WMD Areas for Capability Enhancements (ACEs)	FY05 Investments (\$M)
1	Timely collection, analysis, and dissemination of strategic, operational, and tactical level actionable intelligence to support counterproliferation and counter terrorism	20.28
2	Detection, identification, characterization, location, prediction, and warning of traditional and nontraditional chemical and biological weapon agents (including medical surveillance)	658.41
3	Defense against, and detection, characterization and defeat of paramilitary, covert delivery, and terrorist WMD capabilities (including protection of critical CONUS and OCONUS installations)	166.65
4	Detection, location, and tracking of WMD and means of delivery (WMD/M) and related materials, components, and key personnel	20.17
5	Support for maritime, air, ground WMD/M interdiction, including special operations	18.80
6	Enable sustained operations in a WMD environment through decontamination, and individual and collective protection	399.61
7	Medical protection, training, diagnosis, treatment, and countermeasures against NBC agents, to include surge manufacturing capability and stockpile availability of vaccines, pretreatments, therapeutics and other medical products	391.60
8	Ballistic and cruise missile active defense	11,237.04
9	Consequence management in response to use of WMD (including civil support in response to domestic WMD contingencies)	143.90
10	Target planning for WMD/M targets	44.90
11	Detection, location, characterization, defeat, and elimination of WMD/M weapons and related facilities while minimizing collateral effects	39.23
12	Detection, location, characterization, and defeat of hard and deeply buried targets while minimizing collateral effects	112.08
13	Prompt mobile target detection and defeat (most programs and funding embedded in other ACE's)	11.60
14	Protection of WMD/M and WMD/M-related materials and components	139.74
15	Support to export control activities of the U.S. Government	22.36
16	Support to inspection and monitoring activities of arms control agreements and regimes and other nonproliferation initiatives	358.91
	TOTAL	13,778.48

TABLE 1, COMBATING WMD MISSION AREA REQUIREMENTS⁴⁹

Further analysis of the specific military programs detailed in the 2004 CPRC report reinforces the conclusion that DoD's emphasis is on counterproliferation, and more specifically, on counterforce, active defense, and passive defense vice nonproliferation. Intelligence programs are primarily focused on target development for counterforce applications, detection of mobile targets and cruise missiles to support active defense programs, and detection capabilities for avoidance of contamination on the battlefield. Budget wise, the largest program

is missile defense – 82% of DoD's allocated combating WMD funds - followed by programs supporting passive defense. Four key issues come from a review of DoD's combating WMD programs: intelligence shortcomings, a focus on chemical and biological vice nuclear detection, a focus of nonproliferation efforts on stopping the spread of WMD from the Former Soviet Union (FSU) while neglecting the "stockpiles" of other nations, and a continued reliance on nuclear weapons for specific counterproliferation capabilities.

Concerning intelligence, DoD acknowledges a need to increase its ability to find and track WMD targets. Detecting and monitoring WMD is problematic and the level of intelligence required to effectively employ counterforce to ensure defeat of the target and limit collateral damage is substantial. As emphasized in numerous DoD reports and summarized by the Commission on the Intelligence Capabilities of the U.S., "The technical challenges for the collection and analysis of intelligence on weapons of mass destruction programs - especially concerning programs carried out by rogue states and terrorist organizations - are even more difficult and more complex than at any time in the past."⁵⁰ DoD's strategic and tactical intelligence programs for WMD focus on developing additional capability to exploit open source information, track mobile targets and cruise missiles, support the Navy's ability to identify and track WMD material for interdiction operations, and improve the standoff detection capability for battlefield surveillance of chemical and biological agents. These programs support primarily counterproliferation, a common theme in the military strategy. The agent detection programs could enhance monitoring in support of nonproliferation efforts, but they are focused on chemical and biological agents rather than radioisotope detection and identification, leading us to another issue.

A majority of DoD's efforts are focused on chemical and biological vice nuclear threats. A key example is the programs for increasing detection capabilities, a key enabler for all aspects of combating WMD. According to the 2004 CPRC report, there are no nuclear detection programs planned until the FY 12-21 time frame. However, there are numerous chemical and biological detection programs on-going with additional new programs scheduled to start between now and FY 11. A 2004 Defense Science Board Task Force on *Preventing and Defending Against Clandestine Nuclear Attack* noted this and reported that "no current [nuclear detection] program or collection of programs, in DoD or anywhere, is sufficiently comprehensive or ambitious in relation to either the threat or the opportunities for improvement."⁵¹ The Task Force stresses that DoD must increase its capability to defend via detection against a potentially catastrophic clandestine nuclear attack, but as the CPRC report demonstrates, DoD's detection programs are exclusively focused on chemical and biological threats.

DoD is also taking a very narrow focus in its approach to nonproliferation. Although DOS is the lead USG agency for establishment of nonproliferation initiatives and regimes, DoD executes the programs with assistance from other USG agencies that have applicable technical and operational expertise. The military's three basic contributions to nonproliferation are in executing Cooperative Threat Reduction (CTR) and similar programs, support to export control programs, and implementation of arms control regimes. By far the largest DoD nonproliferation effort is the congressionally mandated CTR program that funds and executes the destruction of Soviet era WMD and enhances the security of remaining weapons and related material.⁵² A complementary program is the WMD-Proliferation Prevention Initiative that provides a range of law enforcement and border security training and equipment to participating countries in the FSU, the Baltic region and Eastern Europe to detect and prevent the proliferation of WMD related materials and technologies across borders. Unfortunately the focus of these efforts is exclusively on preventing proliferation from the FSU, the largest source of nuclear material, but not the only one.

The final issue noted from a review of DoD's combating WMD programs is a reliance on the U.S. nuclear stockpile for deterrence and counterforce capability. The 2002 *Nuclear Posture Review* emphasized the continued utility of U.S. nuclear weapons to deter the use of WMD. In theory, by maintaining the destructive retaliatory capability offered by nuclear weapons, adversaries are not likely to take actions that provoke the U.S. to use nuclear weapons. Also, according to the *Nuclear Posture Review*, nuclear weapons are necessary to overcome the inability of conventional weapons to hold at risk hard and deeply buried targets and mobile delivery systems. Finally, nuclear weapons are supposedly uniquely able to destroy and/or render harmless chemical and biological agents by incinerating and/or irradiating them, thereby limiting their potential dispersion. However, the current U.S. stockpile is not designed to effectively perform these missions and limit the nuclear consequences, so the *Nuclear Posture Review* advocates the development of more effective nuclear weapons, essentially increasing the utility of the U.S. nuclear stockpile.^{53,54}

This section has described the existing DoD strategy for combating WMD as a set of ends, ways, and means. In brief summary, DoD's ends are to prevent proliferation, roll back proliferation where it has occurred, deter and/or prevent its use, and if a WMD is used manage the consequences of the event. DoD's ways for achieving these ends are through a supposedly integrated doctrine of nonproliferation, counterproliferation and consequence management. The means by which DoD will execute this doctrine is through a set of core capabilities utilizing existing CBRN expertise and developing additional capabilities to address noted deficiencies.

However, in defining the military strategy for combating WMD, it is evident that DoD is emphasizing counterproliferation at the expense of nonproliferation and the ability to effectively and exclusively rely on counterproliferation for combating WMD is not feasible. The next section will further analyze the key issues associated with counterproliferation vice nonproliferation.

ANALYSIS OF THE MILITARY STRATEGY FOR COMBATING WMD

The military strategy must balance ends, ways, and means to ensure success in meeting the national objectives. Military objectives (ends) must be suitable for meeting the objectives of the national strategy, military concepts (ways) must achieve the objectives, and an appropriate level of resources (means) must be available or programmed to implement the concepts.⁵⁵ Although the explicit military objectives for combating WMD pre-date the current national strategy, a more current set may be inferred from the NMS, QDR, DPG and Joint Doctrine that are suitable for meeting the objectives of the national strategy. Actually the military and national objectives for combating WMD are basically paraphrases of each other. Overall, the concepts articulated in Joint Doctrine are feasible. However, as seen in the definition of the military “ways,” DoD is placing emphasis on counterproliferation at the expense of nonproliferation efforts with further emphasis on preemptive and preventive strikes and a continued reliance on nuclear weapons for combating WMD. These emphases are introducing risk in the military’s ability to meet its combating WMD objectives.

NONPROLIFERATION VICE COUNTERPROLIFERATION

As shown, the current *National Strategy for Combating WMD* and supporting military concepts and resources provide increased emphasis on the use of counterproliferation activities as opposed to previous strategies that emphasized nonproliferation supported by the military concepts of passive defense, consequence management and use of the traditional military role as a deterrent to proliferants and users of WMD. The military strategy for combating WMD reflects this emphasis on counterproliferation and, as outlined in the 2004 CPRC report, has placed nonproliferation activities at the bottom of DoD’s combating WMD priorities. However, the national strategy still directs strengthening traditional nonproliferation measures that “seek to dissuade or impede proliferant states...slow or make more costly their access to sensitive technologies, material, and expertise.”⁵⁶ A recent National Defense University (NDU) study concluded that nonproliferation must remain a vital part of combating WMD because it complicates a proliferant’s capability to procure, produce, and ultimately employ WMD; is a means to shape the security environment; and limits the availability of materials and

technology.⁵⁷ As discussed, nonproliferation is not fool-proof, so the ability to deter, deny, and defeat an adversary's nuclear capability using counterproliferation activities is not only prudent but required. Counterproliferation also has shortcomings – an adversary may obtain the capability despite preventive or preemptive attacks and once a state or non-state actor has a nuclear weapon, counterforce and active defenses may not prevent the effective employment of that weapon. Additionally, an adversary's possession of a nuclear device, whether real or believed, effectively limits U.S. influence and options for engagement. Therefore, stopping the spread of nuclear weapons at their source and avoiding the need to resort to offensive actions to deny an adversary a nuclear capability is highly desirable.

Both the national and military strategies for combating WMD increase reliance on active defense, a subset of counterproliferation, as a deterrent and ultimate protection from the development and use of nuclear weapons. However, this is problematic when dealing with the gravest danger—a terrorist armed with a nuclear weapon. The Bush administration considers missile defense as an important element of its combating WMD strategy. According to the 2002 Nuclear Posture Review, a missile defense system “presents a potential adversary with the prospect of a difficult, time-consuming and expensive undertaking” that will dissuade potential proliferants. This may be true for rationale state actors, but not necessarily for other would be proliferants. The U.S. is designing its missile defense systems to stop a few incoming ballistic missiles. This is the type attack a rogue nation with a ballistic missile capability might employ, not the type attack a terrorist would choose. A terrorist nuclear weapon is far more likely to come to the U.S. in a “cargo container than on top of a missile.”⁵⁸ Therefore, while the missile defense programs may impact the decisions and actions of state-actors, it will most likely be ineffective in deterring or defeating nuclear terrorism.

An additional concern with the balance of nonproliferation and counterproliferation programs within DoD is that even the current DoD nonproliferation programs that exist are limited in scope. There is currently no mention of or priority given to expanding the Cooperative Threat Reduction Programs that secure nuclear materials and technology and the Proliferation Prevention Initiatives that enhance border security beyond the FSU, Eastern Europe and Baltic Regions. Recently, nuclear technology has proliferated not from the FSU, but from Pakistan. Over 3 decades, Dr. A.Q. Khan, the father of Pakistan's nuclear program, reportedly provided nuclear weapons technology to Libya, Iran, and North Korea without the knowledge of the Pakistani Government.⁵⁹ Additionally, personnel from Pakistan's nuclear program have reportedly provided information concerning nuclear weapons to the terrorist group Al Qaeda.⁶⁰ This transfer of nuclear technology supports what is described as the pessimistic view of

proliferation. In a debate over whether proliferation is stabilizing or destabilizing, good or bad, pessimists conclude that proliferation of nuclear weapons will be destabilizing because of the potential for substandard command, control, security, and safety that would preclude inadvertent use, accidents, or loss of control. To the contrary, an optimistic view is that proliferation increases stability and that nuclear armed states will avoid war with one another because of the potential for incurring massive casualties –win or lose. The optimistic opinion is based on the premise that states are rational actors and a state with nuclear weapons will take care to control and safeguard its weapons. The pessimists counter this with the notion that not all states are rational actors and a new nuclear state might not spend the necessary capital to appropriately ensure the safety and security of its nuclear weapons.⁶¹ Pakistan's nuclear program, though arguably providing a deterrent against its nuclear armed neighbor and offering hope for increased stability, demonstrates the pessimists' cause. Pakistan's nuclear program, as well as all other potential sources of nuclear technology and material, deserves the same level of cooperative threat reduction efforts as the FSU.

PREEMPTIVE/PREVENTIVE COUNTERPROLIFERATION

The shift of emphasis toward preemptive or preventive counterforce is problematic. Recent case studies that analyzed the ability of preemptive and preventive strikes to check or roll back nuclear capabilities have concluded that the ability to do so is an essential element of a combating WMD program, but must be used sparingly and only if a very selective set of conditions are met. Arguably, Iraq's nuclear program was delayed by Israel in 1981, but only slightly. "For a variety of reasons, the Israeli's successful raid on Osirak (the Iraq nuclear reactor) was a unique case, characterized by conditions that are unlikely to be replicated again elsewhere. Preventative action by the United States...today would have to contend with intelligence, military-technical, and political challenges more daunting than those faced by Israel in 1981."⁶² Even after extensive U.S. strikes against "known" nuclear sites during the first Gulf War, follow-on inspections still uncovered a capable nuclear program. Other would be proliferants are sure to have learned from these examples and will use deception, dispersion, and hardened facilities to make detection and destruction of their program challenging for the U.S. Unless the U.S. has complete intelligence and near flawless execution of strikes, anti-Americanism backlash may be counterproductive,⁶³ and if the U.S. leaves the adversary with the capability to respond, the U.S. attack may provide the incentive for a retaliatory strike against the U.S. – exactly what the U.S. is seeking to prevent. As noted earlier, intelligence and

the capability to defeat some types of targets is lacking, adding to the risk of a successful counterforce campaign.

There are also legal concerns with an aggressive counterproliferation strategy. Though preemptive action -- where the threat is imminent -- is well within international law, preventive action -- where the threat is not imminent -- is not. A 1997 study entitled *The International Legal Ramifications of United States Counter-Proliferation Strategy* concluded that an aggressive U.S. counterproliferation strategy based on prevention is not within the norms of international law, but should not be abandoned since it serves as a hedge against a severe and intolerable threat. A 2004 NDU report argues that "international law and laws of armed conflict need to be adapted to address more effectively the threats posed by WMD" and make preventative and/or preemptive counterproliferation internationally acceptable.⁶⁴ However, the 1997 study contends that the U.S. should not seek to modify international law to support preventive counterproliferation, because it may serve to legitimize otherwise unwarranted counterproliferation attacks and perhaps even attacks against the U.S.⁶⁵ Ultimately any decision to take preventive and/or preemptive actions must consider the ability to adequately demonstrate justification and legitimacy to the international community; something the U.S. was unable to do after invading Iraq and finding no evidence of a WMD program. Nonetheless, preventive and preemptive actions must remain as options and the military must continue to develop the intelligence and strike capabilities to increase the probability of success of offensive counterproliferation actions in order to "spur diplomacy," deter adversaries, and completely defeat the threat if necessary.⁶⁶

U.S. RELIANCE ON ITS OWN NUCLEAR CAPABILITY

Despite an unmatched conventional power, the U.S. is continuing to rely on its nuclear capabilities for national security and this sends mixed signals to potential proliferants. As demonstrated in the *Nuclear Posture Review* and by current initiatives to enhance the utility of its nuclear weapons, the U.S. still sees a need for nuclear weapons. Additionally, the NMS highlights that "nuclear capabilities continue to play an important role in deterrence" and that "advances in targeting and precision will provide a wider range of targets while reducing collateral damage."⁶⁷ However, it is the consensus of numerous policy analysts that continuing reliance on and development of "more usable" nuclear weapons are counterproductive to the nonproliferation regime.⁶⁸ The Nuclear Nonproliferation Treaty (NPT) requires that nuclear weapon states work to reduce their nuclear capability.⁶⁹ Any efforts to the contrary may undermine the NPT by telling would be proliferants that nuclear weapons have utility and are a major contributor to national power, possibly sparking additional proliferation; a result contrary to

the objectives of preventing and rolling back proliferation. Therefore, the U.S. should attempt to reconcile its nuclear stockpile initiatives with its nonproliferation objectives, weighing the potential deterrent value of nuclear weapons against providing justification for further proliferation.

CONCLUSIONS

This paper defined the national and supporting military strategies for combating WMD and highlighted issues in the military's strategy as it pertains to combating nuclear proliferation. In general, the military's objectives for combating WMD support the national strategy, but the military's emphasis of counterproliferation over nonproliferation introduces risk in precluding what President Bush termed the "gravest danger"—WMD in the hands of a terrorist. Truly, the *National Strategy for Combating WMD* places added emphasis on counterproliferation, and particularly on offensive counterproliferation - active defenses and counterforce, but it also recognizes the need for strengthened nonproliferation. The military strategy has placed added emphasis on counterproliferation, but neglects to increase or enhance nonproliferation activities. DoD needs an approach that provides a better balance between nonproliferation and counterproliferation activities. Nonproliferation is not foolproof and neither is counterproliferation, but because of the destructive power of even a single nuclear weapon and relative ease of covert employment, a more effective program to prevent proliferation and keep nuclear weapons from the hands of those seeking to harm the U.S. is imperative. Therefore, the military must place additional emphasis on its role in nonproliferation and expand current efforts well beyond the FSU in order to reduce the likelihood of nuclear weapons and/or material and technology proliferating. Additionally, the U.S. needs to deemphasize those nuclear programs that send mixed messages to potential proliferants and consider methods that reconcile the discrepancies -- perceived or real -- between U.S. nuclear stockpile initiatives and nonproliferation objectives. However, because nonproliferation is not foolproof, the military must still maintain and in some cases increase its capabilities to deter, interdict, defend against, and eliminate WMD. This includes using preemptive and preventative measures. However, these should only be considered a last resort because of the numerous political, legal, and technical reasons that make preemptive and preventive counterproliferation troublesome. As the military's own doctrine specifies, "[t]he success of combating WMD depends on how effectively combatant commanders apply all three pillars [nonproliferation, counterproliferation, and consequence management] against WMD challenges."⁷⁰

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ENDNOTES

¹ George W. Bush, *The National Security Strategy of the United States of America* (Washington, D.C.: The White House, 2002), 13.

² Center for Counterproliferation Research, *At the Crossroads: Counterproliferation and National Security Strategy* (Washington, D.C.: National Defense University, April 2004), 2.

³ Sidney D. Drell and James E. Goodby, *The Gravest Danger: Nuclear Weapons* (Stanford, CA: Hoover Institution Press, 2003), 1.

⁴ Jonathan B. Tucker and Amy Sands, "An Unlikely Threat," *Bulletin of the Atomic Scientist*, 55, no. 04 (July/August 1999): [journal on-line]; available from <http://www.thebulletin.org/article.php?art_ofn=ja99tucker>; Internet; accessed 13 January 2005.

⁵ Ibid.

⁶ Center for Counterproliferation Research, 11.

⁷ Tucker and Sands.

⁸ Drell and Goodby, 1.

⁹ Graham Allison, *Nuclear Terrorism* (New York: Times Books, 2004), 3-4.

¹⁰ Ibid., 61-86.

¹¹ Ibid.

¹² Bush, 1.

¹³ Joint Chiefs of Staff, *Joint Doctrine for Combating Weapons of Mass Destruction*, Joint Pub 3-40 (Washington, D.C.: U.S. Joint Chiefs of Staff, 8 July 2004), GL-4.

¹⁴ George W. Bush, *National Strategy to Combat Weapons of Mass Destruction* (Washington, D.C.: The White House, 2002), 2.

¹⁵ Ibid.

¹⁶ Ibid., 2-3.

¹⁷ Joint Chiefs of Staff, GL-7.

¹⁸ Bush, *National Strategy to Combat Weapons of Mass Destruction*, 2.

¹⁹ Ibid.

²⁰ David S. McDonough, *The 2002 Nuclear Posture Review: The New Triad, Counterproliferation, and U.S. Grand Strategy, Working Paper No. 38* (August 2003), 1; available from <<http://www.iir.ubc.ca/pdfiles/webWP38.doc>>; Internet; accessed 8 December 2004.

²¹ Henry D. Sokolski, *Best of Intentions: America's Campaign against Strategic Weapons Proliferation* (West Port, CT: Praeger Publishers, 2001), 93-94.

²² Peter Lavoy, "What's New in the New U.S. Strategy to Combat WMD?" *Strategic Insights*, Volume I, Issue 10, December 2002 [journal on-line]; available from <<http://www.ccc.nps.navy.mil/si/dec02/wmd.asp>>; Internet; accessed 5 November 2004.

²³ The indicators of an increase in proliferation activities included the resumption of the North Korean nuclear program, supposition that Iran's peaceful nuclear program was a cover for a covert weapons program, the interdiction of a North Korean ship carrying SCUD missiles for Yemen, and most importantly the technology transferred from Pakistan's nuclear program to Iran, Lybia and others by Dr. Khan.

²⁴ Bush, *National Strategy for Combating Weapons of Mass Destruction*, 1.

²⁵ Lavoy.

²⁶ Bush, *National Strategy to Combat Weapons of Mass Destruction*, 3.

²⁷ Bush, *National Security Strategy*, iv.

²⁸ *Ibid.*, 15.

²⁹ Joint Chiefs of Staff, I-1.

³⁰ Joint Chiefs of Staff, *DoD Dictionary of Military and Associated Terms*, Joint Pub 1-02 (Washington, D.C.: Joint Chiefs of Staff, 8 July 2004), 415; available from <<http://www.dtic.mil/doctrine/jel/doddict/index.html>>; Internet; accessed 10 January 2005.

³¹ *Ibid.*, 419.

³² Arthur F. Lykke, Jr., "Toward an Understanding of Military Strategy," in *US Army War College Guide to Strategy*, ed. Joseph R. Cerami and James f. Holcomb, Jr., 179-186 (Carlisle Barracks, PA: Strategic Studies Institute, 2001), 179.

³³ Office of the Secretary of Defense, *Department of Defense Counterproliferation (CP) Implementation*, DoD Directive 2060.2 (Washington, D.C.: Office of the Secretary of Defense, 9 July 1996), 3-4.

³⁴ Bush, *National Strategy to Combat Weapons of Mass Destruction*, 1.

³⁵ *Ibid.*, 4.

³⁶ Chairman of the Joint Chiefs of Staff, *National Military Strategy of the United States of America* (Washington, D.C.: Joint Chiefs of Staff, 2004), 2.

³⁷ Donald H. Rumsfeld, *Quadrennial Defense Review Report* (Washington, D.C.: Office of the Secretary of Defense, 30 September 2001), 42.

³⁸ Office of the Secretary of Defense, *Defense Planning Guide for 2004-2009* (U) (Washington, D.C.: Office of the Secretary of Defense, May 2002), 42.

³⁹ Joint Chiefs of Staff, JP 3-40, I-1.

⁴⁰ Counterproliferation Program Review Committee, *Report on Activities and Programs for Countering Proliferation and NBC Terrorism: Executive Summary*, Volume I (Washington, D.C.: Counterproliferation Program Review Committee, May 2004), 7.

⁴¹ Joint Chiefs of Staff, JP 3-40, vi-vii.

⁴² *Ibid.*, vii.

⁴³ *Ibid.*, viii-ix.

⁴⁴ *Ibid.*, I-5.

⁴⁵ The Counterproliferation Program Review Committee (CPRC) was established by the 1994 National Defense Authorization Act (as amended) to review and make recommendations on department and interdepartmental activities and programs of the Department of Defense, Department of Energy and Intelligence Community for countering proliferation. The Secretary of Defense chairs the CPRC. The CPRC's other members are the Secretary of Energy (vice chair), Chairman of the Joint Chiefs of Staff, and Director of Central Intelligence.

⁴⁶ Counterproliferation Program Review Committee, 6.

⁴⁷ *Ibid.*, 8.

⁴⁸ This summary of priorities is derived by the author from data presented in the Counterproliferation Program Review Committee, *Report on Activities and Programs for Countering Proliferation and NBC Terrorism: Executive Summary* (Washington, D.C.: Counterproliferation Program Review Committee, May 2004), 8-10. and Counterproliferation Program Review Committee, *Report on Activities and Programs for Countering Proliferation and NBC Terrorism, Volume III –Classified Appendices-Programmatics and Supporting Documentation* (Washington, D.C.: Counterproliferation Program Review Committee, May 2004), Appendix C.

⁴⁹ Counterproliferation Program Review Committee, *Report on Activities and Programs for Countering Proliferation and NBC Terrorism: Volume III–Classified Appendices-Programmatics and Supporting Documentation* (Washington, D.C.: Counterproliferation Program Review Committee, May 2004), C-96.

⁵⁰ Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction, "Fact Sheet: Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction," available from <http://www.wmd.gov/fact_sheet.pdf>; Internet; accessed 11 January 05.

⁵¹ Defense Science Board, *Report of the Defense Board Task Force on Preventing and Defending Against Clandestine Nuclear Attack*, (Washington D.C.: Office of the Secretary of Defense, June 2004), 15.

⁵² For a complete list of programs and the specific objectives and accomplishments of the U.S. Threat Reduction Programs see the Defense Threat Reduction Agency Web Site available

at <<http://www.dtra.mil/toolbox/directorates/ctr/programs/index.cfm>>; Internet; accessed 10 December 2004.

⁵³ McDonough, 7.

⁵⁴ The current nuclear stockpile is seen as inadequate for its intended role because of the nuclear consequences associated with its use. Though a nuclear detonation is deemed capable of incinerating or irradiating and potentially rendering chemical and biological agents harmless, the collateral damage and fallout created will overshadow the benefits. By increasing the accuracy, which will allow the use of a smaller yield, the collateral effects from a nuclear weapon will be reduced. Additionally, the more penetration a nuclear weapon achieves, the greater the coupling of the energy to the ground and the less yield required to defeat an underground target. This reduced yield equates to reduced fallout. Unfortunately, the current stockpile has insufficient accuracy, too much yield, and is not robust enough to allow for adequate ground penetration. Therefore, DoD is pursuing the development of more "effective" nuclear weapons.

⁵⁵ Lykke, 183.

⁵⁶ Bush, *National Strategy to Combat Weapons of Mass Destruction*, 2.

⁵⁷ Center for Counterproliferation Research, 20-21.

⁵⁸ Allison, 107.

⁵⁹ "Pakistan Downplays Report on Nuclear Leaks to Iran, Libya," USA Today, 27 November 2004, [on-line] available from <http://www.usatoday.com/news/world/2004-11-27-pakistan-nuclear_x.htm>; Internet; accessed 20 December 2004.

⁶⁰ Allison, 24.

⁶¹ Nathan E. Busch, *No End in Sight: The Continuing Menace of Nuclear Proliferation* (Lexington, KY: The University Press of Kentucky, 2004), 3-5.

⁶² Michael Eisenstadt, "The challenges of U.S. Preventive Military Action," in *Checking Iran's Nuclear Ambitions*, ed. Henry Sokolski and Patrick Clawson (Carlisle Barracks, PA: Strategic Studies Institute, 2004), 125.

⁶³ Ibid.

⁶⁴ Center for Counterproliferation Research, 19.

⁶⁵ Frank Gibson Goldman, *The International Legal Ramifications of United States Counter-Proliferation Strategy: Problems and Prospects* (Newport, RI: Naval War College, 1997), 2-3.

⁶⁶ Eisenstadt, 126.

⁶⁷ Chairman of the Joint Chiefs of Staff, *National Military Strategy*, 11.

⁶⁸ Drell, 71.

⁶⁹ "Treaty on the Non-Proliferation of Nuclear Weapons," 1 July 1998, available from <<http://www.fas.org/nuke/control/npt/text/npt2.htm>>; Internet; accessed 21 January 2005.

⁷⁰ Joint Chiefs of Staff, Joint Pub 3-40, I-1.

BIBLIOGRAPHY

- Allison, Graham. *Nuclear Terrorism*. New York: Times Books, 2004.
- Bush, George W. *National Strategy to Combat Weapons of Mass Destruction*. Washington D.C.: The White House, 2002. Available from <<http://www.fas.org/irp/offdocs/nsdp/nsdp-17.html>>. Internet. Accessed 7 September 2004.
- Bush, George W. *The National Security Strategy of the United States of America*. Washington D.C.: The White House, 2002.
- Busch, Nathan E. *No End in Sight: The Continuing Menace of Nuclear Proliferation*. Lexington, KY: The University Press of Kentucky, 2004.
- Center for Counterproliferation Research. *At the Crossroads: Counterproliferation and National Security Strategy*. Washington, D.C.: National Defense University, April 2004.
- Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction. "Fact Sheet: Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction." Available from <http://www.wmd.gov/fact_sheet.pdf>. Internet. Accessed 11 January 2005.
- Counterproliferation Program Review Committee. *Report on Activities and Programs for Countering Proliferation and NBC Terrorism: Executive Summary*. Volume I. Washington, D.C.: Department of Defense, May 2004.
- Counterproliferation Program Review Committee. *Report on Activities and Programs for Countering Proliferation and NBC Terrorism: Volume III-Classified Appendices-Programmatics and Supporting Documentation (U)*. Washington, D.C.: Department of Defense, May 2004. SECRET
- Defense Science Board. *Report of the Defense Board Task Force on Preventing and Defending Against Clandestine Nuclear Attack*. Washington D.C.: Office of the Secretary of Defense, June 2004.
- Defense Threat Reduction Agency. "Threat Reduction." Available from <<http://www.dtra.mil/toolbox/directorates/ctr/programs/index.cfm>>. Internet. Accessed 10 December 2004.
- Drell, Sidney D. and James E. Goodby. *The Gravest Danger: Nuclear Weapons*. Stanford, CA: Hoover Institution Press, 2003.
- Eisenstadt, Michael. "The challenges of U.S. Preventive Military Action." in *Checking Iran's Nuclear Ambitions*, ed. Henry Sokolski and Patrick Clawson, 113-128. Carlisle Barracks, PA: Strategic Studies Institute, 2004.
- Goldman, Frank Gibson. *The International Legal Ramifications of United States Counter-Proliferation Strategy: Problems and Prospects*. Newport, RI: Naval War College, 1997.
- "The International Nuclear Non-Proliferation Regime," Available from <<http://www.ceip.org/files/projects/npp/ch02.pdf>>. Internet. Accessed 16 September 2004.

- Lavoy, Peter. "What's New in the New U.S. Strategy to Combat WMD?" *Strategic Insights*, Volume I, Issue 10 December 2002. Journal on-line. Available from <<http://www.ccc.nps.navy.mil/si/dec02/wmd.asp>>. Internet. Accessed 5 November 2004.
- Lykke, Arthur F., Jr., "Toward an Understanding of Military Strategy," in *US Army War College Guide to Strategy*, ed. Joseph R. Cerami and James F. Holcomb, Jr., 179-186. Carlisle Barracks, PA: Strategic Studies Institute, 2001.
- McDonough, David S. *The 2002 Nuclear Posture Review: The New Triad, Counterproliferation, and U.S. Grand Strategy, Working Paper No. 38*. August 2003. Available from <<http://www.iir.ubc.ca/pdfiles/webWP38.doc>>. Internet. Accessed 8 December 2004.
- Office of the Secretary of Defense. *Defense Planning Guide for 2004-2009* (U) Washington, D.C.: Office of the Secretary of Defense, May 2002.
- Office of the Secretary of Defense. *Department of Defense Counterproliferation (CP) Implementation*. DoD Directive 2060.2. Washington, D.C.: Office of the Secretary of Defense, 9 July 1996.
- "Pakistan Downplays Report on Nuclear Leaks to Iran, Libya." *USA Today*, 27 November 2004. On-line. Available from <http://www.usatoday.com/news/world/2004-11-27-pakistan-nuclear_x.htm>. Internet. Accessed 20 December 2004.
- Rehbein, David J. *Countering the Proliferation of Weapons of Mass Destruction; The Case for Strategic Preemption*. Strategy Research Project. Carlisle Barracks, PA: US Army War College, 1 April 1998.
- Reid, Carlton B., Jr. *Expanding Nuclear Arms Control: DoD Imperatives in the Aftermath of 11 September 2001*. Strategy Research Project. Carlisle Barracks, PA: US Army War College, 7 April 2003.
- Rumsfeld, Donald H. *Quadrennial Defense Review Report*. Washington, D.C.: Office of the Secretary of Defense, 30 September 2001.
- Schneider, Barry R. *Radical Responses to Radical Regimes: Evaluating Preemptive Counter-Proliferation*. Washington, D.C.: Institute for National Strategic Studies, 1995.
- Sokolski, Henry D. *Best of Intentions: America's Campaign against Strategic Weapons Proliferation*. West Port, CT: Praeger Publishers, 2001.
- Sokolski, Henry, and Patrick Clawson, eds. *Checking Iran's Nuclear Ambitions*. Carlisle Barracks, PA: Strategic Studies Institute, 2004.
- "Treaty on the Non-Proliferation of Nuclear Weapons." 1 July 1998. Available from <<http://www.fas.org/nuke/control/npt/text/npt2.htm>>. Internet. Accessed 21 January 2005.
- Tucker, Jonathan B., and Amy Sands. "An Unlikely Threat." *Bulletin of the Atomic Scientist*, 55, no. 04 July/August 1999. Journal on-line. Available from <http://www.thebulletin.org/article.php?art_ofn=ja99tucker>. Internet. Accessed 13 January 2005.

- U.S. Chairman Joint Chiefs of Staff. *Counterproliferation Charter (U)*, Chairman Joint Chief of Staff Instruction 5113.02A. Washington, D.C.: Office of the Joint Chief of Staff, 10 August 2000. SECRET
- U.S. Chairman Joint Chiefs of Staff. *Counterproliferation Strategy, MCM-0026-0 (U)*. Washington, D.C.: Office of the Chairman Joint Chiefs of Staff, 22 February 2001. SECRET
- U.S. Chairman Joint Chiefs of Staff. *National Military Strategy of the United States of America*. Washington, D.C.: Joint Chiefs of Staff, 2004.
- U.S. Department of Defense. *Department of Defense Counterproliferation (CP) Implementation*. Department of Defense Directive 2060.2. Washington, D.C.: U.S. Department of Defense, 9 July 1996.
- U.S. Joint Chiefs of Staff. *DoD Dictionary of Military and Associated Terms*. Joint Publication 1-02. Washington, D.C.: Joint Chiefs of Staff, 30 November 2004. Available from <<http://www.dtic.mil/doctrine/jel/doddict/index.html>>. Internet. Accessed 10 January 2005.
- U.S. Joint Chiefs of Staff. *Joint Doctrine for Combating Weapons of Mass Destruction*. Joint Publication 3-40. Washington, D.C.: Joint Chiefs of Staff, 8 July 2004.

