

Executive Summary

The danger of terrorists acquiring a nuclear weapon is real. Between 1993 and 2006, there were 1,080 confirmed incidents of illicit trafficking in nuclear materials. Eighteen of those cases involved weapons-grade materials, and another 124 involved material capable of making a so-called dirty bomb that would use conventional explosives to spread nuclear material.

—Senator Joseph Lieberman
July 16, 2008

I believe Iran is headed in the direction of building nuclear weapons and having them in their arsenal. And we need to figure out a way to ensure that that doesn't happen.

—Admiral Michael Mullen
July 20, 2008



Iranian military conducts missile test during recent exercise

Weapons of mass destruction (WMD) are the ultimate instruments of terror. It is Department of Defense policy to dissuade, deter, and defeat those who seek to harm the United States, its citizens, its Armed Forces, and its friends and allies through WMD use or threat of use, while maintaining the ability to respond to and mitigate the effects of WMD as deterrence is restored. Yet the very term *weapons of mass destruction* has been employed so casually in recent decades that the concept behind it fails to provoke apprehension—much less fear and trembling—in many, if not most, citizens. This is due in part to the fact that such weapons are, in all their myriad forms, very much abstractions. To an even greater degree than tsunamis and earthquakes, WMD events are horrors that few imagine will ever touch their lives. As a result, animating the public to shoulder the burden of expensive or risky efforts to dissuade, deter, and defeat those who appear inclined to use WMD is a challenge. After all, the use of WMD is widely (and wrongly) regarded as unthinkable for all but the most irrational. For these reasons and more, it is important for national security professionals to contemplate and communicate the complex implications of WMD before, during, and after their employment.

If it is true, as noted deterrence theorist and former Deputy Assistant Defense Secretary Keith Payne argues in *The Great American Gamble*, that U.S. policymakers in the 1960s and 1970s believed it would promote stability to expose U.S. citizens to thermonuclear attack, the calculus has since changed. The emergence of transnational terror movements covertly and overtly supported by nation-states in an age of WMD proliferation has eroded traditional deterrence. So too have the published memoirs of former U.S. leaders who claim to have been “bluffing” in past confrontations. Ironically, Russia continues to decry ballistic missile defense as destabilizing, while simultaneously building nuclear reactors in Iran, supplying uranium to fuel them, and providing state-of-the-art integrated air defenses to defend them. Yet in February 2008, Russian Foreign Minister

Sergei Lavrov insisted, “We do not approve of Iran’s actions in constantly demonstrating its intentions to develop its rocket sector and in continuing to enrich uranium.” In July 2008, the commanders of U.S. Strategic Command and U.S. European Command urged Senate leaders to approve a \$712 million request for missile defense sites in Poland and the Czech Republic. In the words of General Kevin Chilton, USAF, “We cannot wait to counter long-range, WMD-capable Iranian missiles. Deploying missile defenses in Europe would demonstrate our resolve to deter this threat, and protect our nation and allies by providing a critical capability to the war fighter.”

The Proliferation Security Initiative, announced by President George W. Bush in May 2003, continues to exercise and refine procedures to interdict shipments of WMD, delivery systems, and related materials at sea, in the air, or on land. This is just one of several recent international initiatives to augment traditional deterrence and punishment strategies. Should deterrence and interdiction fail, the secondary and tertiary effects of even a minor WMD event harbor the potential to far outstrip the direct carnage of the weapon(s). The economic dislocations alone may fundamentally change the world order in unpredictable ways, even without escalation. Personal travel, civil liberties, food production, and environmental damage will represent just part of the domestic context for strategic decisionmaking. It is common to think primarily of nuclear weapons when the subject of WMD arises, but some experts assert that biological and chemical WMD shall inevitably present a threat that equals or exceeds the effects of one or more nuclear weapons. In this issue, *JFQ* considers various weapons of mass destruction and some implications for strategic planners before and after their use.

Our first installment in the Forum is an essay from the Secretary of Homeland Security, Michael Chertoff. In speaking of biological threats to America, he notes the stark contrast between a nuclear and a biological WMD attack. The first starts with a bang, and the second arrives with “a whimper,” requiring hours or days before the magnitude



Lt Gen Henry Obering, Director, Missile Defense Agency, briefs press on status of Missile Defense Program

U.S. Air Force (Jeremy Morrison)

of the disaster is realized. Because natural biological pandemics *do* occur, it is essential that the Federal Government accurately and expeditiously determine the provenance of the outbreak. Advance planning is the only way to mitigate the attendant risk, and Secretary Chertoff identifies three categories of focus: awareness and detection, prevention and protection, and finally, response and recovery. A panorama of planning and legal issues has yet to be resolved, such as restrictions on movement and measures to control infection, both of which fall within the jurisdiction of the states. If the Federal Government is not able to trump individual states in these areas, chaos could ensue. The Secretary's bottom line is that "the time to have thorough, candid, and public conversations about these issues and tradeoffs is today, before anything happens tomorrow."

The second Forum entry is a superb advocacy narrative from Clark Murdock at the Center for Strategic and International Studies. Dr. Murdock persuasively argues that the U.S. strategic nuclear mission has been neglected since the fracturing of the Soviet Union and that this development undermines deterrence. He assures readers that the vision of a world without WMD is a fantasy. On the contrary, a

nonstate actor is *likely* to use a nuclear device in a terrorist attack. Yet there seems to be a "nuclear allergy" of antipathy, or just apathy, toward this prospect in Washington that has led senior civilian leaders to "mainstream" nuclear weapons to lower levels of oversight. Dr. Murdock challenges Washington to get serious about its nuclear strategy, policy, and force posture. As a remedy, he recommends the establishment of a U.S. Nuclear Forces Command, which "would end Department of Energy risk-averse micromanagement of the nuclear complex." He would also appoint a National Security Council special assistant to the President for nuclear issues. Dr. Murdock writes, "It is far better for the United States to have a credible nuclear deterrent than to feel compelled to employ a nuclear weapon because its nuclear deterrent failed."

The third Forum article questions the current national policy of using nuclear weapons as an option to retaliate against chemical-biological (CB) weapons. Albert Mauroni asserts that while terrorists have attempted to use crude industrial chemicals in the past, there have been no successful uses of military-grade CB warfare agents resulting in a mass casualty event. Military analysts and academ-

ics, he complains, apply an outdated Cold War model to the current and future employment of CB weapons, resulting in the stagnation of ideas and concepts regarding how the United States ought to address the threat of terrorist WMD incidents. The Cold War concept of massive CB weapons employment combined with arms control discussions on the impact of unconventional weapons served to conflate CB munitions with WMD. He argues that the CB threat is actually much more manageable than experts believe and that many nation-states have recognized their national security goals have changed, devaluing the massive use of nuclear, biological, and chemical (NBC) weapons. Due to the limited number of actual NBC warfare cases throughout history, there is a great deal of supposition and little actual experience by which to analyze and predict how future state and nonstate players might employ these unconventional weapons. He concludes that deterrence will not work against a nonstate actor employing CB WMD.

Our fourth installment is a natural complement to the second. Like Dr. Murdock, Stephen Cimbala speaks to the erosion of deterrence, in this case the rhetorical deterrence of declaratory policies addressing "first

use” or “first strike” for the purpose of threat preemption and prevention. Due to proliferation, political and military leaders in both the East and West have increased the frequency of public declamations on issues such as preemption of nonstate actors, which previously were treated as internal military matters.

Dr. Cimbala presents a methodology for analyzing various aspects of the first use/first strike and preemption/prevention problems as they might play out in alternative nuclear “worlds.” This analysis leads him to the conclusion that current declaratory policies against transnational terrorists and the states that harbor them are unlikely to deter WMD terrorism. Furthermore, nuclear weapons are probably not the right tools for the preemption of nonstate actors. Improved intelligence, conventional munitions, and international cooperation are the best courses of action to achieve desirable outcomes.

The fifth essay picks up where Dr. Cimbala’s essay leaves off in the area of improved international cooperation to deal with the problem of WMD proliferation. Paul Bernstein’s argument begins with the security context of accelerating globalization, especially in the arenas of technology and politics. Technologies with both legitimate and WMD applications are spreading globally at the same time that traditional state power is eroding and less powerful nations seek to challenge the status quo through applications of violence. As globalization promotes proliferation, the United States has attempted to augment traditional deterrence with a greater focus on practical cooperation with international security partners to build defense and response capabilities. These flexible networks give many nations a stake in combating WMD, contribute to shared security goals, foster a common understanding of the threat, and build habits of cooperation over time. After detailing the most important of these efforts, Dr. Bernstein presents the challenges ahead and enjoins the next U.S. President to establish a framework for action that will strengthen an international consensus for greater practical cooperation.

Our sixth Forum article addresses North Atlantic Treaty Organization (NATO) efforts to mitigate the erosion of deterrence by fielding an integrated ballistic missile defense. Peppino DeBiasi begins by outlining the security changes that the United States and its NATO allies have endured since the breakup of the Soviet Union, presenting all concerned with

broader and more complex challenges today. The current U.S. long-range missile defense proposal would place 10 ground-based interceptors in Poland, supported by a fixed X-band radar in the Czech Republic. The data collected by this radar, optimized to detect ballistic payloads from the Middle East, would guide interceptors to nonexplosive yet catastrophic collisions. Individual alliance members are already pursuing shorter range missile defense shields to be incorporated into a layered theater ballistic missile defense system that is compatible with the U.S. long-range system. Despite strong objections from Russia, the long lead time for building and deploying missile defenses in the face of a growing threat increases the urgency for timely, comprehensive action. Dr. DeBiasi concludes by identifying four concurrent areas of attention that together will strengthen NATO readiness to adapt to the rapidly changing security environment.

The next Forum entry was solicited to assess the readiness of the United States to respond domestically in the aftermath of a chemical, biological, radiological, nuclear, or high-yield explosive (CBRNE) attack. Colonel Zygmunt Dembek compares historic U.S. civil defense preparations to those of contemporary readiness and Israel’s exemplary posture. A high degree of readiness is impossible until society is willing to pay the social and economic price, making deterrence and early warning systems critical. Colonel Dembek emphasizes that concern for the national level of preparedness must begin with health care providers and the hardening of the U.S. health care infrastructure. He takes the reader on a survey of military organizations, educational opportunities, and leadership roles that contribute significantly to disaster response and recovery. He concludes with an assessment of the relative effectiveness of civilian versus military leadership in the face of national emergencies.

The concluding Forum article also addresses a domestic mass casualty scenario and the practical lessons gleaned from the U.S. Northern Command exercise Ardent Sentry 2007 (AS07). This consequence management evaluation featured a no-warning terrorist detonation of a 10-kiloton nuclear device in metropolitan Indianapolis, killing 15,000 and injuring 21,000 more. Michael Snyder and Thomas Sobieski focus on the planning implications of the difference between decontamination operations conducted in a defense support to civilian authorities (DSCA) environment

and that done by military decontamination units in combat. In a large-scale catastrophic event where state and local capabilities are overwhelmed, the Federal Government, with the Department of Homeland Security as lead agency, assists in mitigating effects. But because the decontamination gear employed by military personnel is incompatible with that used by civilians, the authors argue that all elements of the DOD response community must become familiar with civilian equipment and procedures. They also present a list of special considerations for CBRNE planners for the DSCA role. The procedures and capabilities to conduct mass decontamination have undergone dramatic changes, and DOD personnel can expect to be asked to augment local first responders, whether they are ready or not.

As usual, the final offering in this issue is our Recall feature. In it, nuclear weapons designer and former Secretary of the Air Force Thomas Reed, along with co-author Danny Stillman, a former Los Alamos physicist, address the early history of WMD. In the Prologue of their forthcoming book, *Nuclear Express*, they make the following observation:

Ever since the 1945 Trinity event, nuclear politics have been challenging our ability to survive. As one century gives way to another, nuclear weapons are falling into less well-manicured hands, but their purpose remains the same: to effect a drastic change in the geopolitical status quo. It was once the surrender of Japan or the halting of Soviet expansion that we Americans sought. It is now the eradication of Western culture or the abolition of the state of Israel that the Islamic extremists seek. A million lives may be lost along the way, but Armageddon is not necessarily the objective of these nuclear acolytes.

In 2001, a transnational terrorist organization was able to incite a powerful nation-state to wage war against two other states. If it is possible for transnational terrorist organizations to instigate conventional state conflicts to suit their own purposes, then it must also be possible and even desirable from their perspective to do so with WMD. Whatever their objectives, it is obvious that we need to identify these actors as they emerge and deter or deny them the opportunity to employ the most extreme form of terror. **JFQ**

—D.H. Gurney