

8. PREVENTING NUCLEAR TERROR

The problem of terrorists utilizing nuclear weapons is the classic case of a low probability/high consequence policy conundrum. Terrorists almost certainly cannot build a nuclear weapon, and it had been unlikely that they would obtain one from a nation state. Unfortunately, the proliferation of nuclear weapons to Pakistan, North Korea, and Iran now increases the likelihood of terrorists obtaining a nuclear device. Controls on the Russian nuclear inventory also are a source of concern. If terrorists did obtain and utilize a nuclear weapon, the results could be extremely catastrophic and hard to overestimate. The problem may be simply stated:

- ◆ Nonproliferation and counterproliferation have not successfully eliminated the threat of terrorist access to nuclear weapons or materials.
- ◆ Deterring terrorists with the objective of causing mass casualties will be extremely difficult, if not impossible.
- ◆ Upgrading domestic preparedness for nuclear terrorism will (1) be expensive, and (2) only slightly improve the chances of preventing an attack.

From a policy perspective, preventing nuclear terrorism is unique. Political historians would be challenged to find a policy problem in which all political perspectives agree that the scope of the problem is enormous, the policy solutions widely recognized and accepted, and yet the progress of implementing solutions so painfully and dangerously slow.

This chapter (1) analyzes the potential sources of nuclear material and weapons that could be acquired by terrorist organizations and what we are doing to prevent that from happening, (2) assesses current domestic efforts to prevent a nuclear terrorist attack, and (3) proposes specific policy options that address multiple aspects of the threat.

THE THREAT IS REAL

We can safely assume that terrorist organizations as well funded as al Qaeda wish to gain access to either a nuclear weapon or to fissile material. Despite the destruction of their headquarters and training ground in Afghanistan, al Qaeda's network is still capable of "catastrophic attacks." CIA director George Tenet confirmed that al Qaeda has repeatedly sought to acquire a nuclear device. Earlier this year, he told the Senate Intelligence Committee that attacking the United States with nuclear weapons remains a "religious obligation" in Osama bin Laden's eyes.¹

Despite almost universal acceptance among intelligence analysts that terrorists have tried to acquire and would readily use nuclear weapons, supporting open-source evidence is scant. However, one well-documented episode involving al Qaeda and Pakistani nuclear experts illustrates the point. According to the *Washington Post*, in August 2001, bin Laden met with two key former officials from Pakistan's nuclear weapons program. Over the course of three days of intense discussion, he and Ayman al-Zawahri quizzed Sultan Bashiruddin Mahmood and Abdul Majeed about chemical, biological, and especially nuclear weapons.² Al Qaeda had sought out Mahmood, one of Pakistan's leading specialists in uranium enrichment, for his capabilities, his convictions, and his connections. Mahmood's career spanned thirty years at the Pakistani Atomic Energy Commission, and he had been a key figure at the Kahuta plant that had produced the enriched uranium for Pakistan's first nuclear bomb in 1998. After his forced departure from Pakistan's Atomic Energy Agency in 1999, Mahmood founded a "charitable agency" with Majeed, who had served as director of Pakistan's Atomic Energy Commission. Ominously, Mahmood predicted in an essay that "by 2002, millions may die through mass destruction weapons, terrorist attacks, and suicide."³

Mahmood and Majeed were arrested in October of 2003 and questioned by joint Pakistani-CIA teams. According to Mahmood, bin Laden was particularly interested in nuclear weapons. Bin Laden's colleagues told the Pakistani scientists that al Qaeda had succeeded in acquiring nuclear material for a bomb from the Islamic Movement of Uzbekistan. Mahmood explained to his hosts that the material in question could be used only in a "dirty bomb." Al-Zawahri and the others then sought Mahmood's help in recruiting other Pakistani nuclear experts who could provide uranium of

the required purity, as well as assistance in constructing a nuclear weapon. Pakistani officials indicated that Mahmood and Majeed “spoke extensively about weapons of mass destruction” and provided detailed responses to bin Laden’s questions about the manufacture of nuclear, biological, and chemical weapons.⁴

In the end, U.S. intelligence agencies have concluded that Mahmood and Majeed had provided bin Laden with a blueprint for constructing nuclear weapons. The CIA’s summary of the matter, according to President Bush, concluded that although Mahmood and his charity claimed “to serve the hungry and needy of Afghanistan,” in fact they “provided information about nuclear weapons to Al Qaeda.”⁵

LOOKING FOR NUKES?

There are three main sources through which al Qaeda or similar organizations could acquire nuclear weapons:

THEFT: The single largest potential source of nuclear devices and fissionable material is the storage houses of the former Soviet Union. Fissile material from the former Soviet Union has been intercepted on seven different occasions in Europe since the end of the Cold War.⁶ The remaining material is poorly guarded, and both theft and corruption pose threats to U.S. interests.

BLACK-MARKET PURCHASE: The Pakistani “Father of the Islamic Bomb,” A. Q. Kahn, openly admitted that he had developed a nuclear proliferation-based business. The magnitude and ease with which he perpetrated the proliferation of weapons blueprints, parts used to enrich uranium for weapons, and nuclear expertise to countries such as North Korea, Iran, and Libya demonstrates the danger of the black market.

STATE SPONSORSHIP: As early as 1987, the International Task Force on Prevention of Nuclear Terrorism reached the conclusion that state sponsorship was increasing the probability of nuclear terrorism. States such as North Korea and Iran have aggressively sought to acquire nuclear weapons and have simultaneously sponsored terrorism.⁷

RUSSIA: Nuclear weapons and material from Russia offer terrorists the best opportunity to secure the necessary resources for an attack. At the end of the Cold War, 22,000 tactical nuclear weapons remained in fourteen of the fifteen newly independent states of the former Soviet Union. The small, relatively easily portable weapons played an integral role in the defensive strategy of the Soviet military units stationed there.⁸ In 1991, Dick Cheney, the U.S. secretary of defense at the time, observed that recovery of 99 percent of the weapons would constitute “excellent” performance.⁹ But the loss of even 1 percent would have left 220 weapons unaccounted for and available to terrorist organizations.

In its February 2002 report to Congress on nuclear risks from Russia, the National Intelligence Council—the organization responsible for the U.S. intelligence community’s most authoritative judgments—confirmed four cases between 1992 and 1999 in which “weapons-grade and weapons-usable nuclear materials have been stolen from some Russian institutes.” The bottom line: “Undetected smuggling has occurred, although we do not know the extent or magnitude.”¹⁰

Skeptics say that the threat of terrorists securing a nuclear capability in Russia is overstated, and our Nunn-Lugar proliferation prevention money there ill-spent. The recent spate of terrorist attacks in Russia, including the horrific attack on the school in Beslan, suggests otherwise. During the height of the terror crisis in September, 2004, President Vladimir Putin ordered the deployment of extra troops to guard dozens of nuclear facilities across the country. “After the latest terrorist attacks, security services decided to send more interior ministry troops to all nuclear sites across the country,” a Russian Atomic Energy Agency spokesman said.¹¹ Clearly, a nation confident about the security of its nukes would not rush to reinforce facilities during a major crisis.

PAKISTAN: Recent revelations that Pakistan’s “Father of the Islamic Bomb,” Dr. A. Q. Kahn, assisted Iran, North Korea, and Libya in developing their nuclear weapons programs has greatly shaken the faith in Pakistani leader Pervez Musharraf. Rather than prosecuting Kahn and the extensive network of personnel who supported his proliferation activities, Musharraf granted Kahn a pardon. Although Musharraf claimed that Kahn’s popularity as a national hero prevented him from taking stronger measures, evidence strongly supports the assertion that the Pakistani military, and perhaps Musharraf himself, allowed the proliferation.

Kahn openly admitted that two former army chiefs supported his proliferation activities. The magnitude and ease with which the Pakistanis perpetrated the proliferation of weapons blueprints, parts used to enrich uranium for weapons, and nuclear expertise also indicate support from the highest levels of leadership. Musharraf's "reassuring" claim that all proliferation activities ended in the 1990s, before he established the National Command Authority over the nuclear program, should not relieve U.S. concern about this issue.

Pakistan has enough enriched uranium stockpiled for fifty-two more nuclear weapons, in addition to the forty-eight it already deploys. Pakistan is a committed nonsignatory to the Nuclear Non-Proliferation Treaty (NPT) and has declared that it is unprepared to allow any degree of inspection by the International Atomic Energy Association (IAEA).

NORTH KOREA: In October 2002, the North Koreans admitted to the Bush administration that they had developed a secret uranium enrichment program, which was almost certainly based on Pakistan's centrifuge blueprint. By the end of the year, they expelled IAEA inspectors from the country, withdrew from the Nuclear Non-Proliferation Treaty, and began reprocessing the 8,000 spent fuel rods from the Yongbyon nuclear reactor that they had agreed to freeze in 1994—enough for about five or six bombs. As Washington and Pyongyang remain at a stalemate, the North Koreans have been reprocessing plutonium, enriching uranium, and completing construction of facilities that will be able to produce about a dozen nuclear warheads a year.¹²

Given North Korea's well-known reputation for sponsoring organized crime and selling missile technology to anyone with hard currency, and Kim Jung-Il's hatred for the United States, the possibility that the country would provide terrorists with a nuclear capability is not unrealistic.

IRAN: During 2004, Iran has refused to abandon plans to process enriched uranium, an essential step in the development of nuclear weapons, despite pressure from the international community. Although Iran almost certainly does not possess a nuclear capability, the country's sponsorship of terrorist organizations in the past makes it a distinct potential threat in the immediate future.

WORKING TO PREVENT THE WORST WHERE ARE WE NOW?

The National Security Strategy, released by the Bush administration in September 2002, identifies terrorists armed with weapons of mass destruction as the “gravest danger” facing the United States. In order to address that threat, the administration formulated the much-debated doctrine of preemptive strike. In sum, the United States must be prepared to stop “rogue states and their terrorist clients” before they threaten to use WMD.¹³ Although the flawed intelligence that provided the justification for attacking Iraq has placed the doctrine under increased scrutiny, preemption will likely remain an important part of American counterterrorism policy in the future.

The Nunn-Lugar program was funded in order to prevent the proliferation of weapons and technologies of mass destruction (nuclear, biological, chemical) that had been developed and stockpiled by the Soviet Union. The program has multiple dimensions, ranging from improving security at former Soviet nuclear research facilities and safeguarding used nuclear material to finding productive civilian research and other projects for the scientists and engineers who worked on these programs so they are not tempted to sell their wares (and especially, their brains) to the highest bidder. The program initially started in the Defense Department, but most of the budget now rests with the State Department under the rubric “Cooperative Threat Reduction” (CTR).

The Nunn-Lugar program has proven to be the most effective we have for securing and eliminating nuclear, chemical, and biological weapons in the former Soviet Union. The 9/11 Commission Report weighed in with another important endorsement of the Nunn-Lugar program, saying that “[p]reventing the proliferation of [weapons of mass destruction] warrants a maximum effort—by strengthening counter-proliferation efforts, expanding the Proliferation Security Initiative, and supporting the Cooperative Threat Reduction Program.”¹⁴ President Bush, however, cut the funding for the current Nunn-Lugar program in the budget he recently submitted to Congress from \$451 million to \$409 million.¹⁵

In many ways, bureaucratic politics make us our own worst enemy when it comes to implementing the foreign policy intended to protect the nation from nuclear terrorism.

Although the State Department leads the interagency policy process on nonproliferation and manages global U.S. nuclear security policy, it

does not control the funding or operational aspects of many programs. As with other problems that require extensive interagency cooperation, the lack of strong leadership from the White House, in both the Clinton and Bush administrations, has slowed progress. In the words of Graham Allison, "Today, if the president asked at a Cabinet meeting who is responsible for preventing nuclear terrorism, six or eight hands in the room might go up, or none at all."

Department of Defense efforts under the CTR program focus on providing assistance to the newly independent states of the former Soviet Union in meeting their strategic arms reduction obligations under START I and eliminating or safeguarding their WMD infrastructure. The CTR program has carried out projects in Russia, Ukraine, Belarus, Kazakhstan, Latvia, Lithuania, and Uzbekistan. The Defense Threat Reduction Agency is responsible for threat reduction to the United States and its allies from WMD through the execution of technology security activities.

Programs managed by the Department of Energy (DOE) focus on ensuring the security of Russian nuclear materials, disposing of excess fissile materials, and preventing the "brain drain" of Russian nuclear scientists. Key activities include the Materials Protection, Control, and Accounting (MPC&A) program, which improves the security of fissile materials in the newly independent states by providing security upgrades to selected nuclear facilities, promoting consolidation of nuclear materials in central sites, and improving nuclear materials accounting procedures. The DOE also runs two initiatives that seek to provide alternative employment opportunities for past workers of the Russian nuclear industrial complex, reducing the risk that individual scientists might transfer weapon design know-how to countries of concern.

The Proliferation Security Initiative (PSI), led by the State Department, was developed by the Bush administration in response to the growing challenge posed by the proliferation of weapons of mass destruction, their delivery systems, and related materials worldwide. The PSI seeks to involve in some capacity all states that have a stake in nonproliferation and the ability and willingness to take steps to stop the flow of such items at sea, in the air, or on land. The PSI also seeks cooperation from any state whose vessels, flags, ports, territorial waters, airspace, or land might be used for proliferation purposes by states and nonstate actors.

In March 2001, six months before 9/11, national intelligence officer Robert Walpole testified to a Senate subcommittee, "Non-missile delivery means [of a weapon of mass destruction] are less costly, easier to

acquire, and more reliable and accurate.”¹⁶ The United States would clearly prefer to prevent terrorists from acquiring the means to attack before they reach the homeland; however, we must be prepared for the strong possibility that our foreign policy efforts will not succeed entirely.

Compared with the overall budget for defense spending, the amount dedicated to guarding against the threat of nuclear terrorism at home is small. In 2004, spending on WMD has amounted to approximately \$4 billion of the \$40 billion in the DHS budget, whereas the counterproliferation programs of the Defense Department amount to \$2 billion of its \$400 billion budget.

Acquiring a nuclear weapon is still difficult, but there is a high probability that terrorist organizations such as al Qaeda already possess the capability to develop radiological weapons, or “dirty bombs.” In November, 1995, for example, Chechen terrorists threatened to detonate a package containing radioactive Cesium 137 in a Moscow park. Radiological bombs cannot cause mass casualties, but their radiation can cause long-term illness, psychological terror, and limited access to key facilities for an extended period.

The genuine threat of both nuclear and radiological attack makes a viable and effective response absolutely essential. Nuclear Emergency Search Teams (NEST) play a critical role. The mission of NEST is to assess the likelihood of nuclear threats, find nuclear devices, and disable them. A “volunteer fire department for the atomic age,” NEST personnel include 1,000 highly trained volunteers, including physicists, engineers, chemists, and mathematicians, who work throughout the country in nuclear laboratories and with private contractors. When deployed to investigate a potential nuclear incident, these “nuclear ninjas” often disguise themselves as tourists or local residents, with their gamma ray and neutron detectors hidden inside briefcases, beer coolers, or book bags.

RECOMMENDATIONS

Although many policy refinements would improve our battle to prevent nuclear terrorism, the starting point for any decisive change must be leadership. In conceiving, organizing, and orchestrating the elements of the U.S. government to focus intensely on the nuclear terrorism issue, one person must have lead responsibility and be held accountable. One commonly

discussed notion for improving the U.S. effort on this front is to establish a “czar” to establish policies, priorities, and objectives for combating WMD proliferation, as well as to set budgets and guidelines for cooperation among the various federal agencies and departments involved. In his latest book, *Nuclear Terrorism: The Ultimate Preventable Catastrophe*, Graham Allison stated: “The president should appoint an individual of stature who reports directly to him as his commander in a real war on nuclear terrorism.” Although the idea has been much discussed, much more work is needed on how to operationalize such a notion.

Meanwhile, the first line of defense against nuclear terrorism should include nonproliferation regimes, export controls, and diplomatic sanctions. Initiatives to enhance nonproliferation should include:

DENIAL: Efforts should be increased to deny access to nuclear weapons for the “have-nots” of the Nuclear Non-Proliferation Treaty, since horizontal proliferation increases the risk of terrorist access to nuclear weapons. The present international export regime is insufficient and should be tightened. The acceptance of the “peaceful atom” creates ambiguity, and the export of nuclear dual-use material to countries under suspicion could be banned.

DISARMAMENT: The United States should offer to purchase Russia’s nuclear material (at a cost of \$4 billion per year for five years) to reduce the threat of loose nukes from Russia. Additional efforts could address the weakness of the enforcement and verification mechanisms of the Nuclear Non-Proliferation Treaty and aim at increasing the international tools for actively disarming proliferators.

DIPLOMACY: The United States should pursue international and bilateral sanctions against proliferating states such as North Korea and Iran by terminating international aid and trade while offering relief upon termination of nuclear programs.

A new National Strategy to Combat WMD should emphasize the need for counterproliferation initiatives. Further initiatives to enhance counterproliferation could include:

DEFUSING: The Nunn-Lugar program could be expanded from subsidizing the safeguarding of the fissile material of the former Soviet Union

to the collection of enriched uranium worldwide. To effectively meet this objective, resources allocated would have to be considerable and could be in the range of \$1 billion to \$5 billion annually.

DETERRENCE: The United States should continue to threaten state and nonstate actors that coddle potential nuclear terrorists with massive retaliation upon use of nuclear weapons against the United States.