Center for the Study of Weapons of Mass Destruction

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Can al Qaeda Be Deterred from Using Nuclear Weapons?

by Lewis A. Dunn

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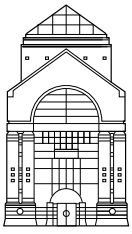
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Can al Qaeda Be Deterred from Using Nuclear Weapons?

The use of a nuclear weapon would be the ultimate al Qaeda terrorist outrage. Over the past decade, however, the prevailing assessment of the likelihood of terrorist acquisition and use of nuclear (specifically), biological, chemical, or radiological (NBC/R) weapons has been reversed.[1] In the 1990s, most policymakers and analysts were highly skeptical of warnings of terrorist use of these weapons. Today, the widespread assumption is that al Qaeda's acquisition of NBC/R weapons would be rapidly followed by their use—that is, employment via the release of an agent, the dispersal of radiological materials, or the detonation of a nuclear explosive. This paper explores that proposition. In so doing, it seeks to illuminate the conditions and calculations that could shape al Qaeda's posture regarding employment of NBC/R weapons, as well as to highlight possible contributions to the overall U.S. war on terror "at the margin" of deterrence.

Al Qaeda Use of WMD: Is There Even a Question?

American officials and others within the defense and foreign policy communities work under the assumption that acquisition of NBC/R weapons by al Qaeda would be tantamount to their employment. In large part, this judgment reflects a perception of the overriding goal of Osama bin Laden and the organization's other senior leaders and followers as being "to kill us before we kill them." So viewed, nuclear weapons and more lethal, contagious biological weapons agents promise more loss of American life than even the death and destruction wrought by the suicide bombers on September 11, 2001. In addition, the proven readiness of al Qaeda members to die for their cause reinforces a judgment that little if anything can be done to deter them from that course. As President George W. Bush noted in his February 11, 2004, address at the National Defense University:

> In the past, enemies of America required massed armies, and great navies, powerful air forces to put our Nation, our people, our friends and allies at risk. In the Cold War, Americans lived under the threat of weapons of mass destruction, but believed that deterrents made those weapons a last resort. What has changed in the 21st century is that, in the hands of terrorists, weapons of mass destruction would be a first resort—the preferred means to further their ideology of suicide and random murder.[2]

At the least, prudent policymaking demands that officials assume "acquisition equals employment" is correct and that the U.S. Government takes all steps to prevent al Qaeda's access to NBC/R weapons. But for several reasons aside from taking a contrarian approach, it may be valuable to step back to assess this prevailing judgment.

One reason to examine the perception that employment of NBC/R weapons would be a first resort is that today's consensus on al Qaeda's use of these weapons stands in contrast to many earlier views on use. From the 1970s through the 1990s, for instance, the policy and analytic communities periodically debated whether terrorists would use nuclear weapons to wreak havoc—for example, by attacking nuclear power plants. The prevailing consensus was that terrorist groups would not cross the boundary into nuclear terrorism. In part, that conclusion reflected an assessment that any such use would clash with the more political and temporal objectives of the terrorist groups in question—from the Irish Republican Army to the Tamil Tigers of Sri Lanka. Even after the Japanese group Aum Shin Rikyo released sarin in the Tokyo subway in 1995 and attempted unsuccessfully to aerosolize anthrax in downtown Tokyo, debate persisted about whether Aum was an outlier group or a harbinger of what was to come. Policymakers still held the view that terrorist groups would lack either the capabilities or the intentions to make the jump to NBC/R terrorism.

A second reason for examining this judgment is that there would be important policy implications if acquisition does not necessarily mean employment under certain conditions. Actions to enhance deterrence would take on greater importance—and feasibility—as a complement to more active measures against Osama bin Laden and al Qaeda. This would increase the importance of efforts to shape perceptions among al Qaeda leaders of the possibility that nuclear or biological weapons use could backfire, alienating the very audience the organization seeks to rally to its side: the wider Islamic community. But scant thinking has been given to either area due to the assumption that deterrence is doomed to fail.

Over the past decades, many U.S. national security policy blunders have been rooted in prevalent mindsets about specific realities. From the expectation of a popular revolt that would have supported the 1961 Bay of Pigs invasion of Cuba to the belief that U.S. forces would be welcomed as liberators in Iraq, from periodic proliferation surprises to the surprise of al Qaeda's September 11, 2001, attacks, this pattern has been persistent. For that reason, it is useful to step back to examine the current assessment about al Qaeda's readiness to employ any and all

types of NBC/R agents, materials, or weapons. If the final analysis indicates that there is little if any reason to question that judgment, so be it.

Finally, exploring this question of whether acquisition equals employment provides insight into how Osama bin Laden and his closest associates, in what may be termed the "al Qaeda center," might approach the use of NBC/R weapons. That is, it helps to generate propositions about the purposes that might be served by different types of weapon use, how al Qaeda might undertake these uses, and the relative usability under various conditions of the different types of unconventional weapons.

This paper pursues four different but complementary approaches to dissect the issue of whether acquisition of NBC/R weapons will mean employment for Osama bin Laden and al Qaeda. The first approach considers publicly available ground truth—that is, the evidence reflected in attempted, aborted, and alleged al Qaeda terrorist attacks as well as in their planning and preparations. A second approach examines the personnel makeup of al Qaeda—the different individuals who comprise this organization and their readiness to jump to new levels of violence. Examination of the extent to which NBC/R weapon use would be consistent with al Qaeda's operational code provides the third approach. Finally, the analysis considers the consistency of NBC/R weapon employment with Osama bin Laden's overall vision of an Islamic revival from the Persian Gulf to Southeast Asia—and, in particular, whether a nuclear detonation would help or hurt the realization of that vision.

In exploring this question, the following analysis focuses on whether acquisition equals the actual employment of NBC/R weapons. Other uses of nuclear weapons—in effect, as instruments of blackmail and deterrence—might be highly attractive to bin Laden and the al Qaeda center. So viewed, it is conceivable that, for bin Laden, nuclear weapons could be too valuable to detonate.

Ground Truth: Much Smoke, Some Fire?

Publicly available information amply indicates continuing interest and efforts by al Qaeda to develop or otherwise acquire NBC/R weaponry. This information ranges from hard evidence to reports and allegations (see table 1). There also have been several public reports of aborted plots or operations entailing the possible use of chemical, biological, or radiological weapons. It is important to consider several dimensions of this evidence.

Reports and Allegations

Since the late 1990s, there have been assertions of al Qaeda's efforts to purchase nuclear weapons, nuclear weapons materials, biological and chemical weapons, and nuclear waste or radiological sources for use in radiological dispersal devices (RDDs). Some reports and allegations have gone so far as to claim the successful purchase or production of NBC/R weaponry. Several of these reports apparently have been based on leaked intelligence agency assessments.

Table 1. Al Qaeda and NBC/R Weaponry: A Snapshot

Type/Status	Nuclear	Biological	Chemical	Radiological
Reports and allegations	Attempted or successful purchase of suitcase bomb (1998, 2001, 2002) Attempted purchase of nuclear materials (1998, 2000, 2001)	Successful purchase of anthrax, plague, other (1997, 1999, 2000, 2001, 2002) Afghanistan, Iraq training, experiments by Ansar al-Islam (2001, 2002)	Attempted or successful purchase of chemical agents (1997, 1998, 1999, 2002) Sudan or Afghanistan: production (1997, 1998, 1999, 2002) Afghanistan: training (2001)	Production of radiological dispersal device (2002, 2004) Russia, elsewhere: attempted purchase of nuclear waste, radiological materials (2001, 2002, 2004) Warnings (2004)
Hard evidence	Contacts with Pakistani nuclear scientists (2001) Afghanistan: seized documents (2001, 2002) Arrests, interrogations, and detainee testimony (1998, 2001, 2002, 2003, 2004)	Afghanistan: seized training manuals, files, labs—ricin, botulinum toxin, overall bio program (2001, 2002) Arrests, interrogations, and detainee testimony (2002, 2003, 2004)	Afghanistan: seized training manuals, files, experiments, labs—cyanide, other (2001, 2002) Arrests, interrogations, and detainee testimony (2002)	Afghanistan: seized documents (2002) Arrests, interrogations, and detainee testimony (2002)
Aborted plots and operations		London: ricin (2003)	London subway: cyanide (2002) U.S. Embassy, Rome (2002) Amman, Jordan: unspecified (2004)	Arrest of Jose Padilla (2002)

Note: This table draws on a wide range of press reporting, as well as on Kimberly McCloud, Gary A. Ackerman, and Jeffrey M. Bale, "Chart: Al-Qa'ida's WMD Activities," Center for Nonproliferation Studies, Monterey Institute of International Studies. Dates in parentheses refer to year of report, usually close in time to when the event occurred.

Hard Evidence

Unlike reports and allegations, materials seized and activities uncovered as a result of the U.S.-led military action against al Qaeda and the Taliban government of Afghanistan provide hard and credible evidence of al Qaeda's interest in acquiring NBC/R weapons. Some evidence demonstrated actual production, particularly of biological (ricin and botulinum toxin) and chemical (cyanide) agents. Research and experiments, as well as paper analyses, for nuclear weapons were also uncovered. Contacts with Pakistani nuclear weapon scientists provided further evidence of this exploration of nuclear weaponry. Officials derived more confirmation from the interrogation of al Qaeda detainees (in and outside of

Afghanistan) as well as from trial testimony of arrested al Qaeda personnel. Based on this evidence, however, there appeared to be significant gaps in al Qaeda's NBC/R know-how and capabilities.

Aborted Plots or Operations

Several attempts by individuals linked to al Qaeda to use biological or chemical weapons in terrorist attacks have been aborted. As summarized in table 1, a plot in 2003 to use ricin apparently was disrupted by the British authorities, as was an earlier plot to release cyanide in the London subway. Jordanian authorities also claimed in April 2004 to have disrupted an al Qaeda plan to release a chemical agent in Amman. (A tape recording released by al Qaeda denied that any such attack had been planned.[3]) U.S. authorities have stated that the arrest of Jose Padilla in 2002 broke up a planned operation to acquire and use a radiological weapon.

One Initial Bottom Line

In addition to leaving little doubt of the continuing efforts of Osama bin Laden and al Qaeda's senior leadership to produce or purchase NBC/R weaponry or materials, this mix of reports, evidence, and plots bears directly on the question of whether acquisition equals employment. Specifically:

Lethal Chemical, Noncontagious Biological—Yes: In the case of either highly lethal but noncontagious biological agents (such as ricin) or chemical agents (such as cyanide), the series of aborted plots supports a conclusion that acquisition does equal employment. Only effective police work in London, Paris, Rome, and Amman headed off the release of such chemical and biological agents. (This still leaves open the question of whether the acquisition of contagious biological agents, such as smallpox, would mean employment.)

Radiological Weapons—Perhaps, but Why Not Yet? For radiological weapons, Jose Padilla's arrest and charging with planning an RDD attack appear to confirm the judgment that acquisition would equal employment, as do more recent authoritative warnings of planned attacks.[4]

It is somewhat surprising that no RDD terrorist attack has yet to occur, given the evidence and allegations of continuing al Qaeda radiological-related activities. Radiological source materials are widely available in the medical field and industry. Nuclear spent fuel is considerably more difficult to handle and for the most part is better secured, although gaps do persist. Relatively straightforward if not simple techniques exist to disperse the material using available explosives. Though likely to result in an inefficient dispersal of material, those techniques would suffice to

produce considerable public panic and psychological disruption, if less long-term environmental damage.

Detonation of a simple RDD, however, would lack one important characteristic from al Qaeda's perspective: the type of "visually pleasing destruction" that has so often characterized its attacks, particularly the September 11 attacks. Such destruction is especially important to al Qaeda if its main audience is the public in many Islamic nations around the globe.[5] So viewed, the record of existing ground truth could be taken to suggest that for radiological attacks the jury is still out on whether possession would equal employment.[6]

Nuclear Weapons—Means Still Lacking, or Anything Else at Work? Given the range of information suggesting al Qaeda's interest in acquiring nuclear weapons, it could be reasonably assumed that only the lack of means explains why there has yet to be an al Qaeda–orchestrated nuclear attack. Lack of materials and limited expertise may be preventing manufacture of an improvised nuclear device and/or purchase of a full-up weapon unavailing. But the absence of aborted plots or operations to use a nuclear weapon—despite the many allegations of al Qaeda's purchase of nuclear weapons or materials—stands in partial contrast to that conclusion. Lack of publicly known detainee statements or testimony of involvement in preparations for a nuclear attack also may be important. Thus, in the case of nuclear weapons, this mix of reports and allegations suffices to create a presumption that acquisition would equal employment—but questions persist.

Who Is al Qaeda?

Turning to the second approach for exploring whether acquisition equals employment, which focuses on al Qaeda's personnel, it should be made clear that there is no single "al Qaeda." This organization is far from monolithic. Many different individuals are tightly or loosely linked to al Qaeda. The resulting differentiation of personnel suggests that, at least for some individuals associated with the organization, their readiness to employ NBC/R weapons could be conditional on the perceived personal risks of doing so and that, consequently, some deterrence leverage points may exist.

Organizational Fluidity and Personnel Diversity

Al Qaeda's core comprises the remnants of the al Qaeda center, still typified by Osama bin Laden and his deputy Aymen al-Zawahiri, both presumed to be somewhere on the Pakistan-Afghanistan border. Moreover, despite increasing difficulties of communications, at least some terrorist cells in different regions remain ready to act as directed by the

al Qaeda center. In addition, a variety of other terrorist organizations around the globe are loosely affiliated with the center. These other groups share a basic commitment to an anti-Western jihad and may cooperate tactically with the al Qaeda center (receiving technical, financial, or recruiting support), but are not subject to direct command. Still other isolated terrorist cells and mini-movements take their inspiration from bin Laden's vision of jihad.

Across this network of terrorist entities, the individuals associated with al Qaeda also range widely. Beneath bin Laden and al-Zawahiri, active al Qaeda members appear to fall into the following personnel types:

- center-level operational coordinators
- center-level specialists (for example, communications)
- field-level operational coordinators
- field-level specialists (in surveillance, logistics, explosives, and so forth)
- "soldiers and muscle"
- suicide operatives.

These types have their counterparts in other terrorist groups that have direct or indirect linkages to the al Qaeda center.

Underlying al Qaeda's active membership is also a wider infrastructure of supporting personnel. Comprised of fellow travelers, sympathizers, and individuals prepared to look the other way, this infrastructure provides financial, operational, technical, recruiting, and political support. In some instances, these individuals may be either sleepers (waiting to be called to action) or insiders (able to provide physical or other access to key organizations or targets). Especially with regard to nuclear terrorism, outside technical experts for hire could prove important as well. In some instances, typified by the links between Osama bin Laden and Mullah Omar in Afghanistan, these individuals may be senior state officials.

Implications for NBC/R Employment

There is little reason to believe that fear of a U.S. or Western response would provide a compelling enough reason for bin Laden, al-Zawahiri, or any of the core operatives in the al Qaeda center to abjure use of NBC/R weapons.[7] This applies as well to field and suicide operatives, carrying out directions from the center. The suicide operatives in particular and other operatives in general have shown little if any fear of retribution. Their commitment to jihad has made the sacrifice of their lives simply an avenue to a new life after death. There are reports of particular field operatives or coordinators seeking to save their own lives rather than die in a specific suicide attack. Given the efforts now under way to kill or capture al Qaeda members, it is hard to believe that much more could be

done to enhance deterrence specifically of such members' participation in NBC/R attacks.

By contrast, fear of retribution could be a more compelling consideration in the thinking of many individuals who make up al Qaeda's supporting infrastructure. For financial supporters; for fellow travelers providing access to safe houses and surveillance information, and otherwise facilitating a possible nuclear terrorist attack; for senior officials in specific states; and for insiders located in target countries or elsewhere, perceptions of the risks of helping al Qaeda carry out an NBC/R attack could be an important consideration. Likewise, fear of discovery and retribution could be a significant constraint for potential technical experts for hire.

Operational Code: Implications for NBC/R Employment?

A fairly clear set of preferences, characteristics, or standard operating procedures—what may be labeled as an operational code—is evident in an examination of the record of al Qaeda or al Qaeda–linked terrorist attacks since the early 1990s.[8] This operational code comprises three broad sets of activities associated with executing a terrorist attack: targeting, operational preparations, and attack profile. To answer the question addressed in this paper, a full discussion of this operational code is not needed. However, several important dimensions bear directly on this issue, including both the consistencies and inconsistencies in al Qaeda's operational code with regard to the use of NBC/R weaponry.

Table 2 summarizes some of the more important features of al Qaeda's operational code at the targeting level. Consider some of the consistencies and inconsistencies first for use of nuclear weapons, then for use of biological, chemical, or radiological weapons.

With regard to consistencies between nuclear use and al Qaeda's targeting code—from al Qaeda's failed 1995 "Bojinka" plot to bring down, nearly simultaneously, six to eight American aircraft on flights from Asia, to its attacks on the World Trade Center and the Pentagon—pursuit of spectacular effects has been a consistent characteristic of this organization. Equally so, many of its attacks have reflected a desire for graphic destruction that would pulsate across the global mass media. Successful detonation of a nuclear weapon for the first time in 60 years would readily meet both conditions. In addition, nuclear use almost certainly would wreak unprecedented economic damage, another targeting criteria of al Qaeda's operations. In addition, detonation of a

stolen nuclear device would provide a highly effective means to attack public and official sites as well as leaders, while overcoming increased security at such sites.

Table 2. Al Qaeda's Operational Code: Targeting

Category	**Some Distinguishing Features**
Decisionmaking	Multiple levels, from bin Laden–initiated and –directed to lower-level initiated attacks inspired by bin Laden's vision
Criteria for target choice	Top preference for: *Targets of high symbolic impact* *Spectacular effects and visually pleasing destruction* Economic damage a secondary consideration Intended audience is external rather than in the targeted country Finishing the job
Target types: people and organizations	Sporadic attacks on officials and leaders Inflicting mass casualties more the exception (World Trade Center) than the rule (embassy and hotel bombings) Continuing attacks on military units
Target types: sites and structures	Repeated attacks on public and private buildings Increasing attacks on religious sites
Target types: systems and institutions	Repeated attacks against air and land transport
Target protection	Often but not exclusively "soft," with little inherent protection

Without taking the following line of argument too far, it is useful to explore the counterproposition that some degree of tension could exist between al Qaeda's targeting code and the numbers of deaths to be expected from successful use of a nuclear weapon. With the exception of the attack on the World Trade Center, al Qaeda's other operations have not entailed mass casualties. This potential discrepancy between the very high mass casualties that could result from a nuclear detonation (even compared to Ramzi Yusuf's claim that he wanted to kill 50,000 people in the 1993 attack on the World Trade Center) and al Qaeda's past attacks may only reflect technical limitations. That is, limited casualties may only demonstrate the difficulty, but not impossibility, of inflicting mass casualties using only traditional kinetic means.

In turn, it is interesting to note that in the specific instances in which al Qaeda operatives so far have sought to use biological agents, the agent chosen—ricin—does not lend itself to inflicting mass casualties. By contrast, though alleged to possess the highly lethal biological

agent anthrax since the late 1990s, al Qaeda has yet to claim an attack involving the release of this agent.[9] Al Qaeda may simply be awaiting the right moment to use anthrax, it may believe it still lacks the technical capability to disseminate anthrax effectively, or perhaps killing several hundreds of thousands of persons may not be seen at this point in time to serve its overall objectives. Furthermore, al Qaeda operatives have denied the charges by Jordanian officials that the organization was planning to mount a chemical attack in Amman that could have killed upward of 30,000 Jordanian civilians. Whatever the truth, the fact that al Qaeda perceived a need to make such a denial is suggestive.[10] Thus, without making too much of this possibility, is it conceivable that there could be some concerns about the level of civilian deaths expected to be involved with nuclear violence?

On the one hand, bin Laden's own statements have shown an ability to justify and accept the loss of life among innocent civilian bystanders that resulted from past al Qaeda attacks. Moreover, "A Treatise on the Legal Status of Using Weapons of Mass Destruction against Infidels," a May 2003 fatwa by Nasir bin Hamd al-Fahd, a cleric associated with al Qaeda, argued for the permissibility of using such weapons. According to this treatise, use of weapons of mass destruction (WMD) would be a legitimate means of retaliation for "Muslims [already] killed directly or indirectly by their weapons," a number of deaths that bin Hamd al-Fahd puts at "nearly ten million."[11] In addition, this fatwa argues that according to Islamic law, an argument of necessity legitimizes WMD use if "the evil of the infidels can be repelled only by attacking them at night with weapons of mass destruction."[12] This treatise concludes by disputing what it terms three "specious arguments" against use of WMD: that WMD is proscribed by "the ban on killing women and children," by "the ban on sowing corruption in the land," and by the fact "that these weapons will kill some Muslims." For each, necessity is again seen to be an overriding justification for WMD use. This treatise has not been recanted.

On the other hand, the fact that it was thought necessary to issue that fatwa indicates some sensitivity to the types of "specious arguments" it addresses against use of weapons intended to inflict mass casualties on civilians. Moreover, the argument of the fatwa is that when necessary or required, WMD use is legitimate and permissible. However, the possibility raised here of lingering concerns among al Qaeda's leadership about NBC/R use need not reflect any moral uneasiness or questions about the "legitimacy" of using these weapons in jihad. Rather,

that possibility rests on rather "self-interested calculations," on whether use of NBC/R weapons would be seen as necessary and desirable to achieve the organization's goals. Consider this possibility in light of the targeting criteria implicit in al Qaeda's past attacks.

In that regard, bin Laden's audience is not the government and population of the targeted country but the wider, outside Islamic community. Among some of those outsiders, use of a nuclear weapon—like kinetic violence—almost certainly would be welcomed as part of the ongoing defensive jihad against the West. Muslims around the world also could be awed by bin Laden's capability to inflict such destruction. But nuclear use does have the potential of provoking revulsion among the very communities that bin Laden is seeking to rally to his restored Muslim Caliphate.[13] Thus, this very different element of al Qaeda's targeting code—its emphasis on the impact of attacks on the broader Islamic audience—could raise questions about the desirability of mass killing on the nuclear level. Put most starkly, use of even nuclear weapons could be regarded as fully permissible in principle but in practice not seen at a particular time to be a necessary or helpful means to pursue al Qaeda's goals.

Turning briefly to the use of biological, chemical, or radiological weapons, none of these weapons promise the type of spectacular and graphic destruction so characteristic of the targeting dimension of al Qaeda's operational code. A biological weapons attack would look little different from a major flu outbreak except in scale. Requiring detonation of conventional explosives, an RDD would offer little more visual destructiveness than a car bomb. In turn, for striking the typical al Qaeda target types (officials and leaders, public and private buildings, military personnel and units, or air and land transport) highlighted in table 2, biological, chemical, and radiological weapon use may be less effective as well as more technically demanding. In each of these ways, therefore, use of these weapons would be inconsistent with past targeting practices.

By contrast, al Qaeda's targeting pattern of "finishing the job" points in the opposite direction toward a future use of biological, chemical, and radiological weapons. That pattern was evident in the organization's September 11 attack on the World Trade Center (which followed its unsuccessful 1993 attack) as well as in the successful October 2000 attack on the USS *Cole* in the Persian Gulf (coming only months after an unsuccessful attack on the USS *The Sullivans*). At least from this perspective, it would be prudent to assume that al Qaeda's leadership is likely

to try again to use ricin, including for attacks on either individuals or subway mass transit systems. Taking the statements of Jordanian police at face value (as opposed to Abu Musab al-Zarqawi's denial), future efforts by al Qaeda operatives to mount an urban chemical attack would be consistent with "finishing the job."

Operational Preparations

Several dimensions of al Qaeda's past pattern of operational preparations, summarized in table 3, also have implications, perhaps less for the question of whether acquisition would equal use than for the possible modalities of possession of NBC/R weapons. These include the personnel-operational mix, the duration of preparations, and the patterns for acquisition of means.

Overall, al Qaeda's personnel-operational mix leans heavily toward the traditional terrorist activities of using conventional means to blow things up and kill people. Enraged Muslim men, quite a few of whom have experience either from fighting the Soviet Union in Afghanistan or in the ensuing period of Taliban–al Qaeda cohabitation, carried out past attacks. Some technical specialization, most often in explosives and

Table 3. Al Qaeda's Operational Code: Operational Preparations

Category	Some Distinguishing Features
Recruitment patterns	Reliance on experience in Afghan training camps
Operational mix	Reliance on Arab nationals increasingly supplemented by reliance on non-Arab nationals and Western converts to Islam Reliance on men for operations Limited use of women, mostly for cover and logistics
Financing	Multiple sources and financial flows, including use of legitimate businesses and charities
Training, rehearsal, and surveillance	Still drawing on operatives with Afghan camp backgrounds Reliance on one-on-one training, including from al Qaeda center but also from nonaffiliated experts Surveillance often long in advance of attack
Duration of preparations	1–2 years not atypical for al Qaeda center, may remain so; 3–5 years of preparation not precluded
Acquisition of means	Theft much less prevalent than production (e.g., bombs) or purchase (materials and components, less so weapons)

logistics, is also evident in past attacks. In addition, some senior and field leaders have technical backgrounds—for example, in civil and other engineering specialties, medicine, agricultural operations, and so on. In the Afghan training camps, research and experimentation in nuclear, biological, and chemical weapons production were under way.[14] Western citizens—usually converts to Islam—have become more apparent in operations since the leap in counterterrorist actions after September 11. Officials have also encountered some sleeper cells, as well as possible "fellow-traveling" insiders.[15]

Given the strong bias toward kinetic action in this personnel-operational mix, outside technical assistance could be an important input to al Qaeda's successful transition to more sophisticated NBC/R terrorism. The need for such assistance would likely vary depending on the operational specifics and the extent to which the technical backgrounds of al Qaeda personnel could be drawn upon to fill specific gaps. At one end of the spectrum, for instance, outside technical assistance could be essential to overcome internal control mechanisms on a stolen Russian nuclear weapon or to aerosolize anthrax effectively. At the other end of the spectrum, production of ricin and its dissemination via relatively unsophisticated methods already appear to have been within reach. For al Qaeda, using insiders probably would be the preferred route to any necessary NBC/R technical assistance. Such individuals could come from within other countries' military programs. Insider technical expertise might sometimes be found in the private sector, especially for production and use of a biological weapon or a crude improvised nuclear device. Particularly in the latter case, sleeper individuals could be mobilized.

In many instances, al Qaeda's operational preparations have taken years to solidify, as typified by the 1998 attacks on the U.S. Embassies in Kenya and Tanzania. This long duration of preparations would be consistent with patient, multi-year efforts to carry out an eventual nuclear terrorist attack. At the same time, there is an important uncertainty that concerns how the al Qaeda center might orchestrate a nuclear attack. Would al Qaeda's leadership only seek to purchase or steal a nuclear weapon once it had done all the planning and put in place all the subsidiary operational elements for that weapon's use? In that case, possession would truly equal employment. Alternatively, would the organization always be on the lookout for successful acquisition, regardless of any specific plans or assets in place for its use?[16]

Finally, this duration of preparations is another indication of the long time frame that guides al Qaeda's jihad against the West. But given

that long time frame, possible pressures to detonate a nuclear weapon as soon as it had been acquired could be considerably less. Instead, Osama bin Laden would almost certainly think in terms of how best to leverage possession of a nuclear weapon to serve the longer term goal of an Islamic revival and restoration. Pursuit of that goal could best be served by inflicting nuclear death and destruction on the United States. But there could be other ways in which possession of a nuclear weapon, not its employment, might be better suited to serve the longer-term goal.

Concerning acquisition of NBC/R means, U.S. and other officials and outside analysts have focused most of their attention on making it harder for al Qaeda or any terrorist organization to steal or purchase NBC/R weapons, agents, or directly usable materials. Repeated allegations of al Qaeda's acquisition efforts, as well as the past patterns of al Qaeda's operations more generally, warrant this focus. In the nuclear area, technical complexities also add to the likelihood of theft or purchase as the most plausible routes. Nonetheless, the possibility should not be excluded that under certain conditions the al Qaeda center could set up its own nuclear production complex. Among those conditions would be:

- a safe location
- growing obstacles to purchase or theft
- access to turn-key components and expertise, typified by the sort of activities conducted by the A.Q. Khan nuclear supply network
- a long time horizon
- if the experience of other nuclear weapon programs is any indication, one or two individuals with some technical expertise and administrative competence to drive the program.

Increasingly, it no longer is unthinkable to assume that this set of conditions could exist.

Assuming the production rather than the purchase or theft of a nuclear weapon, how, if at all, might al Qaeda's path to the bomb affect the question of whether possession equals use? In this case, the al Qaeda center would have acted as a "virtual state." The result could be that the organization would approach successful acquisition of a first nuclear weapon not as a terrorist organization might (by using that weapon immediately) but as a state would (by thinking in terms of the political gains to be achieved vis-à-vis nuclear possession).

Attack Profile

The attack profile reflected in past strikes directly attributed or indirectly linked to al Qaeda, as summarized in table 4, comprises the

final dimension of al Qaeda's operational code. Though the future is unlikely to be simply a repeat of the past, this attack profile illustrates the baseline for future al Qaeda operations. Three dimensions offer particularly useful insight into the question of whether acquisition, especially of nuclear weapons, would equal employment. These dimensions concern the scope and complexity of past attacks, a repeated recourse to bombs of different sorts, and an apparent persistence of efforts.

In scope and complexity, al Qaeda's attack profile has always included isolated attacks on single targets. Increasingly in recent years, however, this attack profile appears to involve simultaneous attacks on multiple targets. From the 1998 attacks on two U.S. Embassies in East Africa to the March 2004 Madrid train bombings, multiple attacks in at least one country have increasingly become the norm.[17] Simultaneous attacks not only provide a means to increase the level of destruction and terror, but they also demonstrate the organization's operational sophistication to members, potential recruits, other outsiders, and opponents. In the aftermath of al Qaeda's loss of its Afghan base, multiple attacks also offer a way to demonstrate that the organization remains operational.

A single use of NBC/R weapons, including an attack carried out by affiliated organizations or individuals, would be consistent with al Qaeda's past experience with isolated attacks. At the same time, it also would be consistent with this operational code for the al Qaeda center to plan and execute multiple near-simultaneous attacks. Al Qaeda might even prepare a single attack with the intent of delaying it rather than simply making use of a capability upon acquisition. Multiple RDD attacks in the United States, for instance, in principle would not be difficult and would have greater psychological impact. Simultaneous uses of chemical or biological weapons would have a comparable force multiplier effect. Here, too, the fact that no single attack has yet occurred may simply indicate that preparations for a more spectacular multi-attack effort are under way.

As for use of a nuclear weapon, the al Qaeda center (as the most likely acquiring group) could again face a choice between immediate or delayed use of its first nuclear weapon. Many of the same considerations that apparently have heightened the emphasis on multiple attacks—increased impact, demonstration of technical sophistication, impact on the outside audience—would apply in the case of nuclear weapons use. Furthermore, multiple detonations would signal even more powerfully, "We're back." Procurement constraints (only one weapon available or likely to be available) and operational risks (increased risk of detection and disruption) could force a mentality of "get it and use it." But the

Table 4. Al Qaeda's Operational Code: Attack Profile

Category	Some Distinguishing Features
Scope and complexity of attack	Often a single target Simultaneous attacks on several targets in one country increasingly prevalent Simultaneous attacks on several targets within a region still an exception No simultaneous attacks yet on several targets around the globe
Personnel levels	Range from single individuals to small teams (~5–7) to paramilitary units (20+)
Conventional kinetic means of attack	Explosives dominate: car bombs, boat bombs, concealed bombs repeatedly used Suicide delivery Long interest prior to 9/11 in use of aircraft as bombs Continuing interest in surface-to-air missiles
Training, rehearsal, and surveillance	Still drawing on operatives with Afghan camp backgrounds Reliance on one-on-one training, including from al Qaeda center but also from nonaffiliated experts Surveillance often long in advance of attack
Nonkinetic means of attack	Evidence of interest in cyberattack but no actions
Unconventional means of attack	Clear evidence of readiness to use high-lethality, low-dissemination biological weapons (ricin) Reports of aborted chemical attacks Reports of aborted radiological dispersal device attack plans Long-term interest in nuclear weapons

possibility that the al Qaeda center might seek to mount a more extensive operation would be consistent with its attack profile.

Turning to al Qaeda's choice of means, what stands out most is its preference for bombs of all kinds in executing its attacks: car bombs, boat bombs, concealed bombs, aircraft as bombs, and human bombs. Thus, use of chemical, biological, and radiological weapons would be inconsistent with this aspect of its operational code. For example, the ricin plot in London occurred for specialized purposes. But this type of strike might not likely become a dominant or even a major means of attack. By contrast, use of a nuclear weapon would be very consistent with this proven al Qaeda preference for bombs. Indeed, in most state nuclear weapon programs, one initial stream of thinking has viewed nuclear weapons as simply big bombs.

A final aspect of al Qaeda's attack profile and overall operational code is persistence in doing what it knows and does well. Its recurrent reliance on bombs as its means of attack is one demonstration of that feature. Similarly, its choice of targets, discussed above, also reflects persistence in staying with the tried and true—even if very diverse—over

the years. At the same time, persistence has not meant stagnation. Al Qaeda's second attack on the World Trade Center showed an ability to learn from its initial failure and to adopt a more effective operational approach. But even here, the use of aircraft as bombs constituted an element of persistence.

From this perspective, shifting to the use of NBC/R weapons would entail trying a new, unproven, and untested means of attack. This inconsistency does not mean that al Qaeda will not take that step, but it might do so at first in a more limited and constrained manner—as possibly reflected in the fact that all publicly known aborted plots involved ricin. As a result of this preference, the potential risks and benefits of shifting to NBC/R attacks (and the comparative advantage in terms of the organization's goals) might be closely scrutinized.[18] Finally, this preference could direct al Qaeda's leaders to think carefully about the best way to leverage nuclear weapon acquisition to serve their overall goals in the long-term struggle.

Is There a Bottom Line?

Table 5 summarizes both the consistencies and inconsistencies between the different elements of al Qaeda's operational code and the use of nuclear, biological, chemical, or radiological weapons. At the very least, this conclusion justifies continued exploration of the proposition that acquisition of nuclear weapons need not equal their use. Just as important are some critical uncertainties, such as the reaction of the wider Islamic audience to the death and destruction caused by a nuclear weapon. Would such use serve Osama bin Laden's overarching goal of rallying the faithful to a new Muslim Caliphate? This last question may be the most critical issue of all.

Bin Laden, a Restored Islamic Caliphate, and a Nuclear Blackmail-Deterrence Strategy

Cautious speculation that Osama bin Laden himself might be a factor in the debate over nuclear weapon use provides a final perspective on the question addressed in this paper. Bin Laden's statements about nuclear weapons (and defensive jihad), a look at his goals, and "state-like" action by al Qaeda all provide starting points for that speculation. From all three perspectives, bin Laden and his immediate lieutenants might, under some conditions, regard nuclear weapons as "too valuable to detonate."[19] Instead, possession of those weapons could be seized upon as a new means of blackmail and deterrence—or to use as political instruments of power.

Table 5. Al Qaeda's Operational Code: Does NBC/R Acquisition Equal Use?

	Consistent with Acquisition = Use	Inconsistent with Acquisition = Use	Uncertainties and Other Implications
Targeting	Nuclear use as spectacular attack, with graphic destruction Nuclear weapon, high-coverage, high-lethality biological weapon offers orders-of-magnitude more fatalities than even World Trade Center Finishing the job suggests continued efforts at ricin use, chemical use	Past attacks (except World Trade Center) not aimed at mass casualties Constrained use in aborted ricin plots Biological/chemical weapons and radiological dispersal devices do not offer spectacular, graphic destruction	Reaction of external audience in Islamic world to large-scale nuclear or biological weapons destruction; if seen as excessive, undercuts goal of rallying the Muslim world
Operational preparations	Long duration of preparations and allegations/reports suggest use could be only matter of time	Traditional personnel-operational mix more in line with "kinetic attacks" Taking long view of struggle, no rush to use nuclear weapon (even assuming acquisition) "State-like" behavior implied by nuclear production opens alternatives to rapid use once acquired	Technical expertise to disable nuclear weapon control means Importance of insider assistance for nuclear, aerosolized biological weapon At what point in attack cycle, seek to procure nuclear weapon–early, late? Though nuclear theft or purchase most likely pathway, production is a wildcard
Attack profile	Preference for bombs; nuclear weapon simply bigger bomb	Logic behind multiple attacks suggests no rush to use nuclear weapons Persistence in doing what it knows and does well	Simultaneous NBC/R attacks

"A Religious Duty"

Bin Laden's pronouncements on the acquisition of NBC weapons are straightforward. Responding to a question regarding that issue, he stated in a 1998 interview that:

> [to] seek to possess the weapons that would counter those of the infidels is a religious duty. . . . It would be a sin for Muslims not to try to possess the weapons that would prevent the infidels from inflicting harm on Muslims. But how we would use these weapons if we possess them is up to us.[20]

This emphasis on a duty to acquire these weapons has been repeated on other occasions and is fully consistent with the ground truth of confirmed or reported acquisition efforts discussed earlier.

Regarding employment, bin Laden leaves open how such weapons would be used to prevent "harm on Muslims." Elsewhere, he has talked of "punishing [world Christianity, Zionist Jewry, and the United States, Britain, and Israel] using the same means as it is pursuing us with." [21] Moreover, as already discussed, the May 2003 "Treatise on the Legal Status of Using Weapons of Mass Destruction Against Infidels"

argued that use was permissible as a means of retaliation or as a necessary means of defeating the infidels.

One could infer from the May 2003 treatise a readiness to use NBC/R weaponry as soon as bin Laden had acquired it. From another perspective, the emphasis on using these weapons to prevent harm as well as to inflict punishment-in-kind raises the possibility that nuclear weapons could be used instead as a deterrent. In that regard, prior to Operation *Enduring Freedom* in Afghanistan, bin Laden told a Pakistani journalist: "I wish to declare that if America used chemical or nuclear weapons against us, then we may retort with chemical and nuclear weapons. We have the weapons as a deterrent."[22] In retrospect, this claim appears simply to have been bravado or disinformation, but it also reflects an attempt to use uncertainty about al Qaeda's NBC/R capabilities as a means of deterrence. In turn, "use" as a deterrent would be a possible permissible use within the logic of the May 2003 treatise.

Nuclear Use and the New Caliphate

One of the multiple goals evident in Osama bin Laden's writings, statements, and actions is to wage what he sees as a defensive jihad to expel the United States and the modern "crusaders" from the Arabian Peninsula as well as the Holy Places in Jerusalem. Another closely related goal includes forcing Israeli withdrawals from Palestinian territory, if not the complete destruction of Israel itself. Bin Laden is also seeking to rally the Islamic faithful and to galvanize an Islamic revival that will restore the faith, right living, and, ultimately, power of Islam at its zenith. So viewed, bin Laden's goal is to restore or recreate the Islamic Caliphate combining religious, social, economic, and political power in a great sweep across the Islamic crescent from Saudi Arabia to Southeast Asia.[23] For bin Laden, use of a nuclear weapon against the United States could be seen both to support and to undermine pursuit of these goals. Nuclear possession but nonuse also could open up new options for him.

On the one hand, immediate detonation of a nuclear weapon in a major American city might be viewed as a way to inflict an even more damaging blow to the U.S. polity, economy, and society. In that regard, it would differ significantly from the use of chemical, radiological, and probably noncontagious biological weapons, whose direct, but not necessarily psychological, effects could be more readily contained and countered. A successful nuclear attack also might be perceived as a method of diverting U.S. energies, thereby disrupting counterterrorist actions. This might especially be the case with an attack aimed at the U.S. Government in Washington, DC. A nuclear attack—providing perhaps the pinnacle

of "visually pleasing destruction"—could be regarded as an even more potent means than the 9/11 attacks to rally the Islamic "street" and to demonstrate Islamic power. Furthermore, as already argued, the logic of the May 2003 treatise argues that nuclear use is permissible if regarded as a necessary means to pursue jihad.

On the other hand, other longer-term considerations could well outweigh these immediate perceived payoffs of nuclear weapon detonation. Almost certainly, global antiterrorist cooperation would be reinvigorated and intensified. Short-term disruption and diversion of U.S. efforts probably would give way to an even more intense mobilization of U.S. energies, resources, and public support for a truly no-holds-barred approach. Large-scale loss of life among innocent civilians, including women and children, could trigger a backlash among those Muslim faithful whose adherence is needed for bin Laden's goals of Islamic revival and restoration. This latter possibility may be of most concern despite the fact that bin Laden has repeatedly justified killing innocent non-Muslim civilians as well as killing innocent Muslim bystanders (on the grounds of either their collaboration with the United States or the larger Islamic cause). Indeed, the very need to make public statements justifying such losses of life suggests a concern that taking the lives of innocents could repulse the Islamic faithful.[24]

Perhaps even more important, possession but nonemployment of one or more nuclear weapons would increase significantly the options available to bin Laden in pursuing the goal of a restored Caliphate. Assuming that realization of this goal ultimately will require al Qaeda to seize power in at least one Islamic state, bin Laden could see nuclear possession as a way to deter military action by the United States and other countries. Possession but nonemployment of nuclear weapons could rally the Islamic faithful without running the risk of backlash. Bin Laden could also leverage possession to blackmail other countries to undermine their global antiterrorist actions.

Successful reliance on nuclear weapons as a means of deterrence, rallying support, and blackmail would require bin Laden to demonstrate convincingly actual possession of nuclear weapons, as well as a capability and will to employ them. One way to do so would be to carry out an initial nuclear attack. But as already noted, there are significant risks of doing so if bin Laden's goal is not simply to kill Americans. Other ways exist to demonstrate possession—from inviting scientists and media to confirm possession, to releasing technical, security, and other unique data in the case of a stolen warhead.

Finally, the May 2003 treatise sets out to establish the legal permissibility of WMD use whether in retaliation or out of necessity. It still leaves open the possibility that for all of the reasons set out here, nuclear employment could be seen as a legitimate yet undesirable action by bin Laden.

Bin Laden, al Qaeda, and "State-like" Behavior

Possession, nonemployment, and use as a means of deterrence and blackmail would be consistent with a continuing strain of state-like behavior. With its various committees and sub-entities as well as its secure base and network of associated organizations, al Qaeda, prior to the American invasion of Afghanistan, had already taken on some state-like characteristics. Each of bin Laden's major pronouncements in 2004 confirms this phenomenon.

Specifically, shortly after the March 11, 2004, bombings of commuter trains in Madrid, al-Arabiya obtained and broadcast a new bin Laden tape in which he rejected the label of "terrorism" and returned to the argument that al Qaeda's actions are a "reaction to your own acts." In turn, bin Laden went on to state:

> I also offer a reconciliation initiative to them [the European peoples], whose essence is our commitment to stopping operations against every country that commits itself to not attacking Muslims or interfering in their affairs—including the U.S. conspiracy on the greater Muslim world.[25]

Bin Laden's November 1, 2004, tape again struck this note. Most of that speech consisted of a long explanation and justification of the September 11 attacks as being rooted in the Israeli occupation of Lebanon:

> And as I looked at those demolished towers in Lebanon, it entered my mind that we should punish the oppressor in kind and that we should destroy towers in America in order that they taste some of what we tasted and that they be deterred from killing our women and children.

Bin Laden concludes by asserting, "Your security is in your own hands. And every state that doesn't play with our security has automatically guaranteed its own security."[26]

Although these statements could be written off as the ramblings of a religious fanatic, they also reflect a well-honed capability to appeal to a wider Islamic audience, providing both a statement of purpose and a call to further action. In turn, those statements are part of bin Laden's own continuing psychological campaign to divide the antiterrorist coalition and undermine public support for not only the U.S.-led war in Iraq, but also the wider global actions to defeat terrorism linked to al Qaeda. In both the March and November 2004 statements, bin Laden

offers a clear deterrent message: "Your security is in your own hands." It would be only a short step from that message, with its implicit threat of unspecified future destruction, to a more explicit effort to use nuclear weapons as instruments of blackmail and deterrence. In taking that step (and assuming possession but not immediate employment of a nuclear weapon), bin Laden could hope to regain sanctuary status or protect that status by deterring direct attack, to undermine public and official resolve, to rally supporters and encourage his vision of Islamic revival, and ultimately to make more possible the emergence of a restored Muslim Caliphate.

Implications for U.S. Posture and Policy

Prudence demands that U.S. policy and posture be based on the assumption that Osama bin Laden and al Qaeda would be fully prepared to use nuclear, biological, chemical, or radiological weapons. Credible reports of al Qaeda's efforts to acquire such weapons, statements by bin Laden and other senior leaders, and past failed attempts to use chemical and noncontagious biological weapons all support that assumption. The United States and other countries need to act accordingly—from intensified actions to destroy al Qaeda, to enhanced international cooperation to block terrorist access to NBC/R weaponry, to strengthened capabilities to contain the consequences of a terrorist attack that used those weapons.

The preceding analysis, however, suggests three other complementary courses of action in response, especially to the threat of al Qaeda's successful acquisition of nuclear weapons. These are:

- concerted actions to work potential deterrence leverage points to make acquisition of these weapons or, for that matter, any NBC/R weaponry more difficult
- actions to enhance "self-deterrence," at least on the part of bin Laden
- preparations to counter attempted nuclear blackmail as well as deterrence by bin Laden.

Each course of action warrants brief discussion.

Deterrence Leverage Points

The preceding analysis identified technical assistance from black marketeers as well as from individuals with insider access; funding and logistics support from al Qaeda fellow travelers; and official or governmental direct or indirect support for al Qaeda's acquisition of NBC/R weaponry as potential leverage points. With other nations, the United States can pursue various steps to deter these types of assistance or support.

As a start, the United States can continue to press other countries to enact necessary national controls, penalties, and enforcement mechanisms to heighten the risk of detection and punishment of individuals providing technical assistance, financial support, or logistics to al Qaeda or other terrorist groups. United Nations Security Council (UNSC) Resolution 1540 provides a foundation to do so:

> All States . . . shall adopt and enforce effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery.[27]

In addition, public statements by the United States and other countries should emphasize the potential risks to individuals of providing any such assistance as well as the commitment to hold individuals accountable for doing so. Public diplomacy and information operations could be complemented by covert and clandestine operations against individual conduits, operations that, if successful, could then be leaked after the fact to have a continuing deterrent impact.

The successful U.S. operation against the Taliban regime and al Qaeda in Operation *Enduring Freedom* sent a strong signal to other governments about the risks of supporting or harboring al Qaeda. By contrast, the continuing insurgency after the overthrow of Saddam Hussein—and an expectation that the United States would not soon take comparable military action again—may well have weakened that signal. Regardless, part of the U.S. strategy should continue to be deterring governments from supporting the acquisition of NBC/R weapons by al Qaeda or any terrorist group. Here, too, UNSC 1540 offers support by its statement that the Security Council:

> Decides that all States shall refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons or their means of delivery.

Statements by the United States and its friends and allies, as well as follow-on Security Council resolutions, all could be used to strengthen this international consensus that such support is unacceptable to the civilized world. For its part, the United States should explicitly make clear its readiness—with broad international support if possible, but without that support if needed—to hold accountable any leaders linked to al Qaeda's or any other terrorist group's use of NBC/R weapons. The United States should also seek other countries' willingness to support that action. The potential impact of a clearly signaled readiness to hold leaders accountable would depend ultimately on the actuality of state support

for terrorist acquisition and use of NBC/R weapons. In some instances, the availability of that support could be a critical distinguishing feature between a failed or ineffective terrorist attack with NBC/R and a successful one. This especially could be so with regard to the effective wide-area aerosolization and dissemination of biological weapons, the transformation of purchased fissile material into a relatively efficient as opposed to an improvised nuclear device, or the successful defeating of control mechanisms on more sophisticated nuclear weapons.

Heightening bin Laden's "Self-Deterrence"?

The United States should also consider actions that attempt to influence bin Laden's assessment of whether actual employment of a nuclear weapon would help or hurt his own longer term goals of a global Islamic revival and restoration of the Islamic Caliphate. In particular, declarations from a broad spectrum of Islamic clerics, leaders, and organizations condemning indiscriminate violence and the taking of innocent civilian lives would be one element. In addition, it would be important to encourage those clerics to address and refute specifically the arguments made in the May 2003 treatise. At best, a counter-treatise could be issued and widely disseminated. In the event of a future terrorist act involving chemical or biological weapons, comparable condemnations would be necessary.

The purpose of such declarations condemning mass violence and responding to the arguments that WMD use is a permissible means of jihad would be to reinforce any concerns on bin Laden's part that employment of a nuclear weapon would serve not to rally Islamic publics but to repulse them. At best, the impact on bin Laden of these declarations is uncertain; at worst, they would have no effect. Bin Laden has repeatedly argued that the taking of innocent Western civilian lives is a legitimate response to the taking of innocent Muslim civilian lives. He also has publicly justified the loss of life of innocent Muslims during al Qaeda's attacks. Nonetheless, the fact that bin Laden personally has thought it necessary to provide these justifications suggests that he may be concerned that some members of his Islamic audience could be turned off by al Qaeda's excessive killing. In any case, there would be few if any drawbacks to eliciting such condemnations of mass violence.

Countering a bin Laden Nuclear Blackmail-Deterrence Strategy

Assuming bin Laden and the al Qaeda center seek to use possession of one or more nuclear weapons as a means of blackmail and deterrence, this type of state-like behavior by a nonstate entity would be a new

phenomenon. The United States can take several actions now in preparation to counter that strategy.

As a start, it is none too soon to begin thinking through how bin Laden might implement such a strategy operationally. Policymakers should consider issues ranging from how bin Laden would prove possession of nuclear weapons to what types of threats might be made and in what manner. Gaming could play a role in this consideration. It also is possible that in the process of demonstrating a credible capability for blackmail deterrence, bin Laden and al Qaeda center could reveal exploitable vulnerabilities.

In turn, U.S. officials will need to put in place necessary procedures and capabilities to assess the credibility of any future nuclear threats, including possible assistance to U.S. friends and allies in doing so. This effort could draw on existing capabilities to evaluate the credibility of improvised nuclear weapon designs and threats. Officials will also need to identify and assess options for U.S. counterdeterrence strategies in the event of a credible bin Laden nuclear threat. Key issues would include what information to make public and when, how to surge detection and defenses, what private posture to adopt, and how to respond in the absence (unlike state deterrence) of a known "return address." Officials will also need to consider still other options for undercutting possible nuclear blackmail. A Group of 8 or wider consensus not to concede to nuclear blackmail would make bin Laden's strategy less attractive. But in that case, his incentive to employ a nuclear weapon rather than use it as blackmail or deterrence would be heightened.

No one will be surprised if Osama bin Laden and his al Qaeda associates gain possession of a nuclear weapon and employ it to wreak grave damage on the United States. By contrast, many officials and observers would likely be very surprised if bin Laden and al Qaeda were to exploit possession of nuclear weapons as a means of deterrence or blackmail—whether to regain a secure sanctuary or head off military action to reverse seizure of power in an Islamic state or to undermine the counterterrorist coalition, or by acting in a state-like manner to further the goal of an Islamic revival and restoration across many regions. However, Osama bin Laden and his closest lieutenants have repeatedly demonstrated a capability to act in unexpected and surprising ways, the 9/11 attacks being one of many examples. For that reason alone, it would be ill advised to reject out of hand the possibility that, for Osama bin Laden, nuclear weapons could be too valuable to detonate.

Notes

[1] This paper avoids using the phrase *weapons of mass destruction* (WMD). That term melds together different types of weapons capable of inflicting mass casualties and destruction. But those weapons differ in many respects—ease of acquisition, level of destructiveness, potential utility for purposes other than inflicting death and destruction, and overall "gestalt." Instead, this paper refers to *nuclear, biological, chemical, or radiological* (NBC/R) agents, materials, or weapons. It disaggregates its discussion of these different weapons, even while focusing most attention on the most destructive weapons: nuclear ones. Its use of the term NBC/R rather than CBRN (*chemical, biological, radiological, and nuclear*), currently in vogue, is intended to highlight the paper's primary focus on nuclear weapons, as well as the fact that these weapons are the most destructive.

[2] George W. Bush, remarks on weapons of mass destruction, National Defense University, Washington, DC, February 11, 2004.

[3] "Al Qaeda denies Jordan WMD plot," BBC News World Edition, April 30, 2004.

[4] "Concerns Grow over Possible 'Dirty Bomb' Attack," Global Security Newswire, May 10, 2004.

[5] Jeff Cooper first highlighted for the author both the importance of what he labeled "visually pleasing destruction" and the fact that for al Qaeda, there is an important difference between its target and its audience.

[6] There may have been successfully aborted plots to detonate a radiological dispersion device that were not made public. Even so, given the interest and relative ease, it still is somewhat surprising that a successful attack has not yet taken place.

[7] This still leaves open the question, discussed below, of whether there are any other considerations that could lead bin Laden to decide not to detonate a nuclear weapon, even once in possession of one.

[8] This assessment is summarized in Lewis A. Dunn, "Terrorist Adaptation: A Framework and Some al Qaeda Possibilities," briefing, March 2004.

[9] Airborne dissemination of a very small amount of anthrax (on the order of one kilogram) in a densely populated area could result in upwards of 500,000 to 1 million civilian fatalities. In that way, anthrax resembles nuclear weaponry.

[10] "Zarqawi Among 13 Indicted by Jordan in Plot," *The Washington Post*, October 18, 2004.

[11] Nasir bin Hamd al-Fahd, "A Treatise on the Legal Status of Using Weapons of Mass Destruction against Infidels," Foreign Broadcast Information Service (FBIS) translation, May 1, 2003, 9.

[12] Ibid., 12.

[13] For instance, after the September 11, 2001, attacks, there was considerable sympathy for the United States even among the wider Islamic populations around the globe.

[14] George Tenet, testimony before the Senate Select Committee, "Intelligence on the Worldwide Threat: Converging Dangers in a Post 9/11 World," Washington, DC, February 6, 2002, accessed at <http://www.cia.gov/cia/public_affairs/speeches/2002/dci_speech_02062002.html>; George Tenet, testimony before the Senate Select Committee, "Intelligence on the Worldwide Threat in 2003: Evolving Dangers in a Complex World," Washington, DC, February 11, 2003, accessed at <http://www.cia.gov/cia/public_affairs/speeches/2003/dci_speech_02112003.html>.

[15] The sleeper cell detected in Lackawanna, New York, may be typical. It comprised Muslim men who had gone to Afghanistan to meet with bin Laden and then returned to the United States. They provided no special technical expertise and brought only a diffuse interest in supporting bin Laden's cause.

[16] Gary Stradling of Los Alamos National Laboratory has argued for the former pathway.

[17] Some other examples include: the 2002 attacks on a hotel and an aircraft taking off in Mombassa, Kenya; the 2003 attacks on several housing complexes in Riyadh; simultaneous 2003 attacks on Riyadh and Casablanca as well as multiple attacks in Casablanca; the 2004 multiple attacks on the United Kingdom Consulate, the UGS Bank, and other buildings in Istanbul, Turkey; and the 2003 attacks on Jewish synagogues in Istanbul, Turkey.

[18] This preference for doing what it does well also could partly explain (along with effective counterterrorist operations) why there has yet to be a radiological dispersal device attack, despite the relatively widespread availability of necessary means.

[19] However, any such calculation need not—indeed, probably would not—apply to al Qaeda's membership overall. For suicide bombers, mid-level planners and operatives, and others concerned only with striking out against the United States and Western influences, nuclear use could well be seen as an even more effective means of doing so.

[20] Rahimullah Yusufzai, "Conversation with Terror," *Time* (January 11, 1999), 38–39.

[21] "Usama Bin Ladin, the Destruction of the Base," interview on al Jazeera Space Channel Television, airdate June 10, 1999, in FBIS Report: Compilation of Usama Bin Ladin Statements, 1994–January 2004, 131.

[22] Hamid Mir, "Osama Claims He Has Nukes: If U.S. Uses N-arms It Will Get Same Response," *Dawn* (Islamabad) Internet edition, November 10, 2001, accessed at <http://www.dawn.com/2001/11/10/top1.htm>.

[23] Brad Roberts of the Institute for Defense Analyses first stressed to the author this aspect of bin Laden's goals.

[24] This possible adverse impact on bin Laden's own goals could well provide a compelling reason not to use contagious biological weapons, such as smallpox. Once released, smallpox almost certainly would sweep around the globe and quite possibly kill many tens of millions of Muslims along with others.

[25] Text of tape broadcast on al-Arabiya, BBC News, April 15, 2004, accessed at <http://news.bbc.co.uk/1/hi/world/middle_east/3628069.stm>.

[26] Full transcript of bin Laden's speech, November 1, 2004, in FBIS, "Al-Jazirah Site Posts 'Full Transcript' of Bin Ladin's Message," GMP2004110100236, November 1, 2004.

[27] United Nations Security Council, S/Res/1540 (2004), adopted on April 28, 2004, accessed at <http://daccessdds.un.org/doc/UNDOC/GEN/N04/328/43/PDF/N0432843.pdf?OpenElement>.

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