INSIDE | Russia, U.S. Lag on Chemical Arms Deadline

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THE SOURCE ON NONPROLIFERATION
AND GLOBAL SECURITY

NUCLEAR SECURITY IN PAKISTAN

Reducing the Risks of Nuclear Terrorism
By Rolf Mowatt-Larssen

Separating Myth From Reality
By Feroz Hassan Khan

Ending North Korea’s Nuclear Ambitions:
The Need for Stronger Chinese Action
By Hui Zhang

Looking Back:
The National Missile Defense Act of 1999
By Greg Thielmann

IN THE NEWS

UN Tightens North Korea Sanctions
GAO Finds Gap in U.S. Export Controls
U.S. Still Committed to Engaging Iran
IAEA Finds Uranium at Second Syrian Site

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By Greg Thielmann

Cover photo: Pakistani soldiers guard nuclear-capable missiles displayed Nov. 27, 2008, at the International Defence Exhibition in Karachi. Rizwan Tabassum/AFP/Getty Images
The security of Pakistan’s nuclear weapons and infrastructure has been the subject of much coverage and debate in recent months as Pakistani government forces have stepped up their fight against insurgents. In this month’s issue, two leading experts offer detailed analyses of the risks and possible policy responses.

According to Rolf Mowatt-Larssen, growing extremism, an expanding nuclear portfolio, and continuing instability challenge Pakistan’s ability to protect its nuclear arsenal. He warns in particular against the slow leak of nuclear expertise and materials to nonstate actors.

Feroz Hassan Khan also sees “insider-outsider collusion” as a valid concern, but he emphasizes institutional changes that Pakistan has made to respond to that threat. A potentially much greater threat comes from flawed assumptions and rhetorical excesses, which could lead both Pakistan and the United States down the wrong path, he says.

Neither of the two authors saw the piece the other was writing, but they respond to each other on numerous points, disagreeing in some cases and agreeing in others. The two articles offer a valuable guide to analysts and policymakers navigating a delicate topic that has enormous implications for regional and global security.

Elsewhere in the issue, Hui Zhang addresses another thorny question in Asia as he looks at North Korea’s nuclear weapons program and calls for more vigorous efforts by China to end it. He lays out a detailed road map for North Korea and other countries to follow. He argues that China could and should work with North Korea and the United States to pursue such a strategy.

In his “Looking Back” article, Greg Thielmann reflects on the National Missile Defense Act of 1999. He examines the circumstances leading up to it and the impact the legislation has had since its passage. As Eben Lindsey’s news article on the Missile Defense Agency’s recent testing of the Airborne Laser system indicates, the debates Thielmann describes resonate today. —ELISABETH ERICKSON and DANIEL HORNER
FOCUS

By Daryl G. Kimball
Executive Director

Toward a Nuclear Freeze in South Asia

Ten years ago this month, tens of thousands of Indian and Pakistani soldiers faced off in a confrontation over the disputed Kashmir region. If not for intensive U.S.-led crisis diplomacy, that standoff and another in 2002 could have led to war between the two nuclear-armed rivals.

Since then, Indian and Pakistani nuclear and missile stockpiles have grown even larger, and the underlying conditions for conflict still persist. Indian military planners foolishly believe they can engage in and win a limited conventional conflict without triggering a nuclear exchange even though the Pakistani army’s strategy relies on nuclear weapons to offset India’s overwhelming conventional superiority.

Unfortunately, U.S. policymakers downplayed regional nonproliferation and risk-reduction priorities in the pursuit of other objectives. Beginning with Secretary of State Hillary Rodham Clinton’s visit to India this month, the United States should help to re-establish nuclear restraint and arms control as a top priority for the region.

Despite its struggle against extremists inside its own borders, the Pakistani army sees India as its main adversary. Pakistan is expanding its uranium-enrichment capabilities and building two new plutonium-production reactors for weapons purposes even though it already possesses enough fissile material for 60-80 bombs.

One excuse for Pakistan’s ongoing buildup is the U.S.-Indian nuclear cooperation initiative. Approved last year, the deal exempts New Delhi from long-standing restrictions on civil nuclear trade in exchange for India’s promise to refrain from nuclear testing and support a global ban on fissile material production for weapons, among other nonproliferation commitments. The deal gives India access to global nuclear fuel markets, freeing up its limited domestic uranium supplies for use exclusively in weapons production. India has enough fissile material for well more than 100 bombs.

India and Pakistan each claim to want only a “minimal credible deterrent,” but the end of their nuclear and missile buildup is not in sight. Indian and Pakistani support for negotiations on a global fissile material cutoff treaty (FMCT) is weak at best.

Ambassador Nirupama Rao said May 29 that New Delhi would allow multilateral talks to begin but would “not accept obligations” that hinder India’s “strategic program” or research and development or those that “place an undue burden on our military nonproliferated activities.” That, of course, is the very purpose of an FMCT.

Nor have the two states moved closer to a legally binding test ban since Washington persuaded them to declare testing moratoria in 1998. In recent months, Pakistani and Indian officials have said they have no plans to join the United States and China as signatories to the 1996 Comprehensive Test Ban Treaty (CTBT).

Given the billions of dollars of U.S. military aid flowing into Pakistan and India’s commitments made in the context of the nuclear cooperation deal, the Obama administration can and should use its leverage to put the brakes on their nuclear arms race. As Clinton suggested in a June 20 speech, the nuclear deal “can and should also serve as the foundation of a productive partnership on nonproliferation.”

For his part, Indian Foreign Secretary Shivshankar Menon said June 3 that India would “welcome real action toward nuclear disarmament and “will work with our partners internationally towards that objective.” Now that President Barack Obama has jump-started global disarmament efforts and pledged to engage other states in the effort, India and Pakistan must do their part by embracing rather than rejecting commonsense nuclear arms control strategies.

A good starting point would be for India to invite Pakistan and China to halt fissile production for weapons pending the conclusion of a global FMCT. India, which has more than enough separated fissile material to maintain a large nuclear deterrent force, would win wide international acclaim for the proposal and remove the rationale for Pakistan’s fissile buildup.

The Obama administration can nudge New Delhi along by strictly adhering to a key provision of the implementing legislation for the nuclear cooperation deal. That provision requires a report to Congress by the end of this year and each year thereafter that assesses whether India has or has not increased unsafe-guarded fissile material production.

Clinton should not hesitate to put the CTBT back on the U.S.-Indian bilateral agenda. She should urge her Indian counterparts to reiterate Prime Minister Atal Bihari Vajpayee’s 1998 commitment that India would not be among the last states standing in the way of the treaty’s entry into force.

New Delhi is clearly not yet ready to sign the CTBT, but it is not in its strategic interests to resume nuclear testing. As then-Sen. Obama (D-Ill.) said on the floor of the Senate on November 16, 2006, “[I]n the event of a future nuclear test by the Government of India, nuclear power reactor fuel and equipment sales, and nuclear technology cooperation would terminate.”

It may be difficult for the Obama team to nudge India and Pakistan toward greater nuclear restraint, but failure to bring about change risks the most severe nuclear proliferation consequences in the years ahead. ACT
**In BRIEF**

### Notable Quotable

“Speaking before the Japanese Diet on November 11, 1983, President Ronald Reagan said, ‘The only value in possessing nuclear weapons is to make sure they can’t be used ever. I know I speak for people everywhere when I say our dream is to see the day when nuclear weapons will be banished from the face of the Earth.’...

As a nation, we have a number of important decisions in the coming months, including those related to a follow-on to the Strategic Arms Reduction Treaty with Russia, the Administration’s planned resubmission of the Comprehensive Test Ban Treaty for ratification, and the need for a robust missile defense shield.

As we move ahead with these and other decisions, let us keep in mind the dream of a nuclear free world enunciated so eloquently by our 40th president...a dream that President Reagan pursued with great patience and depth of conviction. We would be wise to follow his lead.”

—Senator John McCain (R-Ariz.), statement on the floor of the Senate, June 3, 2009

### Ten Years Ago in ACT

**Pakistan’s Road to a Minimum Nuclear Deterrent**

“Pakistan again finds itself in a highly fluid situation whereby its own nuclear weapons policies keep evolving on an ad hoc, reactive basis in response to Indian actions. India and Pakistan’s symbiotic nuclear relationship, which has now escalated to the dangerous level of weaponization, will continue to shape the region’s security environment and to influence the international arms control agenda.”

—Farah Zahra, July/August 1999

### BY THE NUMBERS

<table>
<thead>
<tr>
<th>Global Military Expenditures</th>
<th>2008</th>
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<tbody>
<tr>
<td>Total expenditures</td>
<td>$1,464 Billion</td>
<td></td>
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<tr>
<td>U.S. military expenditures</td>
<td>$607 Billion</td>
<td>67% increase since 1998**</td>
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<tr>
<td>China's military expenditures</td>
<td>$85 Billion</td>
<td>230% increase since 1998**</td>
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<td>France’s military expenditures</td>
<td>$66 Billion</td>
<td>4% increase since 1998**</td>
</tr>
<tr>
<td>Britain’s military expenditures</td>
<td>$65 Billion</td>
<td>20% increase since 1998**</td>
</tr>
</tbody>
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*Military expenditures include all current and capital expenditures on personnel, procurement, operations, maintenance, and research and development for armed forces, defense ministries, and military space activities. They do not include civil defense and current expenditures related to previous military activities, such as veterans benefits and demobilization.

**Calculations are based on the SIPRI Military Expenditure Database, in which values are adjusted for inflation, using 2005 as the base year.

**Conventional Arming and Disarming**

- **Saudi Arabia** took delivery of the first two of 72 Eurofighter Typhoon jets from the United Kingdom. The 2007 multibillion-dollar deal, which received U.S. approval last year, had been held up due to investigations of corruption in an earlier Eurofighter agreement between the United Kingdom’s BAE Systems and Saudi Arabia. (See ACT, December 2008.) Saudi Arabia is the first country outside Europe to have the Typhoon, an aircraft that will represent an upgrade for the Saudi air force from its current fleet of Tornados and F-15s.

- **Cyprus** has successfully destroyed 324 expired manportable air defense systems (MANPADS) SA-7s, according to the Cyprus News Agency. The destruction procedure, which took place June 12, destroyed the last 20 of the 324 MANPADS and was implemented with the support of the Organization for Security and Cooperation in Europe and the technical assistance of the United States and the United Kingdom. In 2007, Cyprus also completed the destruction of its 48,475 stockpiled anti-personnel mines.

- In June, the United States delivered four Mi-17 helicopters to **Pakistan**. The U.S.-owned, Russian-built, medium-weight helicopters were requested by the Pakistani government and will be used to support operations against “militant extremists” and to provide humanitarian assistance to Pakistanis displaced by fighting, according to a June 11 article by the U.S. Department of Defense’s American Forces Press Service. U.S. military operations and assistance in Pakistan have been controversial, but according to the article, Defense Department leaders praised efforts, such as the helicopter transfer, that are designed to aid Pakistan’s internal counterinsurgency efforts.

- More than 55,000 firearms and 15,000 explosives were collected in Angola over the past year, according to the Angolan Press Agency. The collection initiative was led by the National Disarmament Commission, a body established to oversee the collection and storage of weapons. Angolan police began the process of systematically destroying the obsolete weapons in November 2008, a task that was carried out by the HALO Trust, a nongovernmental organization specializing in the removal of weapons and landmines. The Angolan government has stated that firearm legislation on the trade, possession, and use of guns will soon be updated.

**Treaty Update: Strategic Arms Reduction Treaty**

Russian and U.S. officials continued their talks on a successor to START, meeting in Geneva June 22-24. Both sides are aiming for “significant” reductions in strategic offensive weapons, but the issue of missile defense remains contentious.

Russian President Dmitry Medvedev said June 20 Russia “cannot agree with U.S. plans to develop a global missile defense.” Medvedev, speaking in Amsterdam, said that “the reductions we are suggesting in nuclear arms are possible only if the United States addresses Russian concerns…. [T]he problem of the relationship of strategic offensive and defensive weapons should be clearly laid out in the treaty.”

Medvedev said that if Russia’s concerns are met, Moscow is ready to reduce the number of its “strategic delivery vehicles by a significant factor” compared to the START provisions. START limits each country to no more than 1,600 deployed ICBMs, submarine-launched ballistic missiles, and heavy bombers. Russia currently fields 814 such delivery vehicles, according to START data exchanges.

The Obama administration believes that discussions on the future of missile defense should be kept separate from the post-START negotiations, a spokesman for the Department of State told reporters June 22. He added that although the two teams were still negotiating over specific numbers, the United States is looking for “a significant reduction” in strategic weapons.

Andrei Nesterenko, a spokesman for the Russian Foreign Ministry, said in June 18 press briefing that the two sides hope to announce “interim results” during President Barack Obama’s visit to Moscow July 6-8.

START limits U.S. and Russian nuclear delivery systems and provides numerous verification procedures that allow each side to monitor compliance. The treaty, which was signed in 1991 and came into force in 1994, expires Dec. 5.

**Convention on Cluster Munitions**

Albania, Niger, and Spain ratified the Convention on Cluster Munitions (CCM) in June, bringing the total number of ratifying states to 10. The treaty, which will enter into force six months after 30 countries ratify it, bans the use of nearly all cluster munitions. (See ACT, December 2008.) In May, Jamaica and Nigeria signed the agreement, bringing the total number of signing states to 98. The treaty was opened for signature and ratification in December 2008. The Mine Ban Treaty, which served as a model for the CCM, was opened for signature and ratification in December 1997 and entered into force in March 1999.

**On the Calendar**

- **Aug. 3-Sept. 18** Conference on Disarmament, Third Session, Geneva
- **Aug. 6 and 9** Anniversaries of the 1945 atomic bombings of Hiroshima and Nagasaki
- **Aug. 24-28** Biological Weapons Convention Meeting of Experts, Geneva
- **Sept. 7-11** International Atomic Energy Agency Board of Governors meeting, Vienna
- **Sept. 14-18** International Atomic Energy Agency General Conference, Vienna
- **Sept. 23-25** Comprehensive Test Ban Treaty Article XIV Conference, New York
Today’s frightening instability in Pakistan comes in a world in which global terrorists are actively seeking nuclear weapons and the materials and expertise needed to make them, a quest that has been underway for more than a decade. Rapid action is needed to keep the Taliban’s advances in Pakistan from creating new opportunities for these deadly adversaries.

Yet, assessing nuclear security in Pakistan should not be viewed in isolation. The challenges faced by Pakistani authorities must be seen in their broader context to be properly understood and effectively countered. All countries in possession of nuclear weapons are concerned about the possibility of losing control over a bomb or weapons-related material. Consequently, states must pay utmost attention to securing these means of mass destruction. Recent years have seen increased international cooperation on nuclear security, improvements in international material protection control and accounting procedures, and increased funding for nuclear security-related initiatives. Despite increases in the scope and sophistication of security measures, much work remains to be done in order to lock down all nuclear materials to a Fort Knox standard. The fact remains that missing weaponsusable material turns up regularly on the nuclear black market. The most worrisome aspect of these recurring incidents is that facilities from which the materials originated did not report them missing. In addition, there have been some notable lapses in warhead security, even in the United States.

Despite such troubling developments, global security efforts until now have been good enough to avert a nuclear catastrophe. The bad news is that nuclear threats are growing.

According to former CIA analyst Bruce Riedel, “Pakistan is the most dangerous country in today’s world.”

Daunting Security Task
Ensuring complete control over nuclear equipment, material, and technology is more difficult now than at any time in the past. There is a burgeoning global interest in all things nuclear. More states are seeking nuclear technologies, power, and weapons. Production, transportation, and storage of nuclear materials will expand throughout the 21st century. The presence of more material in more places increases the odds of a security breach leading to the loss of a bomb or the theft of materials to make a bomb. The anticipated global renaissance in nuclear energy will pose new challenges in this regard unless the associated proliferation risks are fully taken into account in decisions on materials processing, transportation, and storage. In this light, it is essential to secure not only weapons-grade plutonium and uranium from military programs, but also plutoni-
um, highly enriched uranium, and other materials from civilian programs. Materials that would not meet the standards required for a nuclear weapon developed by a state might be usable in a terrorist’s yield-producing bomb.4

Thus, a zero tolerance standard must be adopted for the loss of any nuclear weapon or of materials that may be fashioned into a bomb. Terrorists know that they can exploit any vulnerability to their advantage. In December 1998, Osama bin Laden expressed al Qaeda’s intent when he stated in an interview, “Acquiring weapons [of mass destruction] for the defense of Muslims is a religious duty.”5 In November 2001, he added, “I wish to declare that if America used chemical or nuclear weapons against us, then we may retort with chemical or nuclear weapons. We have the weapons as deterrent.”6

In its efforts to achieve the stature of a state, a terrorist group is most interested in producing a nuclear yield—a mushroom cloud. Consequently, a terrorist group would improvise a nuclear device or essentially build a crude nuclear bomb, one that has a low yield and may be unpredictable, inefficient, and unsafe in comparison with the complicated weapons systems in a national nuclear arsenal. To counter this qualitatively new threshold of nuclear-related threats, states must ensure that terrorists do not acquire any nuclear materials. This risk increases the demands that must be placed on security measures for materials at all stages of their use, i.e., production, processing, transportation, and storage, in research reactors as well as weapons facilities. The bottom line is that it is not enough to preclude terrorists from getting their hands on a bomb. States must eliminate any possibility that terrorists will acquire sufficient materials to build a bomb or successfully attack or take over a facility containing weapons or materials.

After the September 11 attacks, for example, the United States raised the level of the security for nuclear weapons and nuclear materials. As a centerpiece of this effort, President George W. Bush signed a National Security Directive in August 2006 establishing the U.S. government’s Nuclear Materials Information Program. This program directed the consolidation of all U.S. information pertaining to all nuclear materials worldwide, in all forms and at all levels of enrichment. It included radioactive sources that could be fashioned into a dirty bomb. Every country was considered as a potential source of a crude terrorist weapon, including the United States. The directive prescribed a systematic approach to assessing the security status of all nuclear materials in facilities and in transit. It required the construction of a forensics database containing all U.S. holdings.7

In addition, substantial new investments were made in upgrading security throughout the U.S. nuclear establishment. To that end, security planners in the Department of Energy and the Nuclear Regulatory Commission made assumptions about the likelihood that malicious insiders at nuclear sites would work with outsiders to allow access to facilities and materials. The Energy Department and the FBI dramatically increased intelligence and counterintelligence efforts to mitigate threats posed by malicious insiders. Defense in depth—multiple, reinforcing layers of security—was strengthened to catch any leakage of materials or information that could enable an outside group in its pursuit of a bomb.

In spite of such upgrades, serious security lapses have occurred in the U.S. nuclear establishment over the past several years.8 Others will surely happen in the future because no security is perfect. Thus, constant vigilance is required; it is important to strive continuously toward the elimination of nuclear threats, knowing that it may never be possible to achieve this ideal standard. The surest way to fail is to
become complacent, to believe it cannot happen here.

That is certainly true in Pakistan. Nevertheless, all signs indicate that the professional and disciplined Pakistani military establishment that maintains control over the nuclear arsenal understands the dangers of a breakdown in nuclear security. Senior Pakistani military officers have consistently expressed a high degree of confidence that they are prepared to counter a range of plausible threats in this regard.

These officers have a lot to worry about, notwithstanding high-level reassurances from Pakistani authorities that everything is under control. Three worrisome trends are exerting mounting pressure on the Pakistani military’s ability to secure its nuclear assets and prevent a nuclear catastrophe. First, growing extremism in Pakistan increases the odds of insiders in the nuclear establishment collaborating with outsiders to access weapons, materials, or facilities. Second, the rapid expansion of Pakistan’s nuclear weapons program will introduce new vulnerabilities into the security system. Finally, growing instability within the country could lead to unanticipated challenges to nuclear command and control procedures, resulting in a “loose nuke” scenario, a takeover of a facility by outsiders, or, in the worst case, a coup leading to Taliban control over the nuclear arsenal.

**Collaboration Scenarios**

The greatest threat of a loose nuke scenario stems from insiders in the nuclear establishment working with outsiders, people seeking a bomb or material to make a bomb. Nowhere in the world is this threat greater than in Pakistan. Pakistani authorities have a dismal track record in thwarting insider threats. For example, the network run by the father of the Pakistani bomb, Abdul Qadeer Khan, channeled sensitive nuclear technologies to Iran, Libya, and North Korea for years under the noses of the establishment before it was taken down in 2003, to the best of our knowledge.9 The Umma-Tameer-e-Nau (UTN), founded by Pakistani nuclear scientists with close ties to al Qaeda and the Taliban, was headed by Sultan Bashiruddin Mahmood, who had been in charge of Pakistan’s Khushab reactor.10 He discussed al Qaeda’s nuclear aspirations with bin Laden. According to Mahmood, bin Laden asked him how he could construct a bomb if the group already had the material.11 It is stunning to consider that two of the founding fathers of Pakistan’s weapons program embarked independently on clandestine efforts to organize networks to sell their country’s most precious secrets for profit.

Although the UTN network apparently was neutralized before it had a chance to fulfill al Qaeda’s long-held aspirations to obtain what bin Laden has called a “Hiroshima bomb,” this was the first known case in which a “WMD for hire” network had been created specifically to provide weapons of mass destruction to terrorist and extremist groups. In this context, members of the UTN group represented the broad set of scientific- and engineering-related capabilities necessary to construct an improvised nuclear device. They had
an international reach. Most importantly, some prominent members of the group had once held positions in the Pakistani establishment and had connections to people on the inside with access to nuclear materials. It is not certain that this group had the wherewithal to have succeeded in its desire to enable al Qaeda’s quest for a bomb, but it is encouraging that resolute Pakistani and U.S. follow-up action apparently nipped in the bud a potentially serious threat.12

There are troubling indications that these insider threats are not anomalies. In the Khan and UTN cases, the rogue senior officers and their cohorts in the nuclear establishment were not caught by Pakistan’s security establishment. It would be foolhardy to assume that such lapses could not happen again. The Pakistani military, intelligence, and nuclear establishments are not immune to rising levels of extremism in the country. There is a lethal proximity between terrorists, extremists, and nuclear weapons insiders. Insiders have facilitated terrorist attacks.13 Suicide bombings have occurred at air force bases that reportedly serve as nuclear weapons storage sites.14 It is difficult to ignore such trends. Purely in actuarial terms, there is a strong possibility that bad apples in the nuclear establishment are willing to cooperate with outsiders for personal gain or out of sympathy for their cause.

Relying on Secrecy

Pakistani authorities certainly recognize the gravity of this problem. One of the ways they are coping is to emphasize secrecy and clandestinity over the more visible manifestations of nuclear security. The U.S. and Russian model of nuclear security relies on redundant layers of high walls, gates, and guards at sites in order to produce a highly visible image of impenetrability that will deter those seeking to gain access to them. Essentially, Pakistan has sacrificed some of the advantages of the traditional approach to security in favor of reducing unique vulnerabilities and threats arising from the circumstances in which it finds itself.

The thrust of the Pakistani military’s strategy is to reduce its vulnerability to a nuclear security incident by systematically denying outsiders opportunities to gain illicit access to nuclear weapons. Consequently, the nuclear establishment is distributed geographically: Materials processing and weapons production facilities are consolidated in sites near Islamabad in areas under tight government control. Special nuclear material is reportedly stored apart from the weapons themselves. Warheads are reportedly stored separately from delivery systems.15

Another precaution taken by the Pakistani military is to maintain strict secrecy over the location of storage sites and to transport and deploy weapons clandestinely rather than in convoys that have a stronger, highly visible security profile. These security precautions produce fewer visible signs of movements, thereby lowering the risks associated with possible theft of or attack on weapons at their most vulnerable point, in transit.16

Paradoxically, this dependence on secrecy over physical security could backfire in the event a malicious insider gained access to locations of weapons storage sites, transportation routes, and similar insider information, especially because more moving parts are involved in assembling weapons when they are being deployed. In such a case, there would be fewer barriers between an outside group and the bomb.

The emphasis on maintaining clandestinity and secrecy in nuclear activity may hold other unintended consequences. For instance, Pakistan’s development of indigenous weapons-use controls—permissive action links (PALs)—for partially disassembled weapons systems is more challenging than for PALs built into a fully integrated weapons system.17 Moreover, although unpredictability in nuclear-related movements and activity is good from the standpoint of frustrating would-be attackers, it could conceivably increase the chances of a dangerous miscalculation of Pakistan’s actions by India, especially in a crisis in which Pakistan’s archrival interpreted a nuclear terrorist incident as a threat against its security.

Another trend that militates against achieving perfect nuclear security is the rapid expansion of the Pakistani nuclear program. Pakistan’s nuclear arsenal roughly doubled from 1998 to today’s total of a hundred weapons, in round numbers.18 In the coming years, as new plutonium-production capacity at the Khushab site comes online, the total number of nuclear weapons could increase dramatically.19 Using plutonium as the nuclear-explosive material also would allow Pakistan to build smaller nuclear weapons.

The expansion of the nuclear weapons program will mean more material, more construction of facilities for processing material and manufacturing weapons and delivery systems, and more demands for waste storage and transportation. More of everything means more vulnerabilities, more places for something to go wrong.

Finally, Pakistan’s expanding nuclear program and the insider threat that accompanies it is taking place in the context of

A Pakistani farmer tends fields April 8 outside his country’s Khushab plutonium-production reactor.
the broader trend of increasing instability in the country. In terms of assigning probabilities to a potential nuclear meltdown, the most likely scenario that Pakistan may confront is not a loss of control over one of its nuclear weapons, although that risk certainly must be addressed. Rather, threats are more likely to emerge from the increasing number of potential pathways to a bomb, specifically, the increasing threats posed by a slow hemorrhaging over time of technology, design, and construction knowledge and materials that might ultimately cross the threshold and produce a terrorist bomb. This phenomenon is more complicated and subtle and more difficult to counter than the scary, well-hyped scenarios involving loose nukes stolen by terrorists from a storage site or in transit.

Rising Risks

Unfortunately, there is growing rationale and shared motivation for insiders and outsiders to cooperate out of shared hatred toward the United States. This kind of externally directed hostility may not be readily recognized in its formative stages by those guarding the nuclear weapons arsenal, because these threats are not being directed against the Pakistani government. Countering such insidious trends will require not only a strengthening of defenses, but also a weakening of the threats, the sources of anti-U.S. antipathy that contributes to the possibility that al Qaeda will be able to convince an insider to help its cause. In terms of assessing any spike in these risks, the overall direction of pro-Taliban and anti-Taliban sentiment in the country should be closely watched.

The National Command Authority (NCA) that controls the use of nuclear weapons remains under the tight reins of the Pakistani military, not the civilian leadership. It is not obvious how effectively the military might respond to unprecedented challenges to its nuclear command and control procedures. The bifurcation of civilian and military roles seems to have been left deliberately ambiguous under the NCA; certain responsibilities that nominally have been given to the civilian leadership may be carried out by the military. The potential discrepancy between constitutional authorities and actual execution of those authorities raises the risks of uncertainty and confusion in a crisis. For example, the Pakistani civilian leadership, especially if a more extreme government assumed power, might issue orders or make statements concerning the status and control of nuclear forces contradicting those made by the Pakistani military commander-in-chief.

Fortunately, it appears that the odds of such a security breakdown are very low, at least from an assessment based on the current realities of the security situation in Pakistan. The authorities appear to be serious about countering Taliban advances in the country. That is vital because ensuring continued stability and law and order is the most important factor in averting the possibility of a nuclear catastrophe. As Pakistan moves forward to face an uncertain future, the government faces an ongoing challenge to its authority and myriad threats against which it must defend. With the passage of time, the odds steadily increase that Pakistan will face a serious test of its nuclear security.

In such cases, some elements of the military’s loyalties might be divided, even in the event that overall control over nuclear forces continues to be assured. By way of example, if a colonel in charge of hundreds of troops decided to take over a nuclear weapons site, would the military be able to resolve such a situation in a way that did not lead to catastrophe?

It is not likely that the Pakistani military and nuclear security establishment can fully consider all such challenges to its authority in advance or, even if it can, that military and civilian roles in the NCA that are not well understood outside Pakistan or perhaps even within the country. It is possible that, in extreme circumstances, the Pakistani government would be hard-pressed to reassure the outside world, especially India, that all its nuclear assets are under the full and authoritative control of the military.

For its part, the United States must be fully prepared to respond to this eventuality. The United States should continue to do all it can to assist Pakistan in upgrading its nuclear security. U.S. government assistance to Pakistan has been a wise investment, even without full transparency into the expenditure of funds. The United States should be satisfied that anything that helps
upgrade Pakistan’s nuclear security is an investment in its own security. No country, including Pakistan, can be expected to risk exposing the details of its nuclear security posture and readiness to another country. Most importantly, U.S. assistance has improved bilateral nuclear ties between Washington and Islamabad, engendered trust, and enhanced the possibility of establishing more reliable lines of communication. In addition, Pakistan should agree to pursue specific joint actions and special communications mechanisms to be activated during a crisis, such as responses to a stolen or missing nuclear weapon or takeover of a nuclear facility.

Finally, increasing the level of transparency and predictability between India and Pakistan is absolutely vital. Neither party can afford to make a miscalculation in the heat of the moment that might escalate into a nuclear confrontation. ACT

ENDNOTES

19. Ibid.
Pakistan is passing through an extremely delicate phase in its history. Recent instability in Pakistan, including the Taliban’s advance into settled areas, prompted the Pakistani military to undertake large-scale military operations in the Swat Valley. As military and Taliban forces fight in the rugged tribal terrain, several Western analysts have raised concerns about the future of nuclear Pakistan.¹

The nightmare specter of nuclear weapons, nuclear material, or a whole country falling into al Qaeda or Taliban hands is invoked, creating fear and mistrust between critical allies in the war against terrorism. The risk of a dangerous policy outcome in the United States, based on flawed assumptions, is now far greater than the probability either of nuclear weapons falling into the hands of Taliban and other extremists or of the disintegration of Pakistan itself. Any misstep against a nervous nuclear-armed country would be a greater mistake than any made in Iraq. Fortunately, the current top leadership in the United States can distinguish reality from myth.² Nevertheless, misperceptions about weapons of mass destruction have influenced U.S. decisions too recently to be ignored in a discussion of the current situation in Pakistan.

Western fears about Pakistani nuclear security range from valid to bizarre. The more valid concerns involve theft of material, sabotage, unauthorized use of nuclear weapons, and insider-outsider collaboration. The potential for terrorist infiltration into the program is a concern for Western analysts and the Pakistani nuclear establishment. The bizarre fear involves the allegation that Pakistani armed forces and intelligence agencies, who are the custodians and guardians of the nuclear arsenal, could be accomplices to such an act as Taliban sympathizers.³ An alternate scenario posits that the inability of the armed forces to defeat the Taliban extremists would result in abdication of the Pakistani state to the Taliban.⁴ Gen. Tariq Majid, chairman of Pakistan’s Joint Chiefs of Staff Committee, called such scenarios “plain mischievous” and said they “need to be contemptuously dismissed.”⁵

President Franklin D. Roosevelt famously said, “The only thing we have to fear is fear itself.”⁶ His words aptly describe the prevalent fears in regard to the situation in Pakistan today. Two main dangers emanate from the hype on nuclear insecurity in Pakistan. The first danger is that the grossly exaggerated threat perception in the West may prompt the United States into policy choices it would later regret.⁷ The second danger is that continuing media focus on this issue stokes Pakistani paranoia about U.S. intentions. These fears and suspicions about U.S. intervention inside Pakistan...
could provoke that country to take defensive actions against foreign intervention rather than focusing on the possibility of reducing internal threats to nuclear security and could further fan anti-U.S. public sentiment. It is true that stability in Pakistan is shaky, its fledgling democracy is in transition, and it is facing internal threats from extremists. Until recently, decision-makers in Pakistan were in a state of denial and reacted only when the Taliban threat exploded in their faces. Therefore, it is justified to worry and ask questions about the security of a nuclear-armed country undergoing such a traumatic experience. It would be equally correct to weigh the seriousness of the threat against the ability of the state’s security apparatus and its nuclear security measures to prevent the worst from happening.

This article examines the nuclear security of Pakistan in light of recent developments: the increasing threat of the Taliban and reports of Pakistan’s expanding nuclear arsenal. The article will explore the backdrop of Pakistan’s nuclear development in relation to U.S. policy. It will then examine the perceptions of insecurity and explain how Pakistan’s threat priorities differ from U.S. concerns. Next, it will explain Pakistani efforts to establish a nuclear management system and the development of nuclear security culture. The article will conclude by examining the U.S. role in the evolving Pakistani nuclear security regime.

Backdrop: Regional Security
The nuclear dimension of regional security in South Asia is essentially a deterrence construct between India and Pakistan. Although little has changed between India and Pakistan in the decade following their 1998 nuclear tests, the regional security landscape has been completely altered. The region now faces new forms of asymmetric threat, the likes of which have never been experienced.

The war in Afghanistan, now in its eighth year, has metastasized into a classic insurgency and expanded into Pakistan. The impact of the Afghan war against the Soviets in the 1980s, insurgency in Indian-administered Kashmir, and domestic changes brought about during the Zia ul-Haq era have had a deleterious impact on the social fabric of Pakistan. New forms of religious-based militancy and an ethos of jihad were introduced in Pakistan at a time when the country was politically abandoned by its Western allies and slapped with nuclear sanctions. Thus began a bitter history of distrust between Pakistan and the United States.

Under these challenging and often unhealthy circumstances, Pakistan’s covert nuclear program incubated and matured into an operational deterrent. The United States and Pakistan never saw eye to eye with regard to the latter’s nuclear ambitions. Since the mid-1970s, every effort the United States undertook to block, stymie, and dissuade Pakistan eventually failed to stop Pakistan in its quest to acquire a nuclear deterrent. The story of Pakistan’s clandestine means of acquisition is widely known, but less is known about the context, which involves domestic national politics, regional security, and intense geopolitical engagement with the United States. By the turn of the century, the U.S. policy of rolling back Pakistan’s nuclear capability had become an unrealistic objective. The United States...

States instead sought to restrict Pakistan’s nuclear capability to a minimum deterrence posture and dampen the security competition with India.

During the 1980s and 1990s, while Pakistan was building its nuclear program, issues of nuclear security and command and control were not the prime concern. That changed after Afghanistan-based terrorists attacked the United States on September 11, 2001, and news spread about a meeting in the summer of 2001 of two retired Pakistani scientists, Sultan Bashiruddin Mahmood and Abdul Majeed, with Osama bin Laden. Until then, concerns about “loose nukes” and nuclear material smuggling were focused on the former Soviet Union. Three years later, the shocking revelations about Abdul Qadeer Khan’s nuclear smuggling network made Pakistan’s nuclear program even more controversial.

Perceptions of Insecurity

States managing a nuclear weapons program typically have three main types of nuclear security concerns. First, every nuclear-capable state worries about the external threat of a preventive strike by hostile powers against its nuclear facilities. Second, such states worry about physical invasion of the state by a hostile neighbor. The third and probably the most dangerous concern is insider-outsider collaboration. Pakistan has lived with all three categories of threats since the inception of its nuclear program. Like every state, Pakistan’s program places great emphasis on secrecy and compartmentalization. In the past, no single office, organization, or authority held ultimate responsibility for supervision. For the past decade, there has been a National Command Authority (NCA) with a dedicated secretariat (the Strategic Plans Division, or SPD), which is responsible for all nuclear-related activities. Since these institutions were established, events, controversies, and deterioration of the regional and domestic environment have forced Pakistan to tighten its oversight and control.

The Taliban threat within Pakistan is a new phenomenon. The militant group led by Baitullah Mehsud belonging to the tribal belt in Waziristan calls itself the Tehrik-e-Taliban (TTP). The TTP is an extremist fringe whose activities have now expanded from the tribal areas into the settled areas of Pakistan. This provoked military operations that continue today and have resulted in the displacement of millions of people. The exact size of the Taliban in Pakistan is not known, but estimates range from 5,000 to 15,000. Grisly practices such as the public flogging of a young woman in April, against a backdrop of kidnapping, bombings of schools and mosques, and general killing of innocent civilians, turned the Pakistani public against any accommodation with the TTP or any other religious extremist organization. The tipping point arrived when the TTP exploited the “peace deal” and advanced further inland. The Pakistani public was shocked at the actions of an elected government that abdicated to such a force by negotiating a deal.

Pakistan’s armed forces are a half-million strong, and the country has a moderate Muslim populace with a history of repeatedly rejecting religious political parties. The country has reacted forcefully against the Taliban, so the fear that Pakistani nuclear weapons could fall into the hands of the Taliban is totally misplaced. As explained by Naeem Salik in a recent op-ed, there is “no causal relationship between the military operations against the Taliban and the security of Pakistan’s nuclear arsenal.”
Nuclear security is a function of nuclear management, which covers both the nuclear arsenal and peaceful nuclear energy. The force goals and the size of the nuclear arsenal are determined by a comprehensive examination of national threats and responses to them. Meanwhile, nuclear energy requirements are based on long-term national development planning. Mixing the two together as a general expansion of nuclear capacity confuses the issue. Further, the terms “proliferation” and “nuclear security” are often used interchangeably. For example, Pakistani purchase of light-water power reactors under International Atomic Energy Agency (IAEA) safeguards should not be a proliferation concern. The security of this expanding nuclear infrastructure requires an examination of the state’s nuclear security regime, explained below.

**External and Internal Threats**

Pakistan does not have an enviable geography. It is surrounded by giant nuclear-armed neighbors Russia, China, and India. Its elongated shape lacks depth, making lines of communication vulnerable to India. Pakistan’s western provinces consist of territories that are volatile because of border disputes (the Durand Line with Afghanistan) or internal tribal unrest, leaving the security managers of the state with extremely difficult choices. Pakistan’s strategic planners are acutely aware of these structural vulnerabilities and account for them when selecting sites for sensitive nuclear and strategic organizations. They balance external threats, internal volatility, technical requirements, resource availability, and the secrecy requirements of every sensitive site.

Therefore, generalized statements about nuclear weapons falling into the hands of the Taliban are disconnected from the reality on the ground. Since the late 1970s, Pakistan’s perceptions of threats to its nuclear program were externally oriented. Preven-
Physical Invasion of the Country

Pakistan has existed under the threat of invasion throughout its existence. Several wars were fought with India, one of which resulted in Pakistani national dismemberment. Even during the British Raj, the Indian subcontinent lived under the threat of physical invasion, especially from armies using historical routes such as the Khyber and Bolan Passes. New doctrines of wars to defeat and destroy Pakistan continue to be contemplated, practiced, and exercised in India. Since the mid-1980s, six major military crises of varying degrees of intensity have forced Pakistan to consider physical invasion from India an existential threat in perpetuity. This perception cannot be wished away unless India and Pakistan undertake a structured and sustained program of conflict resolution, in conjunction with conventional and nuclear arms control measures. The Pakistani armed forces must balance three dimensions: India, Afghanistan’s threat to the western border, and internal extremist threats. When selecting strategic sites, Pakistan carefully takes these threats into account. Material storage, missile silos, and movement of sensitive material and personnel are being carefully and professionally watched, and best practices are being developed to prevent security breaches.

Institutional Changes

After the nuclear tests in 1998, the Pakistani nuclear program faced three major needs: to review national security policies, institutionalize the management of the nuclear program, and develop a prudent strategy for a robust strategic force. The first challenge required Pakistan to have a national security apparatus capable of comprehensively analyzing national security policy in changing times. This challenge is being tackled nationally at the political level. The remaining two challenges involve the NCA, which comprises the top civilian, military, and scientific decision-makers in the country. The SPD, formed in 1999, provides institutional oversight on nuclear decision-making.

was created. Counter Intelligence Teams were created to act as the daily eyes and ears of the SPD. Weekly, monthly, and quarterly reports for the security of all organizations are maintained by the SPD to prevent theft, loss, or accident.

Next, a system of sensitive material control and accounting was introduced. The specific discussion of management of nuclear arsenals, but a two-man rule and, in some cases, a three-man rule is followed, with physical safety and firewalls built into the weapon system to prevent any unauthorized launch.34

The inception of the Nuclear Security Action Plan (NSAP), organized by the Pakistan Nuclear Regulatory Authority (PNRA), was a very important development in Pakistan’s nuclear security management. The PNRA is an independent body responsible for civilian programs, but it coordinates closely with the SPD. The two organizations complement each other by sharing best practices.

The main task of the NSAP is to manage all nuclear activities and radioactive sources that are under regulatory control and to develop a sustainable national system. Nuclear security emergency centers and procedures to secure orphan radioactive sources and to secure borders against any illicit trafficking have been put in place. Rigorous inspections are one key element of the PNRA’s activities to strengthen controls. Another is the training of a wide variety of personnel from all major organizations. The training involves nuclear security, physical protection, emergency preparedness, detection equipment, recov-

The recent hype and, at times, irresponsible writing by U.S. academics with serious credentials has created a sense of cynicism in Islamabad, reinforcing beliefs that the recent chatter is a prelude to aggressive counterproliferation measures by the United States.

system was derived from modern training, possibly modeled on U.S. national laboratory procedures. The system involved regular and surprise inspections to tally material production and waste in order to maintain transparency and accountability. Under a careful, secret plan instituted by the SPD, professional guards at static sites and escorts with tight security procedures are involved during transportation. Special theft- and tamper-proof vehicles and containers are used.33 In peacetime, nuclear weapons are not mated with their delivery systems and are not operationally deployed. Operational secrecy precludes

A Pakistani soldier guards the outskirts of Pakistan’s underground nuclear test site in Chaghi June 29, 1998.
tence of a secret joint Pakistani-U.S. strategy for U.S. access to Pakistan, are baseless. Pakistan is very careful in seeking assistance on nuclear technology from the United States, especially if the assistance is perceived to be of an intrusive nature. Like other nuclear-capable states, Pakistan jealously guards its locations and nuclear best practices from any outside influence or knowledge. However, it is always keen to learn of other countries’ nuclear security measures and to acquire detection equipment at seaports, airports, and other border crossings.

In 2001, U.S. Secretary of State Colin Powell offered nuclear security assistance to Pakistani President Gen. Pervez Musharraf. The SPD carefully examined the offer and accepted training but declined technology transfers, which they perceived as intrusive or likely to compromise program secrecy. Since then, Pakistan has benefited from advanced-level training from U.S. national laboratories and has improved its best practices in accordance with its own security culture. There has been no further acceptance by Pakistan of any assistance from the United States, especially permissive action links (PALs), the coded mechanical or electrical locks designed to prevent unauthorized arming or detonation of a nuclear weapon.

There are two issues regarding cooperation on PALs. First, the U.S. export control laws restrict sharing PAL technology with other countries, especially with countries that are not parties to the nuclear Nonproliferation Treaty (NPT). Second, transferring PALs not only helps prevent unauthorized use, but also can encourage the recipient state to deploy and disperse the weapons, thus facilitating nuclear use. There are objections from the proposed recipient as well. The recipient state would have to share details of its nuclear weapons design for the technology transfer to work. No country shares such secrets.

In fact, alarmist stories in the U.S. media actually undermine any possibility of positive U.S. assistance. U.S. speculation about contingency plans and preemptive weapons seizure leads to greater Pakistani distrust of the United States. Referring to conjecture on U.S. plans to seize nuclear sites, Michael Krepon accurately summed up Pakistani anxieties: “I think these plans—if they exist and I’m not sure that they do—are unlikely to be successfully executed and would result in multiple mushroom clouds. So I think this is a bad idea, and it’s a bad idea even to talk about it.”

What the United States can do is explain to Pakistan its own experience with nuclear security management. The United States cannot boast of a perfect security record itself. Nevertheless, as the most experienced nuclear power, the United States can share its nuclear security practices, performances of the system, and the likelihood of mishaps.

Pakistan has three decades of experience in producing, transferring, and storing fissile stocks and weapons. Pakistani security managers have also learned to put in place detection equipment and security barriers, as well as set up checkpoints and customs posts. Such types of performance are easily measurable and can be improved with little assistance required.

The effectiveness of the nuclear security culture is difficult to measure, which is true for all nuclear powers, including the United States. It involves institutionalization of standing operating procedures and practices beyond individuals. No matter how good a system is, it will require constant improvement. Other countries cannot measure the effectiveness of Pakistan’s system, but generic training and the sharing of experience will help improve it. The efficacy of any system is tested only when a mishap or near-miss occurs. It is important for any organization to learn the ways by which a clever and determined criminal might overcome security. Only then can the physical and technical limitations of the system be evaluated. For example, managers may have confidence in existing detection sensors, but a clever criminal can manipulate them by rigging the system or discerning the alarm threshold and stealing quantities below that threshold.

The United States has produced sensitive sensors and software that can detect radiation at an extremely low level. Pakistan is unlikely to accept foreign-made sensors in any of its sensitive sites, but it can use these devices at major geographical chokepoints. By utilizing its elaborate network of river systems and canals, which restrict movement, Pakistan can make broader security improvements. The United States can help Pakistan modernize its NSAP by installing modern sensors and radiation monitors for portal monitoring at locations acceptable to Pakistan. This would help prevent terrorist transport of conventional explosives as well as illicit radiological material. Modern sensors at key bridges on Indus River systems, for example, will help nuclear security and internal security against suicide bombers.

The most difficult aspect of measuring effectiveness comes from the unpredictability of human motivations. Motivated individuals can always elude effective barriers. Therefore, Pakistan must constantly maintain a very close watch over the system, in addition to upgrading and improving the PRP and HRP. Simply add-
The Pakistani nuclear program, although seen as a threat by some, is significant for its role in the balance of power in South Asia. Pakistan's pursuit of nuclear capability is fraught with a history of friction with its strategic assets are jealously safeguarded. Any attempt to undermine our core capability will be strongly resisted and defeated.48

Conclusion
Pakistan lives in a security-intensive environment, with internal and external threats. Nuclear weapons form an essential ingredient of its national security. Pakistan's pursuit of a nuclear capability is fraught with a history of friction with the United States. Pakistan has refused to be coerced on the nuclear question and views U.S. concern over nuclear security as "deliberate misinformation" and a "vicious campaign unleashed to malign and discredit" its achievement.47

Despite widely known limitations, Pakistan has done remarkably well in establishing a nuclear security regime and an evolving nuclear security culture that requires encouragement and support. It has been quite liberal in briefing U.S. officials, academics, and even journalists about its nuclear management. Over several years, Pakistan has sent officials, technicians, and administrators to receive training on modern technical solutions and management under the aegis of mutually acceptable arrangements that cater to each side's sensitivities.

Veiled threats and unsubstantiated criticism of its efforts can push an important nuclear-armed country in distress into directions highly undesirable for Pakistan and the United States. As critical allies in the war against violent extremism, the two countries have more pressing issues to tackle. Majid sums up the Pakistani perceptions of external or internal threats and the country's likely response: "Let it be known that Pakistan is confident but not complacent. Our security apparatus prepares and practices contingencies to meet all such eventualities and would not be deterred from taking any action whatsoever in ensuring that our strategic assets are jealously safeguarded. Any attempt to undermine our core capability will be strongly resisted and defeated."

ENDNOTES
2. Statements from President Barack Obama and senior U.S. political and military leaders have provided assurances on the security of the Pakistani nuclear program, even though they have recognized the internal instability and weak governance. See http://edition.cnn.com/2009/POlITICS/04/29/obama.transcript/ (Obama’s statement on the occasion of 100 days in office).
9. India and Pakistan have failed to resolve their conflict, and the United States continues to intervene to defuse crises but shies away from mediation because of Indian sensitivity.


17. The only exception was in the 2002 elections, when a coalition of religious parties won a plurality in the North West Frontier Province to form a provincial government. The coalition was routed in the 2008 elections.

18. See Tisdall, “Pakistan Nuclear Projects Raise US Fears.”


20. Ibid.


32. Pakistan’s definition of nuclear security is “[t]he prevention and detection of, and response to, theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving nuclear material, other radioactive substances or their associated facilities.” Jamshed Hashmi, presentation at a workshop by the Partnership for Global Security, Washington, D.C., February 21-22, 2008 (hereinafter Hashmi presentation).


35. Hashmi presentation.


37. For example, assertions in The Wall Street Journal by former CIA official Bruce Riedel, who is also one of the senior advisers on Obama’s “AfPak” policy, are not viewed in Pakistan as academic but rather quasi-official U.S. views. See Salik, “Comment”; S.M. Hali, “Why Bruce Riedel Has Lost My Respect,” The Nation (Pakistan), June 3, 2009.


39. Air Cmdr. Khalid Banuri, interview with author, June 5, 2009 and June 29, 2009. The Pakistani Ministry of Foreign Affairs held a media briefing on May 7, 2009, and said there was no truth to the Boston Globe assertions.


41. Strategic Plans Division, briefing to Naval Postgraduate School team, Islamabad, February 25, 2007. The briefing was part of the U.S.-Pakistan Track II Strategic Dialogue for Long-Term Partnership.

42. U.S. laws make an exception for sharing such technology only with NPT nuclear-weapon states. Pakistan is not a party to the NPT.


44. For a perfect example of reinforcing Islamist’s concerns, see Riedel, “Pakistan and the Bomb.” His selective historical account and characterization of the security of nuclear arsenals is shaky and a sad example of delusory alarmism.


47. “No Compromise on Nukes: Pakistan.”

48. Ibid.
North Korea has recently taken a series of provocative steps to challenge the international community. These steps include test-launching a long-range rocket, walking away from the six-party talks and all disarmament agreements, kicking out international inspectors from its nuclear facilities, conducting an underground nuclear test May 25—a more powerful blast than the one conducted in 2006—testing a half-dozen short-range missiles, and announcing it had resumed plutonium production and started a program to enrich uranium.

Pyongyang reportedly also is preparing a long-range missile test and a third nuclear test. If unchecked, North Korea will surely increase the quantity and quality of its arsenal. Even worse, once Pyongyang has more than enough weapons for its deterrent, it might be tempted to sell the surplus. The longer the crisis lasts, the more nuclear capable North Korea will become and the more difficult it will be to roll back Pyongyang’s nuclear ambitions.

China, North Korea’s most important ally and trade partner, has joined the rest of the international community in responding to the North Korean actions. Beijing has indicated, however, that it wants a balanced approach and does not want to push Pyongyang much harder. Nevertheless, China can and should do more to press its neighbor. North Korea’s recent series of actions threatens China’s national interests as well as those of the United States and countries in Northeast Asia.

It is important to have realistic expectations for changes in China’s approach. Beijing can be expected to support modest UN sanctions against North Korea, as it did in response to the first nuclear test, but it probably will respond less strongly than the United States, Japan, and South Korea would hope. Beijing probably will maintain that any harsh measures should be directed toward facilitating talks over denuclearization but should not destabilize the North Korean regime.

On the other hand, Beijing must recognize that its modest approach, as the past several years have demonstrated, has not successfully constrained Pyongyang’s nuclear development. Pyongyang proceeded with its two nuclear tests and has again boycotted the six-party talks. The May test has exacerbated the tense situation on the Korean peninsula and has destroyed regional stability. These results do not serve Beijing’s major interest: a nuclear-free and stable Korean peninsula. If Beijing continues to allow Pyongyang’s nuclear ambitions to go unchecked, Pyongyang will put Beijing in an embarrassing position.
open it to more international pressure, and ultimately pose great risks to China’s national interests.

China’s Interests

Hours after North Korea’s most recent nuclear test, the Chinese Foreign Ministry issued a statement strongly denouncing it:

On 25 May 2009, the DPRK [Democratic People’s Republic of Korea] conducted another nuclear test in disregard for the common opposition of the international community. The Chinese Government is firmly opposed to this act.... To bring about denuclearization of the Korean peninsula, oppose nuclear proliferation and safeguard peace and stability in Northeast Asia is the firm and consistent stand of the Chinese Government. China strongly urges the DPRK to honor its commitment to denuclearization, stop relevant moves that may further worsen the situation and return to the Six-Party Talks.1

Beijing issued a similar statement in response to Pyongyang’s first nuclear test in 2006, condemning the blast as brazen. China’s response this time was even stronger. According to media reports, Beijing was informed by Pyongyang less than half an hour in advance of the explosion and was greatly angered and offended by the test because it blatantly disregarded China’s calls for denuclearization. Even cautious high-level Chinese officials, including Vice President Xi Jinping and Minister of National Defense Liang Guanglie, have made harsh statements in opposition to Pyongyang’s nuclear test. Moreover, Beijing has reportedly canceled some previously scheduled high-level visits to Pyongyang.

China’s strategic plan through 2020 is focused on economic development and “building a well-off society in an all-round way,”2 which requires a stable international environment, particularly among neighboring countries. A nuclear North Korea would stimulate a regional nuclear arms race and undermine regional stability. North Korea’s nuclear and missile development provides a pretext for Japan to accelerate deployment of a joint U.S.-Japanese missile defense shield, which could mitigate China’s nuclear deterrent. Moreover, a worsening crisis would generate a massive flow of North Korean refugees headed for China.

To bolster its image as a responsible stakeholder in the international community, China should show its willingness to contribute to international nonproliferation efforts. Accepting a nuclear North Korea would set a bad precedent both for the nuclear Nonproliferation Treaty (NPT) regime—from which North Korea has withdrawn—and other countries with nuclear ambitions.

North Korea has long been a thorn in China’s side. Pyongyang played a game of brinkmanship between Beijing and Moscow for several decades during the Cold War. Further nuclear and missile development would add a dangerous new element, allowing North Korea’s strategic nuclear-strike capability to cover all of China. Thus, China, in the long term if not the near term, faces huge risks from a nuclear North Korea.

Beijing’s Leverage

Among the interested players in the North Korean nuclear issue, China has the most significant economic and political leverage over the North Korean regime. China has been a close ally of North Korea over the past 50 years, with a friendship cemented in blood during the Korean War. Also, China is North Korea’s largest trading partner, reportedly supplying North Korea with up to 90 percent of its oil imports and about 45 percent of its subsistence-level food supplies. Moreover, cross-border trade in 2008 was reportedly about $2.7 billion, an increase of about 40 percent from 2007.

Since April 2003, China has hosted one trilateral negotiation and six rounds of the six-party talks. During these negotiations, China has acted not only as a host, but also as a mediator and constructive participant. China’s major role in negotiations, as former Vice Foreign Minister Wang Yi, the head of the Chinese delegation to the first three rounds of the six-party talks, emphasized, “is contributing to peace and talks” (quan he cu tan). China, according to official statements, hopes the parties to the talks will take actions to build trust, reduce suspicions, enhance consensus, and promote cooperation in order to create a win-win situation.

In particular, China’s role became even more proactive in the fourth round of the talks, leading to the breakthrough agreement on a joint statement of principles. During the fourth round, China not only tabled five drafts of the joint statement but also took a “reject/accept” approach to push the United States to accept the joint statement. Beijing also reportedly has lured Pyongyang to each round of the six-party talks with tens of millions of dollars in incentives. U.S. officials have praised China’s active role in the talks, saying it has helped U.S.-Chinese relations.

Although Beijing is shifting from its traditional low-profile role in the affairs of the Korean peninsula toward a more active and constructive role in defusing the nuclear crisis, Beijing’s leverage on Pyongyang is constrained by two main factors. First, Beijing believes the nuclear crisis is mainly the business of Washington and Pyongyang and, as such, is dependent on the political will of those two players. Second, to maintain regional stability, Beijing’s bottom line is that war on the Korean peninsula and an abrupt collapse of the Kim Jong Il regime must be avoided at all costs. Beijing has called on “all parties concerned to respond in a cool-headed and appropriate manner and persist in seeking a peaceful solution through consultation and dialogue.”

Yet, Beijing’s relatively passive, noninterventionist diplomacy has not helped with its top priority: regional stability, to which the continuing North Korean nuclear crisis poses a huge threat.

More Pressure Needed

Because Beijing has the most leverage on Pyongyang, Beijing is facing great pressure from the international community, particularly Washington and Tokyo. Some Western officials and scholars complain that Beijing’s cautious approach to Pyongyang has not constrained North Korea’s nuclear development. North Korea has proceeded with its nuclear tests and, since April 14, has boycotted the six-party talks hosted by Beijing since 2003. These actions have called into question Chinese leadership in the region.

Beijing is also facing great pressure on the domestic front. The nuclear test has prompted a strong reaction from the Chinese public. More and more Chinese citizens are angered by North Korea’s repeated escalation of the crisis and its imperviousness to Beijing’s demands for denuclearization. They believe that North Korea is doing great damage to the peace of Northeast Asia, and many worry that Beijing could be dragged into another Korean war by Pyongyang’s rash actions.

According to some recent surveys in China, more than two-thirds of respondents believe Beijing should take stronger actions to constrain Pyongyang’s nuclear ambitions, including cutting economic aid and applying UN sanctions. They consider North Korea a liability that, if unchecked, will create trouble for China’s economic and security interests. Many Chinese believe that the concepts of North Korea as a buffer zone and the “lips to China’s teeth” are no longer relevant or salient. Beyond concerns about a nuclear North Korea’s impact on the stability of China’s security environment, they also worry that a nuclear North Korea would pose a huge environmental threat to China’s northeastern provinces. Much of the Chinese public fears that an accident from a nuclear test or weapon would cause heavy radioactive contamination in that region.

Recently, the Chinese media have begun to criticize Pyongyang openly for its nuclear program. For instance, Global Times, published by the government-run People’s Daily newspaper, ran a June 3 editorial entitled “North Korea Should Not Offend the Chinese People.” The editorial said, “The Chinese people’s impression of North Korea is at the lowest level in history.... North Korea should understand that offending the Chinese people is shaking
China should deliver a clear message to Pyongyang: nuclear weapons are not in North Korea’s long-term national security interest. Nuclear weapons will generate increasing international pressure and economic sanctions that will further devastate the already poor North Korean economy.

Suggests that such an approach could be effective. China reportedly shut off an oil pipeline to North Korea for three days in March 2003 due to “technical difficulties.” China’s move was widely interpreted as an exercise of its economic leverage to pressure Pyongyang to attend a trilateral meeting held in Beijing in April 2003. As it pushes Pyongyang, Beijing should maintain its bottom line, which is to avoid war on the Korean peninsula and an abrupt collapse of the Kim regime. One concern is that a U.S. military strike on North Korea could spark a full-scale war that would inevitably harm China’s economic development. A U.S. strike could also force Beijing into an embarrassing position because the 1961 Sino-Korean Treaty on Friendship, Cooperation and Mutual Assistance obliges China to provide military aid to North Korea in the event of war. Furthermore, the fall of the Kim government could lead to sudden Korean unification and an uncertain geopolitical realignment, including the prospect of U.S. troops at China’s border.

Beijing should be able to adjust its pressure on Pyongyang with a wide range of approaches, broadening its current “pure carrot” approach to include curbs on oil supplies and other exports. It is in Beijing’s interests, however, to ensure that the pressure it applies on North Korea is just a means toward denuclearization and not regime change or collapse.

This appeal, it can be expected that Beijing’s position toward Pyongyang will not change significantly in the near future. If Beijing were to make any changes, it would take cautious and gradual steps. Beijing may wish to retain close ties to Pyongyang in order to gain more leverage over it. Also, although Beijing would be willing to strengthen its relationship with other parties in negotiations over the nuclear issue, it is not willing to take sides between Pyongyang and Washington.

China supports new, tightened UN sanctions on North Korea for its nuclear test, but it has had to figure out its own appropriate response to Pyongyang. Whether it acts through the United Nations or on its own, Beijing has to strike a balance between being tough enough to teach Pyongyang a lesson and not pushing Pyongyang toward an extreme reaction or even regime collapse. At the same time, Beijing must also meet the demands of Washington, Tokyo, and Seoul in pushing toward a denuclearized and stable peninsula. This overall effort would be a big challenge to China’s diplomatic acuity and wisdom.

South Korea and Japan have affirmed that they would not tolerate a nuclear North Korea. Thus, a similar affirmation by China would push North Korea to think twice before continuing its nuclear program. China should deliver a clear message to Pyongyang: nuclear weapons are not in North Korea’s long-term national security interest. Nuclear weapons will generate increasing international pressure and economic sanctions that will further devastate the already poor North Korean economy.

U.S.-Chinese Coordination

Given that Washington holds what Pyongyang covets most—diplomatic normalization and security guarantees—Beijing should privately persuade Washington to engage in bilateral dialogue with Pyongyang under the auspices of the six-party talks and put on the bargaining table a reasonable offer in exchange for Pyongyang’s denuclearization. Such an offer should include robust security guarantees, normalization of relations, and economic aid. Any resolution of the nuclear impasse has to address the reasonable security concerns of North Korea. Pyongyang has often said that its nuclear ambitions are driven solely for the sake of regime survival and the need for economic reform in North Korea. Given the long history of mutual mistrust, Washington may not be sure about Pyongyang’s real strategic intentions, but the United States should take a chance by starting...
serious talks with North Korea. Washington’s offer should include normalization and economic aid, including energy, following a principle of quid pro quo.

In practice, what North Korea could potentially offer in a negotiation are pledges that, once implemented, are difficult to reverse because they involve physical hardware or infrastructure. Such steps include dismantling known facilities for plutonium production and other processes relevant to a nuclear weapons program, surrendering all plutonium produced in the past, and ending its uranium-enrichment and long-range missile programs. Offers the United States could make, including normalization and pledges of nonaggression and nonintervention, would be easier to reverse if North Korea did not follow its commitment to nuclear disarmament. Thus, any breakthroughs in the negotiations over North Korea’s nuclear program would likely have to start with Washington taking the first step.

It is possible that, as Pyongyang has recently said, it will not accept any deal that requires it to give up its nuclear program. If so, Beijing’s control of aid to Pyongyang could be crucial in pushing Pyongyang to make its final decision on denuclearization. Because North Korea has very limited energy resources, long-term sustainable economic advancement depends on Pyongyang opening its doors to the international community, especially to foreign investment, trade, and aid from China, South Korea, and Japan. South Korea and Japan have affirmed that they would not tolerate a nuclear North Korea. Thus, an affirmation that Beijing would give no support to a nuclear North Korea would force Pyongyang to think seriously about its nuclear ambitions.

Finally, Beijing may show a greater willingness to press Pyongyang if Washington also addresses China’s concerns, including U.S. missile defense and space weapons programs, U.S.-Japanese missile defense cooperation, U.S. missile defense sales to Taiwan, and the deployment of U.S. military forces in the Korean peninsula if the North Korean regime collapses. Ultimately, if Washington can clearly demonstrate to Beijing that its long-term strategic intentions in the region would not constrain China, it could receive greater support from Beijing in negotiating with Pyongyang. Some in China are concerned that once the North Korean nuclear issue is resolved, Washington will focus its efforts on containing China. In addition, some suspect that Washington really has no desire for North Korean denuclearization and merely cares about the issue of nuclear transfer from North Korea. They think a nuclear North Korea could provide a pretext for Washington to strengthen its military ties with allies in the region, thereby constraining China.

A Denuclearization Road Map

Given the long history of mistrust and animosity between Washington and Pyongyang, North Korean denuclearization will not be achieved in one step. A road map is needed that links North Korean denuclearization with the gradual delivery of concrete benefits, including security assurances, diplomatic normalization, economic reform, and Northeast Asian security cooperation. In practice, the joint statement of September 19, 2005, already provided the foundation for a “verifiable denuclearization of the Korean Peninsula in a peaceful manner,” in which North Korea committed to denuclearization in return for a set of security and economic benefits. The six parties agreed to take coordinated steps to implement the statement in a phased manner, “commitment for commitment, action for action.”

The following is a road map describing how the six parties would receive regarding security assurances and economic aid. To promote North Korean denuclearization, China could play a number of active roles. For example, China, alone or together with Russia, could provide North Korea with some kind of security guarantee to reduce its security concerns. China could also help settle some of the disputes between Pyongyang and Washington during the verification stages. In addition, China could monitor and press both parties to implement faithfully their pledges at each stage.

U.S. Deputy Secretary of State James Steinberg (left), Chinese Vice Foreign Minister and envoy for North Korea Wu Dawei (center), and U.S. special envoy to North Korea Stephen Bosworth pose for photographers June 5 at the Ministry of Foreign Affairs in Beijing.
three stages toward North Korean denuclearization: the first stage would focus on refreezing and disabling plutonium production; the second stage would involve dismantlement and decommissioning of all plutonium programs; and the third stage would entail the dismantlement of the highly enriched uranium (HEU) program. Each stage should be completed with adequate transparency and verification measures. At the outset, the six parties would agree to a joint statement of specific commitments under the road map. For example, North Korea would commit to abandon all of its nuclear programs (plutonium and HEU programs) and return to the NPT and to International Atomic Energy Agency safeguards. North Korea would also pledge not to transfer any nuclear weapons, fissile material, or knowledge during the implementation of the three stages. The United States and others would pledge to respect Pyongyang’s sovereignty, normalize their diplomatic relations with North Korea, negotiate a peace treaty on the Korean peninsula, and pursue a mechanism for Northeast Asian security cooperation. The United States and other countries should also commit to provide North Korea with economic cooperation and energy assistance, adding specific pledges to the general principles articulated in the 2005 joint statement.

**First Stage:** As a first step to revive the six-party talks quickly, the United States should commit to having direct bilateral talks with North Korea for diplomatic normalization at an early stage under the six-party talks. Meanwhile, China should press North Korea to return to the six-party talks. All parties should reaffirm their commitment to the 2005 joint statement and the 2007 agreement on disablement. While North Korea is disabling its plutonium-production facilities and freezing its HEU program, the United States and other parties should take reciprocal actions, including security assurances and energy aid. The United States should affirm its commitment of security assurances to North Korea by respecting Pyongyang’s sovereignty, not seeking a regime change, and formally stating it had no intention to attack or invade. North Korea, South Korea, and the United States should negotiate a trilateral peace treaty. The need for such a treaty is now particularly urgent because North Korea has withdrawn from the 1953 armistice treaty that ended the Korean War.

At that point in the road map, the United States would begin to take steps to lift economic sanctions, establish a liaison office, and assure economic cooperation between North and South Korea, as well as between North Korea and Japan. All relevant parties would resume energy aid to North Korea at the earliest possible time. To jump-start a new round of the six-party talks, Washington would send a prominent figure—a former president or other high-level official—to visit Pyongyang to help break the ice.

**Second Stage:** The second stage would include two phases to dismantle North Korea’s plutonium program. In the first phase, North Korea would dismantle all of its plutonium-production facilities as a step toward a long-term decommissioning program. To reciprocate Pyongyang’s cooperation in this phase, the United States and others would provide further security and economic benefits, including the replacement of U.S. liaison offices with an embassy and the establishment of full diplomatic relations. Meanwhile, Japan would normalize its relations with North Korea after resolving the remaining abductee issues. Finally, in order to get to full normalization with Washington, Pyongyang would agree to a treaty ending its development of long-range missiles and halting all exports of missiles and missile technology.

After Pyongyang and Washington established normalized relations, Pyongyang would move quickly to the second phase: dismantling its plutonium weapons and all facilities associated with the weaponization program, as well as surrendering all of its plutonium.

It should be noted that the key to denuclearizing North Korea is the timing of normalization. Although Washington made an offer of normalization in the 2005 joint statement, it made the offer subject to the two countries’ “respective bilateral policies.” According to Washington, there will be a long road to normalizing relations with Pyongyang. That road will include not only denuclearization, but also discussions on human rights, biological and chemical weapons, ballistic missile programs, conventional weapons proliferation, and terrorism and other illicit activities. Pyongyang, however, wants normalization at a much earlier stage, before dismantling its nuclear program.

North Korea will not dismantle its nuclear program before receiving tangible security assurances, in particular, normalized relations with Washington. The only leverage that Kim Jong Il possesses is his threat to go nuclear. Therefore, Pyongyang fears that once it dismantles its nuclear weapons, there will be no deterrent against a U.S. military strike. Washington, however, as the world’s pre-eminent military superpower, would have considerable
strategic flexibility. If the United States provided North Korea with security assurances in return for denuclearization and North Korea then reneged on its commitment, the United States would not have lost much. Such a scenario could be frustrating and embarrassing for the United States, but that country’s security would not be at risk. In contrast, if North Korea gave up its nuclear program and the United States later reneged on its security assurances, perhaps even by supporting or participating in an invasion, North Korea’s very existence could be seen as being put at risk.

**Third Stage:** In the last stage, North Korea would complete dismantlement of its HEU program. The level of verification required for the HEU program depends on the status of the program, such as whether or not it has produced HEU. Its status could be somewhere between the research and development level and pursuit of the capability to construct a pilot experimental facility. If Pyongyang is only at the beginning of a uranium-enrichment program, as it indicated June 13, North Korea could be years away from producing enough HEU for one bomb.

Beyond denuclearization, North Korea would also sign and implement the Chemical Weapons Convention and the Biological Weapons Convention. Furthermore, the United States, China, and other relevant parties would negotiate a permanent peace regime in Northeast Asia. Such an agreement would play a major role in liberating the Korean peninsula from its Cold War quagmire and going to the root of the North Korean nuclear issue.

Pyongyang would need to cut its conventional forces gradually to achieve parity with South Korean and U.S. forces. That step would facilitate North Korean economic reform by significantly reducing the economic burden on the country of maintaining such a large military. Particularly valuable encouragement for North Korean force reductions would come from the removal of U.S. troops from the South. Furthermore, all other interested and involved parties would help the two Koreas pursue gradual integration toward unification. During this third stage, other countries would continue to aid North Korea’s economic reform, help North Korea improve human rights, and provide funds and technologies for the modernization of its economic infrastructure.

**Conclusion**

A nuclear North Korea would put China’s national interests at great risk. Beijing can increase pressure on Pyongyang, using positive inducements and punitive measures. The chances are low, however, that Beijing will radically adjust its North Korea policy, at least for the near future. Beijing will continue to maintain its bottom-line approach, avoiding war on the Korean peninsula and an abrupt collapse of the Kim regime. From China’s perspective, these scenarios must be avoided at all costs because they are contrary to China’s primary interest in a stable and prosperous environment.

Given that Washington holds what Pyongyang desires most (security guarantees), Beijing should persuade Washington to engage in bilateral dialogue with Pyongyang. China should push the United States to put reasonable offers on the bargaining table, including robust security guarantees, normalization of relations, and economic aid. At that point, China could maximize its leverage and press North Korea to accept the terms offered. This strategy may be the only way to roll back Pyongyang’s nuclear ambitions.

This strategy may not work. Pyongyang may decide not to give up its nuclear program for any sort of deal. Yet, if all of North Korea’s neighbors, including China and the United States, make it clear that they will never tolerate a nuclear-armed North Korea and that international isolation therefore will inexorably continue, Pyongyang may decide to give up its nuclear ambitions. Pyongyang will not yield to a purely “stick” approach, however, and eventually a desperate and nuclea North Korea may take actions that are in no one’s interests.

To achieve a stable and denuclearized Korean peninsula, all parties concerned must come back to the negotiating table. In particular, Beijing must press Pyongyang to return to the six-party talks as soon as possible. Given that Washington and Pyongyang deeply mistrust each other and neither side wants to go first, China, as a mediator, should play a more proactive and constructive role by offering its own road map for North Korean denuclearization. The six-party talks espoused a general principle of “commitment for commitment, action for action” as a means to denuclearization, but there were no specific timelines or sequencing of actions in the denuclearization process.

The three-stage road map detailed above should fill this gap and satisfy the principal goals of all the parties involved. Pressing for a road map is a step that holds few risks for China and could contribute greatly to resolving the long-standing international stalemate with North Korea. That success, in turn, would help China achieve its chief priority: a stable and a denuclearized Korean peninsula.

ENDNOTES


5. See, for example, the declaration by Vice Foreign Minister Wu Dawei, who served as chairman of the fourth round of the talks and head of the Chinese delegation, on the adoption of the joint statement at the fourth round six-party talks, held in Beijing on September 19, 2005.


10. Ibid.

11. Just before the second nuclear crisis in October 2002, Japanese Prime Minister Junichiro Koizumi visited Pyongyang in September 2002 in an effort to speed up Japanese-North Korean diplomatic normalization. Kim Jong Il made a surprise admission during this trip that North Korea had abducted Japanese citizens in the 1970s and 1980s. Since then, the abductee issue has been a key obstacle to normalized relations between the two countries.
Russia, U.S. Lag on Chemical Arms Deadline

The likely failure of Russia and the United States, the holders of the world’s largest stockpiles of chemical weapons, to meet a key treaty deadline for destroying their stocks is prompting varying responses from experts. In recent public statements and interviews, officials involved in the process emphasized the progress and commitment of the two countries, while independent experts expressed concern about the effect of the missed deadline on the nonproliferation regime.

Parties to the Chemical Weapons Convention (CWC) must irreversibly destroy their stockpiles of chemical weapons by April 29, 2012. As of June 24, 188 countries were parties to the convention, and two more countries had signed but not yet ratified it.

The CWC is testimony to how “successful and fruitful” the cooperation between Russia and the United States can be, Rogelio Pfirter, director-general of the treaty secretariat, the Organization for the Prohibition of Chemical Weapons (OPCW) in the Hague, said June 16. In a speech at the Carnegie Endowment for International Peace in Washington, Pfirter, whose term as OPCW director-general ends next year, declined to speculate whether the two countries would meet the CWC destruction deadline. He acknowledged that “time is short” because so many weapons remain to be destroyed by 2012.

But he also said it is important not to “trump up” possible scenarios. Other CWC member states should wait to see how Russia and the United States progress as the deadline approaches, he said. When his successor and the representatives of the CWC’s member states wake up on the morning of April 30, 2012, they will need to reassess the status of the chemical weapons destruction effort and determine if the possessor states were negligent in meeting their commitments, he said.

In his remarks, Pfirter emphasized the progress made by Russia and the United States toward meeting the treaty’s requirements. “I applaud the Russian government’s commitment” to chemical demilitarization, he said. He also said he has “no doubt” about the U.S. commitment to the CWC, although estimates for when the United States will complete destruction of its chemical weapons stockpile have varied. In November 2006, the U.S. Department of Defense announced that destruction would not be complete until 2020 and 2023 at the chemical weapons depots in Pueblo, Colorado, and Blue Grass, Kentucky, respectively. Increased funding may hasten the demilitarization process, a knowledgeable U.S. official said.

Russia’s progress is expected to be slower. Although the May 2009 formal opening of the Shchuchye chemical agent destruction facility brings Russia one step closer to fulfilling its CWC obligations, there is still a sizable stockpile of Russian chemical weapons awaiting destruction. Jonathan B. Tucker, a senior fellow at the James Martin Center for Nonproliferation Studies in Washington, said he was highly skeptical that Russia will meet the treaty deadline. Although not disputing that assessment, the U.S. official said the United States believes that Russia has “demonstrated complete commitment” to its CWC obligations.

Russian Destruction Process

In addition to the challenge presented by the approximately 28,000 metric tons of chemical weapons in Russia that remain to be destroyed, some observers are concerned about the demilitarization process that Russia is using. At certain facilities, Russia has carried out the first part of the chemical weapons destruction process but has not taken the subsequent steps needed for complete destruction as specified in the CWC. For example, at the Leonidovka destruction site, Russia has drained the toxic fill from many munitions and used a chemical process to neutralize the warfare agents, but it has
just started incinerating the delivery vehicles and the neutralized liquids, Pfirter explained in a speech to the OPCW executive council in April. For that reason, the OPCW has not yet formally recognized any chemical weapons destruction at Leonidovka despite much activity there.

Failure to destroy all chemical weapons components irreversibly can have serious repercussions for the nonproliferation regime, Tucker said. It would be relatively easy for someone to refill an empty munition with a chemical agent to reconstitute a chemical weapon, said Paul Walker, director of security and sustainability at Global Green USA. Security has improved at many of Russia’s chemical weapons storage sites, he added, but the risk of refilling bomb or shell casings will remain as long as the munitions exist.

Walker further cautioned that Russia’s partial demilitarization process could set a “dangerous precedent” if the OPCW grants Russia destruction credit for separating chemical weapons into their various components before it has irreversibly destroyed them. The danger is that a CWC nonsignatory, such as Syria, might later accede to the CWC, demilitarize in a manner similar to Russia, receive credit for destruction prematurely, and then secretly recover the chemical warfare agent from the neutralized reaction mass or refill empty munitions with new agents, he said. According to the U.S. official, Moscow and the OPCW negotiated modified procedures specifically for Russia, granting it demilitarization credit earlier in the destruction process to help it meet the 2012 deadline. Walker said that Russia received destruction credit for neutralizing nerve agents at the Maradykovsky destruction site even though it has not destroyed the associated bomb casings. In another instance, the OPCW granted Russia destruction credit after it neutralized chemical agents but before it incinerated the reaction mass, Walker said. Although the OPCW has been fairly lenient to date on this issue, it might become stricter as the 2012 deadline approaches because Iran, which is a party to the treaty, has expressed concern about Russia’s receiving credit for destruction prior to reaching an irreversible end point, Walker said. (See ACT, May 2008.)

At the opening ceremony for the Shchuchye chemical weapons destruction facility, Russian Industry Minister Viktor Khristenko said that Russia is on schedule to meet the CWC deadline and that it will have destroyed 45 percent of its arsenal by the end of this year.

To date, the United States has destroyed about 60 percent of its stockpile. The United States “is very committed to finishing the job,” the U.S. official said. In recent years, the Defense Department has sped up demilitarization by allocating more funds and building new destruction facilities, he said. In 2006 the United States was projected to have destroyed only about two-thirds of its stockpile by 2012; the current estimate of 90 percent destroyed by 2012 reflects the increased pace, he said.

Potential Repercussions
Although the CWC does not impose automatic sanctions in cases of noncompliance, there could be serious political fallout if Russia and the United States have not completely destroyed their stockpiles by the 2012 deadline, Tucker and Walker said.

Some CWC member states have voiced concern at the slow pace of U.S. disarmament. During the CWC’s second review conference in April 2008, Iran rebuked “major possessor states” for insufficient progress toward the 2012 deadline, adding that the destruction delay “is a matter of serious concern” because it indicates a state’s intention to retain certain stockpiles for military purposes. Walker noted that a U.S. failure to meet the CWC destruction deadline would weaken its negotiating position with Iran, North Korea (a nonsignatory of the CWC), and other countries that Washington has criticized for breaking international law.

Amending the CWC to extend the destruction deadline seems very unlikely, in large part because of the difficult process that the treaty has established for making amendments, Walker said.

Russia and the United States are inclined to oppose that approach anyway because opening the CWC to amendment could bring about unwanted changes, Walker and the U.S. official said. Two examples are Iran’s call for the abolition of export controls on certain chemical agents and other states’ desire to reduce the monitoring of industrial plants that produce dual-use chemicals, the official said.
—RACHEL A. WEISE

**Accord on New Rules Eludes Nuclear Suppliers**

Nuclear supplier countries last month ended their annual plenary meeting without agreeing on new rules for exports related to uranium enrichment and spent fuel reprocessing.

In a June 12 statement issued at the close of a meeting in Budapest, the 46-nation Nuclear Suppliers Group (NSG) said its members had “agreed to continue to work to strengthen” the group’s guidelines in that area. Equipment and technology related to enrichment and reprocessing are considered to be particularly sensitive types of nuclear exports because those processes can produce material that is usable in a nuclear weapon.

The current NSG guidelines contain only a general instruction to exercise “restraint” in sensitive exports. The suppliers have been working for years to adopt a more rigorous standard. They have agreed to use a so-called criteria-based approach, under which recipients of sensitive exports would have to meet a list of preset requirements. However, the NSG members have not been able to agree on the specific list of criteria.

At the end of last year, the suppliers appeared to be closing in on an agreement, in large part because the United States and Canada had reached a compromise on rules for enrichment-related exports. (See ACT, December 2008.) Canada’s objections to more stringent rules had been one of the main obstacles to an accord.

But since then, current and former diplomats said, other countries have raised objections to various parts of the proposal. Two sources mentioned Turkey as a country voicing objections. Other countries previously mentioned as having concerns include Brazil, South Africa, and South Korea.

According to sources familiar with the proposal, the criteria fall into two groups, “objective” and “subjective.” The objective criteria would cover issues such as whether the country is a party to the nuclear Non-Proliferation Treaty (NPT) and has agreed...
to an additional protocol to its International Atomic Energy Agency safeguards agreement. Such protocols give the agency inspectors more latitude than they have under standard safeguards agreements.

Subjective criteria would require potential exporters to consider issues such as whether the export would undermine regional stability and if the recipient country was in a volatile region. Turkey is concerned that its access to sensitive exports could be restricted if it were considered part of the Middle East, the diplomatic sources said.

According to a former U.S. diplomat, some European countries expressed concern that the arrangement would impose additional restrictions on their access to enrichment technology if they one day joined Urenco, the British-Dutch-German enrichment consortium.

U.S. Sees Progress
The NSG “made progress” in Budapest toward reaching agreement on new rules for enrichment and reprocessing exports, an official from the U.S. Department of State said in a June 25 e-mail. The NSG “agreed that efforts to reach consensus should continue over the summer and prior to the next regular meeting of the NSG Consultative Group this fall,” the official said. According to the NSG’s Web site, the consultative group is the NSG’s “standing intersessional working body.” The consultative group typically meets several times a year and, like the NSG as a whole, makes decisions by consensus.

As it generally does, the consultative group met during the days just before the plenary in Budapest. There was no consensus on the export criteria, a diplomat from a key NSG country said. Sometimes, if there is only one country standing in the way of consensus, an issue will be forwarded to the plenary, where higher-level officials might be able to break the deadlock, he said. But pushing an issue to the plenary when there is broader disagreement could “ruin it,” he said.

He said some of his fellow diplomats believed the June meeting was “a decisive moment” and that the failure to reach an agreement there could be a “bad indicator.”

According to the former U.S. diplomat, many NSG countries want to resolve the issue and put it behind them. But when asked if he thought they were near agreement, he replied, “I wouldn’t say that.”

Last September, during final negotiations between the U.S. Congress and the Bush administration over the U.S.-Indian civilian nuclear cooperation agreement, Secretary of State Condoleezza Rice promised Rep. Howard Berman (D-Calif.) that the United States would press for an agreement on new NSG guidelines for enrichment and reprocessing. (See ACT, October 2008.)

In a Sept. 26 statement, Berman, chairman of the House Foreign Affairs Committee, said Rice had pledged that the “highest priority” of the United States at a November 2008 NSG meeting would be to reach an agreement to ban enrichment and reprocessing exports to countries that are not parties to the NPT. India is not an NPT party.

In the June 25 e-mail, the State Department official said, “The United States continues to believe that strengthening the NSG Guidelines as they apply to transfers of sensitive enrichment and reprocessing equipment and technologies is a major priority.” —DANIEL HORNER

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UN Tightens North Korea Sanctions

The UN Security Council last month broadly expanded sanctions and counterproliferation measures against North Korea in response to that country’s May 25 nuclear test.

Resolution 1874, which the council unanimously adopted June 12, builds on the measures the council took in 2006 when it adopted Resolution 1718 in response to North Korea’s first nuclear test.

U.S. officials said that there is greater focus on enforcing sanctions this time around. The international community did not use all of the measures available under Resolution 1718 because North Korea re-entered denuclearization talks shortly after that resolution was adopted.

Stephen Bosworth, U.S. special representative for North Korea policy, told the Senate Foreign Relations Committee June 11 that “as we move forward, we are going to continue to be very concerned about implementation [of the renewed sanctions], and I would expect that other countries will be as well.”

The 34-paragraph resolution features an intensified inspection regime to prevent proliferation to and from North Korea, calls for enhanced financial restrictions against North Korea and North Korean firms, a nearly comprehensive arms embargo on the country, and strengthened council oversight over the implementation of the resolution (see sidebar). The council also reiterated demands that Pyongyang not conduct any further nuclear or missile tests, return to the nuclear Nonproliferation Treaty, and verifiably abandon all nuclear programs.

The council agreed on a number of provisions intended to strengthen the implementation of sanctions against North Korea. But, at the urging of China and Russia, some of those provisions were turned from requirements into recommendations, diplomatic sources said in June. In particular, the resolution “calls on” states to enact a number of financial restrictions against North Korea as well as carry out inspections of suspected shipments that violate the sanctions, rather than making such steps mandatory.

The resolution also calls on states to take more extensive measures to limit financial dealings with North Korea and North Korean entities. Although Resolution 1718 required that states freeze the assets of North Korean entities blacklisted by the council, Resolution 1874 recommended similar actions against any North Korean assets within their jurisdiction if those assets could contribute to Pyongyang’s nonconventional weapons programs. The council also called for states to withhold public financial support for trade with North Korea that could aid such programs.

In support of these financial restrictions, the U.S. Department of the Treasury issued an advisory June 18 recommending that U.S. financial institutions take “commensurate risk mitigation measures,” in light of the financial restrictions called for by Resolutions 1718 and 1874. The Treasury Department stated that there is an “increased likelihood” that North Korean financial institutions will use deceptive practices to circumvent sanctions and urged “enhanced scrutiny” over North Korean accounts and transactions.

Diplomatic sources said in June that such recommendations had little relevance for U.S. financial institutions, which do not generally do business with North Korea, but may have an impact if banks in Asia and Europe move to follow suit.

The new resolution also calls for “adjustments” to the items and North Korean entities falling under the sanctions. Baki Ilkin, Turkish permanent representative to the United Nations and chair of the Security Council’s 1718 Committee, told reporters June 19 that he received lists from some countries regarding additional North Korean entities to blacklist.

Resolution 1718 called for the council to designate entities suspected of involvement with North Korea’s nonconventional weapons programs. However, no entities were placed on the committee’s blacklist until last April, when the council responded to a North Korean rocket launch. (See ACT, May 2009.) At that time, the council sanctioned three North Korean firms from lists of 11 firms provided by Washington and 14 by Tokyo.

Addressing the issue of enforcement, the council called on states to take additional steps to inspect shipments suspected of violating the sanctions on North Korea. Such steps include the potential for inspecting vessels on the high seas with the consent of the flag state of the ship in question and providing the legal authority to seize and dispose of any materials or weapons found. Resolution 1874 also requires that states not provide “bunkering services,” such as fuel or other supplies, to North Korean vessels suspected of violating sanctions.

William Newcomb, a former senior economic adviser to the Intelligence and Analysis Office at the Treasury Department, told a...
United States Institute of Peace audience June 10 that North Korean ships are fairly small and cannot travel far without refueling.

Although the resolution raises the possibility of stranding suspect North Korean vessels, it does not provide for the forcible boarding of ships that refuse inspections. China in particular insisted that such forcible boarding not be permitted. Following the adoption of Resolution 1874, Chinese Permanent Representative to the UN Zhang Yesui told reporters that states must “act prudently and with sufficient grounds” with regard to cargo inspections and “under no circumstances should there be the use of force, or the threat of the use of force.”

North Korea has said that it would view attempts to board its ships as an act of war.

It appears that the United States intends to refrain from forcing such inspections. Diplomatic sources told Arms Control Today in June that, in spite of the prospect of high-seas interdiction raised in Resolution 1874, U.S. enforcement of the sanctions will still rely primarily on cooperation from states in the region to carry out inspections.

Pentagon spokesman Geoff Morrell appeared to hint at this cooperation during a June 24 press briefing, stating that the United States would not make a decision to confront suspicious ships alone. “[T]hat is a decision I think we will likely take collectively with our allies and partners out there,” he said.

Morrell was responding to questions regarding a North Korean ship, the Kang Nam, that the United States had been tracking. He said the ship “has a particular history that makes it more of interest” but stressed that the United States has been “interested in North Korean ships for some time.” Morrell appeared to be referring to past suspicions that the Kang Nam was involved in proliferation from North Korea.

UN Security Council Resolution 1874 on North Korea

The UN Security Council last month unanimously adopted Resolution 1874 condemning North Korea’s second nuclear test. The June 12 resolution expands on the sanctions and inspection provisions contained in Resolution 1718, which the council adopted in 2006 in response to Pyongyang’s first nuclear test. Both resolutions were adopted under Article 41 of the UN Charter, which authorizes the Security Council to take nonmilitary punitive actions against a state. The following is a summary of the key additions in Resolution 1874, in which the Security Council:

- Prohibits North Korea from exporting:
  1) any arms or related material, or providing financial transactions, technical training, services, or assistance related to such arms; and
  2) all items on an expanded Nuclear Suppliers Group trigger list and dual-use materials and technologies list, as well as any technical training, advice, or other services related to them.
- Prohibits states from procuring the above items or related assistance from North Korea.
- Decides that states shall not supply, directly or indirectly, any of the above arms or items or relevant services to North Korea, with the exception of small arms and light weapons.
- Calls on states to “exercise vigilance” over the supply of small arms and light weapons to North Korea and requires states to notify the Security Council’s North Korea sanctions committee (the 1718 Committee) at least five days prior to any such sale or transfer.
- Calls on states to inspect all cargo to and from North Korea in their territory, including seaports and airports, as well as ships on the high seas, with the consent of the flag state, if the state “has information that provides reasonable grounds to believe” that the cargo contains items prohibited by Resolutions 1718 and 1874.
- Calls on states to cooperate with inspections and, if the flag state does not consent to inspection on the high seas, to require the flag state to direct the vessel to the nearest port for required inspection by local authorities.
- Authorizes states to seize and dispose of items prohibited under Resolutions 1718 and 1874 that are identified in any inspections.
- Requires states to report to the 1718 Committee any inspections, seizures, and disposals of cargo that are conducted as part of the resolution’s implementation.
- Requires states to prohibit the provision of bunkering services, including fuel, supplies, or any other servicing of vessels, to North Korean vessels if the states “have information that provides reasonable grounds to believe” the vessels are transporting items prohibited by Resolutions 1718 and 1874. Services that are necessary on humanitarian grounds are exempt from this requirement.
- Calls on states not to provide financial services or allow the transfer to, through, or from their jurisdiction any assets or resources that could contribute to North Korea’s nonconventional weapons programs. Such steps may include freezing assets within their jurisdiction associated with such programs and “applying enhanced monitoring to prevent all such transactions,” consistent with the countries’ national laws. Also calls on states not to provide public financial support for trade with North Korea that could contribute to such programs, including granting export credits, guarantees, or insurance.
- Calls on states and international financial and credit institutions “not to enter into new commitments for grants, financial assistance, or concessional loans” to North Korea “except for humanitarian and developmental purposes directly addressing the needs of the civilian population.”
- Calls on states to report to the council within 45 days on steps taken to implement the sanctions in Resolutions 1718 and 1874.
- Requests that the UN secretary-general create a panel of up to seven experts to assist in the work of the 1718 Committee, including by analyzing information provided by states and providing recommendations on actions the council or states may consider to improve implementation.

The UN Security Council Resolution 1874 on North Korea

The UN Security Council last month unanimously adopted Resolution 1874 condemning North Korea’s second nuclear test. The June 12 resolution expands on the sanctions and inspection provisions contained in Resolution 1718, which the council adopted in 2006 in response to Pyongyang’s first nuclear test. Both resolutions were adopted under Article 41 of the UN Charter, which authorizes the Security Council to take nonmilitary punitive actions against a state. The following is a summary of the key additions in Resolution 1874, in which the Security Council:

- Prohibits North Korea from exporting:
  1) any arms or related material, or providing financial transactions, technical training, services, or assistance related to such arms; and
  2) all items on an expanded Nuclear Suppliers Group trigger list and dual-use materials and technologies list, as well as any technical training, advice, or other services related to them.
- Prohibits states from procuring the above items or related assistance from North Korea.
- Decides that states shall not supply, directly or indirectly, any of the above arms or items or relevant services to North Korea, with the exception of small arms and light weapons.
- Calls on states to “exercise vigilance” over the supply of small arms and light weapons to North Korea and requires states to notify the Security Council’s North Korea sanctions committee (the 1718 Committee) at least five days prior to any such sale or transfer.
- Calls on states to inspect all cargo to and from North Korea in their territory, including seaports and airports, as well as ships on the high seas, with the consent of the flag state, if the state “has information that provides reasonable grounds to believe” that the cargo contains items prohibited by Resolutions 1718 and 1874.
- Calls on states to cooperate with inspections and, if the flag state does not consent to inspection on the high seas, to require the flag state to direct the vessel to the nearest port for required inspection by local authorities.
- Authorizes states to seize and dispose of items prohibited under Resolutions 1718 and 1874 that are identified in any inspections.
- Requires states to report to the 1718 Committee any inspections, seizures, and disposals of cargo that are conducted as part of the resolution’s implementation.
- Requires states to prohibit the provision of bunkering services, including fuel, supplies, or any other servicing of vessels, to North Korean vessels if the states “have information that provides reasonable grounds to believe” the vessels are transporting items prohibited by Resolutions 1718 and 1874. Services that are necessary on humanitarian grounds are exempt from this requirement.
- Calls on states not to provide financial services or allow the transfer to, through, or from their jurisdiction any assets or resources that could contribute to North Korea’s nonconventional weapons programs. Such steps may include freezing assets within their jurisdiction associated with such programs and “applying enhanced monitoring to prevent all such transactions,” consistent with the countries’ national laws. Also calls on states not to provide public financial support for trade with North Korea that could contribute to such programs, including granting export credits, guarantees, or insurance.
- Calls on states and international financial and credit institutions “not to enter into new commitments for grants, financial assistance, or concessional loans” to North Korea “except for humanitarian and developmental purposes directly addressing the needs of the civilian population.”
- Calls on states to report to the council within 45 days on steps taken to implement the sanctions in Resolutions 1718 and 1874.
- Requests that the UN secretary-general create a panel of up to seven experts to assist in the work of the 1718 Committee, including by analyzing information provided by states and providing recommendations on actions the council or states may consider to improve implementation.
North Korea Rejects Resolution

North Korea reacted to Resolution 1874 by issuing a Foreign Ministry statement June 13 condemning the UN action and outlining “countermeasures” Pyongyang would take, including the development of a uranium-enrichment program.

The statement was the first time that North Korea has publicly admitted to pursuing a uranium-enrichment program. The United States has long suspected North Korea of maintaining such an effort as a second route to nuclear weapons, and the issue was critical in the 2002 collapse of a 1994 denuclearization agreement between Washington and Pyongyang. (See ACT, November 2002.) Pyongyang reportedly agreed to address those suspicions last year in six-way negotiations as part of a secret side document. (See ACT, May 2008.)

Uranium enrichment can be used to produce low-enriched fuel for nuclear power plants or high-enriched material that can serve as the explosive core in nuclear weapons.

The June 13 statement claimed that North Korea would be pursuing uranium enrichment to provide fuel for a light-water reactor it intended to construct. North Korea said it has been working on developing this capability and that “enough success has been made in developing uranium enrichment technology to provide nuclear fuel” for such reactors.

The other steps Pyongyang said it would take in response to the UN measure included weaponizing all newly separated plutonium and meeting “an attempted blockade of any kind” with “a decisive military response.”

Following the Security Council’s condemnation of North Korea’s rocket launch in April, Pyongyang stated that it would reprocess the spent fuel from its Yongbyon reactor, estimated to contain enough plutonium for one or two additional nuclear weapons. (See ACT, May 2009.) North Korea shut down that reactor as part of a February 2007 aid-for-de-nuclearization agreement. (See ACT, March 2007.) The June 13 statement said that North Korea has reprocessed “more than one third” of this material.

Moreover, Pyongyang also sought to dispel the notion that it would denuclearize, stating that “[i]t has become an absolutely impossible option” for North Korea “to even think about giving up its nuclear weapons.”

Following through on a pledge made earlier this year, Pyongyang also appears to be readying a test of a long-range ballistic missile. The Japanese newspaper Daily Yomiuri reported July 18 that North Korea is preparing a launch of its longest-ranged missile, the Taepo Dong-2, in the direction of Hawaii.

U.S. Secretary of Defense Robert Gates told reporters June 18 that the United States has deployed certain missile defense assets in response to a potential missile test. “We do have some concerns if [North Korea] were to launch a missile in the direction of Hawaii,” he said.

The deployments include transferring additional Terminal High Altitude Area Defense (THAAD) missiles to Hawaii and sending the sea-based X-band radar, which has been docked at Pearl Harbor since 2007 for maintenance and upgrades, into the Pacific Ocean. THAAD missiles are designed to shoot down incoming ballistic missiles during their final flight phase while the X-band radar is intended to track incoming warheads and single them out from decoys. —PETER CRAIL

S. Korean Pyroprocessing Awaits U.S. Decision

The Obama administration appears likely to make a decision that could complicate potential South Korean pursuit of a controversial spent fuel treatment process known as pyroprocessing, according to comments by current and former U.S. officials.

They say the administration probably will classify pyroprocessing as reprocessing, a decision that could place certain restrictions on South Korea’s development of the process.

Pyroprocessing differs from PUREX (plutonium-uranium extraction) reprocessing, which has been used in nuclear energy and weapons programs around the world, because the plutonium separated from spent fuel by pyroprocessing remains mixed with other elements. Advocates of pyroprocessing say the difference makes the process significantly less proliferation-prone than PUREX and that pyroprocessing therefore should not be considered reprocessing. Many nonproliferation advocates say the differences are not very significant from a nonproliferation standpoint.
Questions about pyroprocessing have gained prominence as South Korea and the United States renegotiate their agreement for civil nuclear cooperation, which expires in 2014. Under the agreement, the United States can restrict South Korean research in areas such as reprocessing.

The U.S. government has been divided on whether pyroprocessing is reprocessing. In a rare public statement on the issue in May 2008 at the Carnegie Endowment for International Peace in Washington, Carter “Buzz” Savage, director of fuel cycle research and development in the Department of Energy, said pyroprocessing “obviously” is reprocessing if one carries out “the full flow sheet,” the sequence of activities followed in the process.

In an interview last month, Savage said the Obama administration was still in the process of developing a broader policy statement that would encompass that issue. But he referred back to his Carnegie statement and suggested that the new policy was likely to be consistent with that. As he had in his Carnegie remarks, he emphasized that the pyroprocessing issue was only one element of South Korean-U.S. cooperation.

Frank von Hippel, a Princeton University professor who served as a nonproliferation official in the Clinton administration, said in a June 15 e-mail that he believes the Obama administration has defined pyroprocessing as reprocessing.

Sen. Richard Lugar (R-Ind.), the Foreign Relations Committee’s ranking member, appeared to be seeking information on that point when he posed a written question to Rep. Ellen Tauscher (D-Calif.), as part of her confirmation process to be undersecretary of state for arms control and international security (see page 37). Lugar asked if an agreement that “allowed any form of reprocessing” to take place in South Korea would violate the 1992 Joint Declaration of the Denuclearization of the Korean Peninsula. One provision in the declaration states that North Korea and South Korea “shall not possess nuclear reprocessing and uranium enrichment facilities.”

Tauscher replied, “I believe that the existence of a reprocessing plant in [South Korea] would be inconsistent with the commitments made in the 1992 joint declaration.” She did not repeat Lugar’s “any form of reprocessing” formulation.

Although Tauscher was not an administration official when she provided the answer, such responses generally can be assumed to reflect an administration’s position.

The Department of State did not respond to requests for elaboration on Tauscher’s answer.—Daniel Horner
Sensitive dual-use and military technology can be easily and legally purchased within the United States and illegally exported without detection, according to a report issued by the Government Accountability Office (GAO) last month.

Using a fictitious front company and false identities, the GAO was able to purchase dual-use technology such as electronic sensors often used in improvised explosive devices, accelerometers used in “smart” bombs, and gyro chips used for guiding missiles and military aircraft. The GAO was also able to export the technology without detection to a country that it identified only as “a known transshipment point for terrorist organizations and foreign governments attempting to acquire sensitive technology,” the GAO’s Gregory Kutz said in congressional testimony June 4. Kutz, managing director for forensic audits and investigations, was a witness at a hearing of the House Energy and Commerce Subcommittee on Oversight and Investigations, which had requested the GAO probe.

Although items such as the ones the GAO purchased are often subject to export restrictions under the Commerce Control List or the Department of State’s U.S. Munitions List, they can be legally obtained from manufacturers and distributors within the United States, often with only a name and a credit card, the report said. According to the report, the items have been and continue to be used against U.S. soldiers in Iraq and Afghanistan. Access to that type of sensitive military technology could give terrorists or foreign governments an advantage in a combat situation against the United States, the report said.

Dual-use technology refers to technology that has both conventional and military or proliferation uses. Machinery such as a triggered spark gap, for example, can be used as a high-voltage switch for medical applications and a detonator for a nuclear weapon, the report said.

The report cited officials from several government agencies as saying there is no practical way to prevent such products from leaving the country after they have been purchased by a domestic buyer. The report noted that although regulations are in place to prevent improper use of dual-use and military technology, these regulations focus on controlling exports rather than on securing domestic sales. Currently, there are no legal requirements for the sellers of dual-use or military technology to conduct background checks on prospective domestic customers.


According to the report, seven of the 12 types of sensitive dual-use and military items obtained during the investigation have previously been the focus of criminal indictments and convictions for violations of export control laws. Additionally, a 2008 report by the U.S. Army War College’s Strategic Studies Institute revealed attempts by North Korea to procure dual-use technology from foreign sources for use in that country’s guided missile program.

Although there are programs in place to educate manufacturers and distributors on common risks associated with the sale of military or dual-use technology, the lack of controls in place to regulate domestic sales limits the effectiveness of such programs, the GAO report said.

The report suggests that restricting domestic sales of dual-use and military items could be key to preventing the illegal export of such technology.

Seeking a Balance

Many U.S. companies balk at the prospect of more export controls, arguing that they are obstacles to success in the global market. At the confirmation hearing of Rep. Ellen Tauscher (D-Calif.), whose nomination to be undersecretary of state for arms control and international security was approved by the Senate June 25, Sen. Benjamin Cardin (D-Md.) expressed such concerns.

Because “a lot of technological growth is international,” companies would suffer if they “are prohibited from being engaged internationally,” he said. Their viability and their “ability to create new technologies to make us safe” would be “compromised if those companies were to relocate in other countries that don’t have the same restrictions [as the United States] because they have modernized their national security assessments” that are the basis for export controls, he said at the June 9 Senate Foreign Relations Committee hearing. He asked Tauscher to “review these programs to make sure that we’re not disadvantaging American companies” but also to avoid any action that would be “inconsistent with our national security interests, which obviously comes first.”

Tauscher said she planned to review U.S. export control policies. She stressed her commitment to protecting dual-use technology on national security grounds, a stance echoed by the GAO report, which stated that “ensuring the effective protection of technologies critical to U.S. national security” was now considered a “high-risk area.” However, like Cardin, she noted the need for a balance between commercial and security interests. U.S. policy, she said, has to find the “sweet spot,” at which “we are
absolute protecting the national security items, but at the same time, we’re cognizant that there’s a war of markets for things that can be taken off the list.”

The United States, which currently is the leading producer of advanced military and dual-use technology, has become a primary target for illegal procurement efforts launched by terrorists and foreign governments, the GAO report said.

Speaking at the June 4 hearing, Stupak addressed such concerns, saying he hoped to “discuss ways in which government and business can work together to ensure that our technological advantage is not used to jeopardize the safety of our troops, our allies, and our communities here at home.”

The issue of illegal retransfers resurfaced later in the month with the June 11 sentencing of Traian Bujduveanu, a naturalized U.S. citizen, who had been convicted for his role in a conspiracy to export dual-use aircraft parts illegally to Iran. Bujduveanu, the owner of Orion Aviation, was sentenced to 35 months in prison for helping to smuggle parts of F-14 fighter jets, Cobra AH-1 attack helicopters, and CH-53A military helicopters.

The Department of Justice has publicly stated that roughly 43 percent of the more than 145 defendants charged in 2008 for violating export controls of restricted military and dual-use technology were attempting to export munitions and other restricted technology to Iran or China. —EMMA ENSIGN

MDA Tests Laser Amid Budget Cutbacks

The Pentagon’s Missile Defense Agency (MDA) last month successfully tested the tracking components of the Airborne Laser (ABL) system, the agency announced June 15. The tests, which took place June 6 and June 13, mark the first time the ABL system successfully detected and tracked a missile in the boost phase. These tests come amid a series of decisions reducing or eliminating the funding for some missile defense programs.

The ABL is a modified Boeing 747-400F jumbo jet designed to detect, track, and ultimately destroy ballistic missiles during their boost phase, before they have exited Earth’s atmosphere. The ABL system was designed to patrol in pairs, utilizing infrared sensors to detect a missile’s plume. Once the missile is detected, two low-power, solid-state lasers track the missile and compensate for atmospheric disturbances; a high-power chemical oxygen iodine laser (COIL) then destroys the missile before it exits the atmosphere. According to the press release, the MDA plans to continue testing the tracking system against progressively more difficult targets before carrying out a complete demonstration later this year, when the ABL system will track and destroy a ballistic missile in boost phase.

The ABL system is one of two boost-phase missile defense systems originally planned by the MDA. The other is the ground-based Kinetic Energy Interceptor (KEI). The Department of Defense’s fiscal year 2010 budget request does not include funding for the KEI, which was originally developed by the Northrop Grumman Corp. and has received $1.2 billion in funding. The fiscal year 2010 request for the ABL system was $186.7 million, down $214.1 million from the fiscal year 2009 appropriation. (See ACT, June 2009.) The Defense Department plans to use the ABL currently being tested as a “technology demonstrator” and eliminate funding for a second ABL prototype, Secretary of Defense Robert Gates told the Senate Armed Services Committee May 14. Funding that had been designated for the second aircraft now will be used for the technology demonstration, he said.

The MDA press release uses the term “prototype” to refer to the existing aircraft, but an MDA spokesperson said nothing should be read into that terminology. The ABL that was tested is a technology demonstrator, “and no additional aircraft are proposed or planned,” he said in a June 25 e-mail.

The limited range of the ABL’s laser components makes their use in the field tactically unrealistic, Gates said in his testimony. To make proper use of the ABL in the field, 20 of them would have to fly in close orbit of a country suspected of preparing a missile launch, he said.

With funding for the KEI canceled and the ABL project relegated to the role of technology demonstrator, the MDA has no active programs focused on intercepting ballistic missiles in their boost phase. Current programs focus on better-understood technology, such as the AEGIS ballistic missile defense system, a sea-based system that targets missiles during the ascent and descent portions of the midcourse phase, and the land-based Terminal High Altitude Area Defense system, which can intercept missiles in their terminal phase as they re-enter the atmosphere.

In total, $9.3 billion has been requested for missile defense programs in President Barack Obama’s fiscal year 2010 budget, a reduction of $1.2 billion from the previous year. Gates has said he is reorganizing the missile defense effort to focus more on terminal-phase defenses, which are designed to intercept a missile after it re-enters the atmosphere. (See ACT, May 2009.) —EBEN W. LINDSEY
Four months after Inauguration Day, President Barack Obama’s arms control and nonproliferation team is taking shape.

One important position was filled late last month when the Senate approved the nomination of Rep. Ellen Tauscher (D-Calif.) as undersecretary of state for arms control and international security. Tauscher, whose congressional district contains two national laboratories, has focused on arms control and nonproliferation issues throughout her career. As chair of the House Armed Services Strategic Forces Subcommittee, she has worked in Congress to strengthen nonproliferation programs and pushed for greater oversight of the Pentagon’s Missile Defense Agency. At her June 9 confirmation hearing before the Senate Foreign Relations Committee, she expressed her commitment to Obama’s vision of a world without nuclear weapons and indicated that arms reductions by the United States would help the U.S. government promote its nonproliferation goals.

“By reducing our nuclear arsenal, the United States, in my view, will be in a better position to prevent the spread of nuclear as well as chemical and biological weapons,” said Tauscher.

The committee’s ranking Republican, Sen. Richard Lugar (Ind.), asked her to “answer critics” in the Senate who believe it is inappropriate to conduct negotiations with Russia for a START follow-on agreement before the conclusion of the Nuclear Posture Review (NPR). In her response, Tauscher said the U.S. government has “the ability to multitask.” While the NPR, which is due to be completed around the end of the year, is in process, there will be ongoing guidance from the Pentagon on “the military requirements for the stockpile and a number of other issues that are informing the negotiations and our negotiator,” she said. In her testimony, she also emphasized the importance of concluding a follow-on agreement before the December 5, 2009, expiration of START.

The question of conducting START follow-on talks before the completion of the NPR became a key issue delaying Tauscher’s confirmation. After the committee unanimously approved Tauscher’s nomination, Sen. Jon Kyl (R-Ariz.) placed a hold on it. Kyl’s hold on Tauscher’s nomination was reportedly related to the START follow-on talks. Following a briefing by the State Department on the START talks, Kyl dropped the hold June 25, and the full Senate confirmed Tauscher that night under a unanimous consent motion.

Working under Tauscher is Rose Gottemoeller, who has already been confirmed as the assistant secretary of state for verification, compliance, and implementation. She is leading the U.S. delegation to the START follow-on talks with Russia. During the Clinton administration, Gottemoeller served as deputy undersecretary of energy for defense nuclear nonproliferation and was director for Russia, Ukraine, and Eurasian affairs in the National Security Council (NSC).
Also reporting to Tauscher is Andrew Shapiro, who was confirmed June 19 as assistant secretary for political and military affairs. From 2001 to 2009, he served as senior defense and foreign policy adviser to Sen. Hillary Rodham Clinton (D-N.Y.), who is now secretary of state.

In another State Department appointment, the White House announced June 1 that Robert Einhorn had been appointed special adviser to Clinton for nonproliferation and arms control. His office will be located within the Bureau of International Security. Einhorn served as assistant secretary of state for nonproliferation during the Clinton administration. James Timbie will continue in his long-standing role as senior adviser to the undersecretary for international security and nonproliferation.

Also in the State Department, Susan Burk, who led U.S. preparations for the 1995 Nuclear Nonproliferation Treaty (NPT) Review and Extension Conference, was confirmed June 2 as special representative of the president for nuclear nonproliferation. She will lead the U.S. delegation at the 2010 NPT Review Conference. Bonnie Jenkins has been confirmed as the State Department coordinator for threat reduction programs. In addition to serving as a program officer for U.S. foreign and security policy at the Ford Foundation and a research fellow at the Belfer Center for Science and International Affairs at Harvard University, Jenkins was on the staff of the National Commission on Terrorist Attacks Upon the United States, also known as the 9/11 Commission.

At the White House, Gary Samore is coordinator for arms control and WMD (weapons of mass destruction) terrorism. Samore is a former vice president at the Council on Foreign Relations and previously worked in the Clinton NSC as the senior director for nonproliferation and export controls. Working with Samore is George Look, who is responsible for treaty-based nonproliferation efforts for the White House, including the 2010 NPT Review Conference. Look, a longtime civil servant, formerly was executive director of the Arms Control and Nonproliferation Advisory Board at the State Department.

In the Department of Defense, Andrew C. Weber has been confirmed as assistant to the secretary of defense for nuclear, chemical, and biological defense programs. Weber, whose nomination was confirmed May 18, most recently served as the Defense Department adviser for threat reduction policy and is responsible for the Nunn-Lugar Cooperative Threat Reduction program, which focuses on weapons of mass destruction and their materials, particularly in the former Soviet Union.

Marcel Lettre II, former national security adviser to Senate Majority Leader Harry Reid (D-Nev.), has been appointed principal director for countering weapons of mass destruction. He works for Rebecca Hersman, deputy assistant secretary of defense for countering weapons of mass destruction.

Edward L. “Ted” Warner, formerly assistant defense secretary for strategy and threat reduction, is working with Gottemoeller as the official representative of the Defense Department to the START follow-on talks with Moscow.

Obama has yet to announce his pick for director of the Defense Threat Reduction Agency. The acting director is Maj. Gen. Randy E. Manner.

In May, the Senate also approved the nomination of Daniel Poneman to become deputy secretary of energy. Poneman served from 1993 to 1996 as special assistant to the president and senior director for nonproliferation and export controls at the NSC. Before that, he served as White House fellow in the Energy Department under the George H.W. Bush administration. — EBEN W. LINDSEY

The Robert Bosch Foundation Fellowship Program

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German language skills are not required at the time of application. Intensive language training is provided as needed in the U.S. and Germany prior to the program year. Fellows receive a generous compensation package including a monthly stipend, health insurance, and all program-related travel expenses. Candidates must be U.S. citizens between the ages of 23 and 34 with professional experience in one of the following fields: Business Administration, Economics, Law, Political Science, Public Policy, or Journalism/Mass Communications.

Applications must be received no later than October 15, 2009 for the program year beginning in September 2010.

Program information and the online application can be found on the CDS website: www.cdsintl.org/bosch

For more information, please contact:

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IAEA Finds Uranium at Second Syrian Site

Inspectors from the International Atomic Energy Agency (IAEA) have discovered traces of an undeclared form of uranium at a second Syrian site, according to a June 5 IAEA report. The find adds further questions to a year-long IAEA inquiry into allegations that Syria had secretly pursued nuclear weapons.

The newly discovered uranium traces come from annual environmental samples the agency took in August 2008 from "hot cells," containments that are shielded to allow safe handling of radioactive material. The hot cells are in a facility that also houses Syria’s Miniature Neutron Source Reactor, a 30-kilowatt miniature reactor that Syria bought from China in 1991. Such reactors typically are used for training and radioisotope production.

The IAEA described the detected particles as being “of a type not declared at the facility.”

The agency indicated that Syria has failed to explain the origin of the chemically processed uranium and that further analysis is needed to determine if there is a connection to similar traces found at a facility Israel destroyed in 2007 at a site called Dair al Zour. Washington claims that the destroyed facility was a nuclear reactor that Damascus only recently began using the hot cells once again for student research. According to the source, Syria said the IAEA would be expected to pick up activity from such renewed use.

The Associated Press also quoted Ibrahim Othman, director-general of Syria’s Atomic Energy Commission, describing the finding as only “one particle or two particles.” Another diplomatic source disputed Othman’s claim, telling Arms Control Today June 22 that the agency discovered “a significant number of particles, close to the number found at Dair al Zour.”

The United States has called on Syria to cooperate with the
Responding to postelection turmoil in Iran and accusations of voting fraud in favor of Iranian President Mahmoud Ahmadinejad, Washington has reaffirmed its intention to pursue a dialogue with Tehran regarding its nuclear program.

Secretary of State Hillary Rodham Clinton said during a June 17 press conference with Israeli Foreign Minister Avigdor Lieberman that the United States is “obviously waiting to see the outcome of the internal Iranian process, but our intent is to pursue whatever opportunities might exist in the future with Iran.” Washington previously expressed an interest in beginning discussions with Iran on its nuclear program following the June 12 elections. (See ACT, June 2009.)

Since then, U.S. officials have cautiously tried to avoid drawing conclusions regarding the results of the Iranian elections, held on June 12, as the results are still in dispute. However, Obama said during a...
Table 1: Natanz Operations as of May 31, 2009

<table>
<thead>
<tr>
<th>Unit</th>
<th>Cascades Operating</th>
<th>Total Cascades Installed</th>
<th>Total Centrifuges</th>
</tr>
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<tr>
<td>A24</td>
<td>18</td>
<td>18</td>
<td>2,952</td>
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<tr>
<td>A25</td>
<td>Pre-installation work</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>A26</td>
<td>12</td>
<td>18</td>
<td>2,952</td>
</tr>
<tr>
<td>A27</td>
<td>—</td>
<td>8 (plus 5 centrifuges)</td>
<td>1,317</td>
</tr>
<tr>
<td>A28</td>
<td>Pre-installation work</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>7,221</strong></td>
</tr>
</tbody>
</table>

Source: International Atomic Energy Agency

Iran’s Natanz Fuel Enrichment Plant is intended to house two production halls, A and B, with each hall comprising eight units of 18 centrifuge cascades each. Each cascade contains 164 individual centrifuges. Iran has completed one 18-cascade unit and is currently expanding or preparing to work on four additional units simultaneously. This chart shows where such operations are currently ongoing. The operating cascades are those running with the uranium hexafluoride feedstock used to produce enriched uranium.

June 16 CNBC interview that concerns regarding Iran’s nuclear efforts, as well as its support for U.S.-designated terrorist groups, “would be true whoever came out on top in this election.”

“Either way, it’s important for the United States to engage in the tough diplomacy around those permanent security concerns that we have—nuclear weapons, funding of terrorism,” he said.

IAEA Reports Enrichment Buildup

Against the backdrop of leadership questions in Tehran, Iran has continued to expand its uranium-enrichment activities at its commercial-scale Natanz plant. A June 5 International Atomic Energy Agency (IAEA) report indicated that, as of the end of May, Iran had installed a total of about 7,000 centrifuges at that facility. Of those, about 5,000 are running with uranium hexafluoride, the feedstock used to produce enriched uranium, the IAEA said.

Enriched uranium can be used at low concentrations of the uranium-235 isotope to power most nuclear plants; at high concentrations, it can be used in nuclear weapons. Since enrichment operations began in February 2007, Iran has produced about 1,300 kilograms of low-enriched uranium hexafluoride.

The centrifuge expansion at Natanz has now started to take place in the third of five 3,000-centrifuge “units” that Iran has prepared for such installation (see Table 1).

In response to this expansion of the number of centrifuges being installed and the increased production rate for low-enriched uranium, the IAEA indicated that “improvements to the containment and surveillance measures” at the facility are needed for the agency to “fully meet its safeguards objectives.” The June 5 report said the agency has held discussions with Iran for that purpose.

During a June 15-19 IAEA Board of Governors meeting, agency Director-General Mohamed ElBaradei questioned

Iranian President Mahmoud Ahmadinejad tours his country’s commercial-scale uranium-enrichment plant at Natanz April 8, 2008. An International Atomic Energy Agency report indicated last month that, as of the end of May, Iran had installed a total of about 7,000 centrifuges at the Natanz facility. Of those, about 5,000 are running with uranium hexafluoride, the feedstock used to produce enriched uranium.
the need for the continued expansion of Iran’s enrichment plant. “Why is there a rush now for Iran to build its enrichment capability in terms of industrial capacity?” he asked, adding, “There is no commercial need for it right now.”

ElBaradei made the comments as part of a reiterated call for a “freeze for freeze,” in which Iran halts the additional installation of centrifuges while the UN Security Council agrees not to pursue additional sanctions. Since 2006, the council has demanded that Iran suspend all enrichment operations and has adopted three sanctions resolutions in response to Iran’s refusal to comply.

The freeze-for-freeze concept was part of a revamped proposal for negotiations offered by the permanent members of the council (China, France, Russia, the United Kingdom, and the United States) and Germany to Iran last year. (See ACT, July/August 2008.) Iran’s response to this parallel freeze proposal is also reportedly being considered as a potential “benchmark” by the six countries to denote progress in negotiations with Tehran on the nuclear issue. (See ACT, June 2009.)

Obama said in May that the United States would review progress in any negotiations by the year’s end.

The Associated Press reported June 17 that Geoffrey Pyatt, U.S. deputy chief of mission to the IAEA, told the agency’s board during the June meeting that Washington was still open to the freeze-for-freeze idea.

—PETER CRAIL
Russia Vetoes UN Mission in Georgia

Russia voted against extending the mandate of the United Nations Observer Mission in Georgia (UNOMIG) in the Security Council June 15, scuttling a last-minute effort to renew the mission’s mandate and dealing another blow to the already strained Conventional Armed Forces in Europe (CFE) Treaty.

The vote ended the nearly 16-year-old mission to help keep the peace between Georgia and its breakaway territory of Abkhazia. In a press release following the vote, the Russian Foreign Ministry called the proposed extension of the mandate “useless in the present situation” because it does not refer to Abkhazia as an independent state. Moscow recognized the independence of Abkhazia and nearby South Ossetia following Russia’s conflict with Georgia in August 2008.

UNOMIG was established in 1994 to monitor a ceasefire between Georgia and separatists in Abkhazia following a series of conflicts after the fall of the Soviet Union. The mission set up a demilitarized zone along the Abkhazian border and a broader region where heavy weapons were not permitted. As of February, UNOMIG was staffed by 151 international uniformed personnel.

British, French, and U.S. diplomats wanted to extend the UNOMIG mandate with a reference to Security Council Resolution 1808, in which the council reaffirmed the territorial integrity of Georgia. Russia’s ambassador to the UN Vitaly Churkin said there was no sense in extending the original mandate “since it’s built on old realities.” Ten states in the Security Council voted in favor of the extension, with four abstentions. Russia was the only country to vote against the resolution, but, as a permanent member of the Security Council, Russia has veto power.

Russia signed treaties of friendship with Abkhazia and South Ossetia in September 2008 and pledged to guarantee the security of the two territories. Under the mutual assistance pacts, Russia is setting up one military base in each territory and has taken responsibility for guarding the Abkhazian and South Ossetian borders.

Moscow’s decision to recognize the independence of the two territories and to commit military forces to their defense further clouds the future of the 1990 CFE Treaty. The treaty, which governs military force levels in Europe, was adapted by its parties in 1999 to take into account the dissolution of the Warsaw Pact and the expansion of NATO. The adapted treaty has not come into force, pending ratification by the NATO states.
At the 1999 Istanbul summit that produced the Adapted CFE, Russia made a nonbinding “political” commitment to shutter its military bases in Georgia and to reduce its military presence there. Russia continued to maintain a small “peacekeeping” garrison in Abkhazia after the 1999 summit, and NATO countries refused to ratify the adapted treaty while those forces remained in Georgia. (See ACT, January/February 2007.) Frustrated by the NATO refusal to ratify the Adapted CFE, President Vladimir Putin suspended Russia’s implementation of the original treaty Dec. 12, 2007. (See ACT, January/February 2008.)

Addressing the Security Council after the vote last month, Rosemary DiCarlo, the U.S. alternative representative for special political affairs at the UN, said the United States “deeply regrets” the failure to extend the UNOMIG mandate and stressed the importance of a UN presence in Georgia.

An EU observer mission is now operating in Georgia, but it will end Oct. 1 unless its mandate is extended by the EU member states. In a June 15 statement, the Russian Foreign Ministry called these observers a “considerable restraining factor” on tensions in the region and said that Russia is “ready to continue and strengthen our cooperation with the European Union in this area.” Unlike the UN monitors, however, the EU observers do not have free access to territory inside Abkhazia. —COLE HARVEY

The National Missile Defense Act of 1999 was described by its chief sponsor, Sen. Thad Cochran (R-Miss.), as “the necessary first step to protecting the United States from long-range ballistic missile attack.” Indeed, the act constituted an important milestone on the road to U.S. withdrawal from the Anti-Ballistic Missile (ABM) Treaty in 2002, a step that the sponsors of the act advocated. Although the act itself neither authorized any programs nor appropriated any funds, it was misrepresented then and has been misrepresented since as proof of strong congressional support for the urgent and unqualified pursuit of strategic missile defenses.

The National Missile Defense Act gave the United States a clearly stated policy goal: to “deploy as soon as is technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized, or deliberate)....” These simple words essentially became executive branch policy following the election of 2000. They were adopted as a charter for the Missile Defense Agency, appearing prominently today on the home page of the agency’s Web site. Although the meaning of “effective” has been subject to debate and the elections of 2006 and 2008 have affected the implementation of that policy, the act represents an enduring symbol of the potent backing strategic missile defense has received from Congress during the last 10 years.

Ironically, the threat assessments on which the act was based have proven unrealistic with regard to Iran, Iraq, and North Korea. None of these countries and no other proliferant states have deployed long-range ballistic missiles in the decade following the act. The sponsors of the act also identified growing Chinese missile deployments as a source of concern, “perhaps [the] most troubling” in the words of Sen. Jesse Helms (R-N.C.), the chairman of the Senate Foreign Relations Committee. Yet, the U.S. strategic ballistic missile defenses deployed after passage of the act were never intended to defend against a deliberate Chinese attack.

Those missile defense deployments were also not directed at a deliberate Russian attack, although the act prepared the way for the U.S. decision in 2001 to withdraw from the ABM Treaty, which had been a keystone in the management of the U.S.-Russian strategic relationship. The Russians abandoned START II on the day after U.S. withdrawal from the ABM Treaty. In ratifying START II, the Russian Duma had conditioned its approval on continuing U.S. adherence to the ABM Treaty.

The Russian abandonment of START II, which the United States had never ratified, removed any chance of reducing Russian strategic offensive forces under the stabilizing terms of that treaty. Although Russian missile and warhead numbers continued to decline even without START II, the Russians were able to retain “heavy ICBMs” and other land-based ballistic missiles with multiple, independently targetable re-entry vehicles.

In short, China and Russia have increased the quality and, in the case of China, the quantity, of their strategic ballistic missile forces in response to U.S. missile defense programs. However, there is no evidence that the U.S. programs have dissuaded the states of proliferation concern from developing or deploying ballistic missiles.

Cold War Origins

The United States and the Soviet Union deployed limited numbers of strategic missile defense interceptors and radars in the middle years of the Cold War. These defenses were designed to cope with the intercontinental-range (greater than 5,500 kilometers) and intermediate-range (3,000-5,500 kilometers) ballistic missiles, with which the two sides could threaten each other’s homeland. The U.S.S.R. went first, deploying nearly 100 nuclear-armed ABM interceptors around Moscow in the...
1960s. The United States began deploying a comparable number of nuclear-armed ABM interceptors at Grand Forks, North Dakota, in 1974. The 1972 ABM Treaty had banned the United States and U.S.S.R. from developing nationwide defenses as well as systems or components for sea-based, air-based, space-based, or mobile survivable even to the present day.

The United States was susceptible to the no-less-potent illusion that it could use technology to replace the defensive shield two oceans had historically provided for keeping enemies at bay. Nurtured by an almost unlimited faith in technological solutions and feeling the same

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land-based ABM deployments. The treaty permitted each side to build ABM systems at two fixed locations for defense of each national capital area and a land-based missile base, with up to 100 interceptors at each site. A 1974 protocol to the treaty reduced that allowance, limiting each side to only one site. The Soviets opted to maintain their system around Moscow while the United States elected to protect a missile field in North Dakota, until Congress cut off funding in 1975. A 1997 agreement on confidence-building measures, negotiated in the ABM Treaty’s Special Consultative Commission, precisely demarcated strategic missile defense interceptors from those that were designed to intercept tactical and theater ballistic missiles. The latter systems were deemed incapable of overcoming the technical challenge of coping with the much faster re-entry of ICBM and sea-launched ballistic missile warheads.

Although the Soviets sought to be able to defend their capital and national leadership against the new U.S. missile threat that emerged in the 1960s, they never succeeded. U.S. warheads and the options for countermeasures were too numerous and the radars on which the Moscow system relied too vulnerable. Yet, bureaucratic inertia, vested interests, and the psychological desire to have some defense, however inadequate, have allowed vestiges of the Soviet/Russian system to survive even to the present day.

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Report Spurs Action
The second and most important substantive development was the July 1998 release of the Report of the Commission to Assess the Ballistic Missile Threat to the United States, chaired by Donald Rumsfeld, who had been President Gerald Ford’s secretary of defense. The report’s executive sum-

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ary warned that North Korea and Iran would be able to inflict major destruction on the United States within about five years of a decision to acquire such a capability and that both placed “a high priority on threatening U.S. territory” and were even then “pursuing advanced ballistic missile capabilities to pose a direct threat to U.S. territory.” The report claimed that any other nation with a well-developed, Scud-based ballistic missile infrastructure could be within five years of an ICBM capability. Finally, the report warned that the United States “might have little or no warning before operational deployment” of these systems.5

The dire warnings of the Rumsfeld Commission were subject to considerable criticism and controversy among experts. Senate Democrats were still confident going into the August recess that year that they could sustain efforts by the Clinton administration to avoid congressional passage of an unqualified endorsement of strategic missile defense in reaction to the report. The public, however, which had already been spooked by Rumsfeld’s depiction of a potential near-term threat from “rogue state” ballistic missiles, was about to receive a further jolt. North Korea surprised the world with its August 31, 1998, attempt to place a satellite in space using a three-stage Taepo Dong-1 rocket. Although the attempt was unsuccessful, no missile re-entry vehicle was tested, and the system’s throw
weight was inadequate to deliver a nuclear-sized payload to the United States, the political impact of the event was enormous. Proponents of strategic missile defenses skillfully used the North Korean launch as vindication of the Rumsfeld Commission’s warnings and accompanying allegations that previous U.S. intelligence assessments had been overly sanguine.

Most Democratic senators became unwilling to stand behind White House threats to veto the strategic missile defense resolution being pushed by the Republican majority. The alternative strategy the Democrats chose was to make the issue go away by adding language to make the bill uncontroversial. Amendments to the policy bill provided reminders that any national missile defense program funding would have to be subject to annual authorization and appropriation measures and that it was still U.S. policy to seek negotiated reductions in Russian strategic forces. Clinton stressed that the amendments made clear that no deployment decision had been made, but the simple language of the bill implied strongly that Congress recognized U.S. technological obstacles as the only acceptable justification for delay. The Senate bill passed 97-3 on March 17, 1999. The House bill passed the next day, 317-105.

Clinton announced in 2000 that strategic missile defenses, then under the rubric of the National Missile Defense program, were sufficiently promising and affordable to justify continued development and testing but that there was not sufficient information about the technical and operational effectiveness of the entire system to move forward with deployment. He noted that critical elements, such as the booster rocket for the interceptor, had not been tested and that there were questions about the system’s ability to deal with countermeasures.6

At the outset of the Bush administration in 2001, the programmatic course of strategic ballistic missile defense and the future of the ABM Treaty were still up in the air. That summer, a bipartisan majority of the Senate Armed Services Committee even voted to reduce missile defense funding. The September 11 attacks on the World Trade Center and the Pentagon created an entirely different atmosphere for continuing the debate. In the fearful wake of those attacks, President George W. Bush was successful in supercharging strategic missile defense procurement and deployment. In spite of virtually unanimous international opposition, he announced U.S. withdrawal from the ABM Treaty in late 2001 and a commitment to deploy strategic defense interceptors by 2004. The U.S.-based deployments and their “operational” designation were accomplished only after Rumsfeld, whom Bush had appointed secretary of defense, suspended traditional acquisition rules and operational testing criteria, introducing an unconventional and controversial “spiral” development process. By the end of two terms, the Bush administration was able to deploy a set of 20 ground-based missile defense (GMD) interceptors at sites in Alaska and California and to plan for deploying another 24 there and 10 more in Poland.

The ABM Treaty constituted a tacit acknowledgment by both sides that unlimited strategic defenses constituted a threat to the stability of the balance in offensive forces. Each side further demonstrated by its subsequent actions, albeit at different times, that offenses and defenses were inextricably connected. In 1988 the United States demanded that the Soviet Union dismantle the large phased-array radar Moscow was constructing at Krasnoyarsk before Washington would agree to any new offensive arms control limits.7

In response to U.S. withdrawal from the ABM Treaty on June 13, 2002, Russia
announced one day later that it would no longer consider itself bound by START II, consistent with the Duma’s ratification terms in 2000, which were contingent on continuation of the ABM Treaty. Thus, not for the first or last time, U.S. determination to escape from strategic missile defense strictures led to the loss of an opportunity to secure lower limits and stabilizing measures in strategic offensive forces.

In 2004 the Bush administration began talks with eastern European states to explore the potential use of their territory for deployment of U.S. GMD interceptors and a sophisticated midcourse X-band radar. By the end of his administration, Bush had secured agreements with the Czech Republic for hosting the radar and Poland for hosting the missile interceptors, but the agreements remain to be ratified by the host governments. Meanwhile, on the U.S. side, the pendulum again seems to be swinging away from the urgent priority assigned to strategic missile defense by the Bush administration. President Barack Obama said in his April 5, 2009, Prague speech that he would only go forward with a missile defense system in Europe that was “cost effective and proven.” His revised request for the Missile Defense Agency in the fiscal year 2010 budget was $7.8 billion, a $1.2 billion funding cut in missile defense.

Conclusion
In this tenth anniversary year of the National Missile Defense Act, it is worth noting that the North Korean ICBM seen as imminent when the act was passed has still not been successfully flight-tested. Development is down the road, “probably another three to five years minimum,” according to Gen. James Cartwright, vice chairman of the Joint Chiefs of Staff. Helms worried during the 1999 debate over the act that “Iran may very well be able to deploy an ICBM before America has a missile defense to counter it, even if the United States breaks ground on construction tomorrow morning.” In fact, neither Iran nor any of the other emerging ballistic missile states the Rumsfeld Commission said could have ICBMs by 2003 has them today.

The sponsors of the National Missile Defense Act were correct in predicting that the pursuit of strategic missile defenses outside the ABM Treaty would not necessarily forestall additional reductions in the number of Russian strategic missiles given the state of Russia’s economy after the dissolution of the Soviet Union. That pursuit did, however, derail START II, the next step of negotiated reductions in U.S. and Russian strategic forces. In order to satisfy the requirements of START II, Moscow would have had to deploy only single-warhead ICBMs, leading to a force structure with greater crisis stability and possibly with fewer overall warheads than it currently has. U.S. strategic missile defense deployments also provided additional incentives for the modernization of Chinese strategic forces that so troubled Helms at the time the act was debated. Using formulas familiar to U.S. and Russian strategic planners countering strategic defenses in the past, the Chinese have increased the mobility and number of their deterrent forces while improving the survivability of their re-entry vehicles.

Actual threat history aside, the National Missile Defense Act became an important argument in the continuing policy debate over the direction and pace of the strategic missile defense program. After 1999, whenever skeptics of missile defense raised programmatic issues, the act was cited as proof that an overwhelming and bipartisan majority in Congress had already established a policy of rapid deployment, relegating other issues to a subordinate position. The act prodded the executive branch to move forward with little consideration of the full repercussions. Following the superficial logic of the act, the United States discarded the ABM Treaty even though most of the U.S. missile defense activities that have taken place between then and now could have been accommodated under the broad conceptual framework of the treaty. Moreover, the United States rushed to deploy defenses against the rogue-state ICBM missile threat before that threat materialized and before U.S. defensive systems had been adequately tested. These actions cost the United States dearly in terms of treasure spent and opportunities lost to reduce the threat from its potential adversaries with the most lethal capabilities, against which U.S. strategic forces are still principally directed.

ENDNOTES
5. Ibid.
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