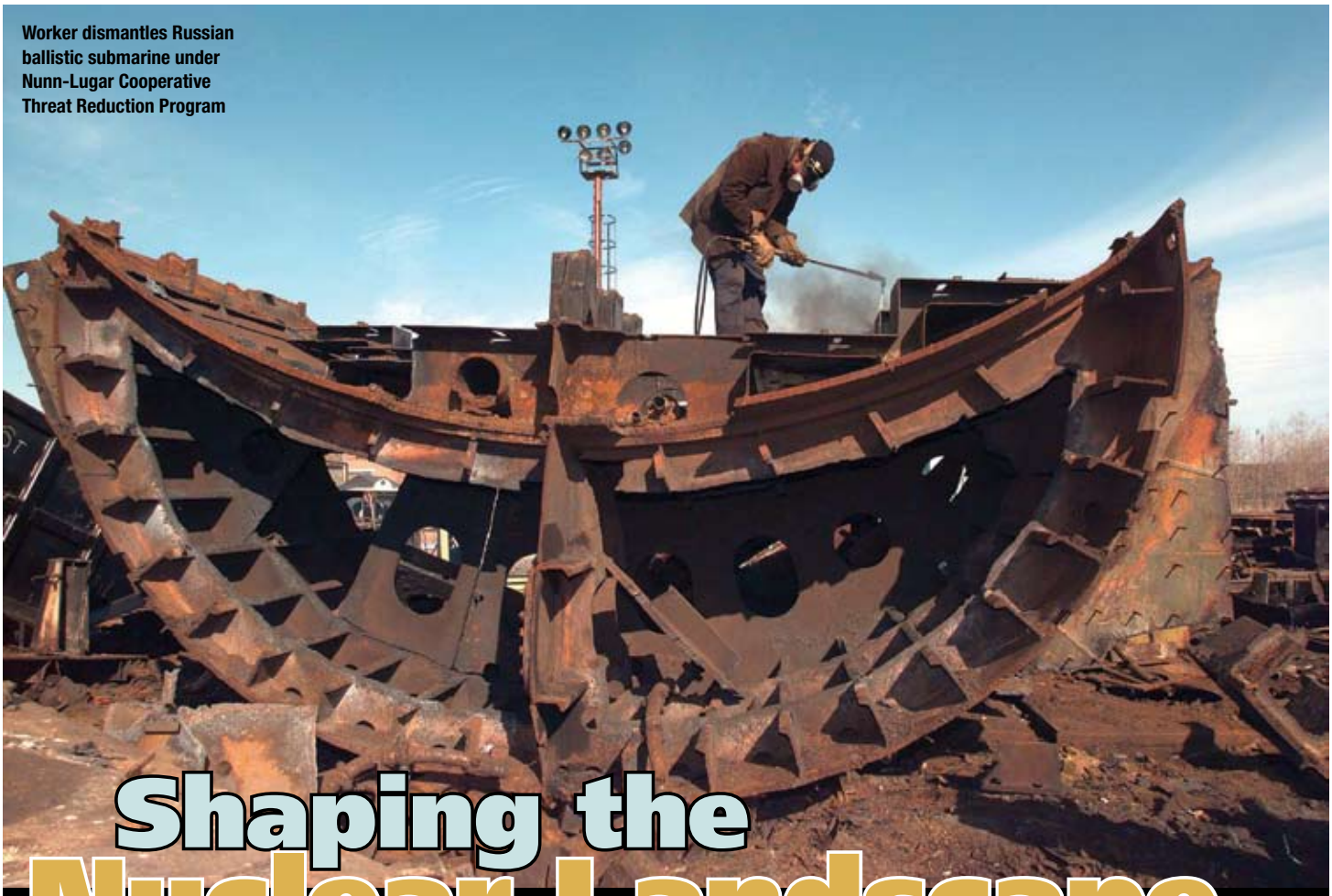

Worker dismantles Russian ballistic submarine under Nunn-Lugar Cooperative Threat Reduction Program

U.S. Navy

Shaping the Nuclear Landscape

By PAUL I. BERNSTEIN, JOHN P. CAVES, JR., *and* JOHN F. REICHART

In important ways, the world is at a nuclear crossroads. The complex and dynamic nuclear landscape presents us with challenges along at least four axes: regional nuclear proliferation, nuclear terrorism, great power nuclear relations, and the security implications of increased interest in nuclear energy. These problems are interrelated in ways that the national security community does not fully understand. Strategy and policy frameworks do not address them in sufficiently integrated fashion. New conceptual thinking is required to develop a more unified understanding of and approach to managing the risks and opportunities posed by these 21st-century nuclear challenges.

Today, more than at any other time in the nuclear era, nuclear capacity and potential (knowledge, technology, and materials) are accessible to a growing number of actors with more ambitious goals. The result is a high degree of nuclear latency that challenges traditional thinking about nuclear threats. Whereas 30 or 40 years ago, only a handful of countries were assumed to know how to acquire nuclear weapons, as many as 35 or 40 nations currently are believed to be in the know, and many more could become so based on their participation in civilian nuclear energy programs.[1]

In a world characterized by high nuclear latency, a number of risks stand out. One is simply that there may be multiple ways for states to be considered nuclear-capable. While robust nuclear weapons programs remain the most serious proliferation danger, a range of possibilities below this threshold or level of capability must be of concern as well. So must be models of weapons development enabled by technologies and processes that might be easier to conceal and harder to detect (for example, laser enrichment). A nuclear-latent world also challenges our thinking about warning, suggesting the possibility of a significant mismatch between lead times and reaction times. Finally, careful attention must be paid to the catalytic or transformative events that could push a latent nuclear actor toward a more active or accelerated posture. Japan often is cited as a possibility in this regard, but also of concern are so-called rollback states that could, with varying degrees of ease,

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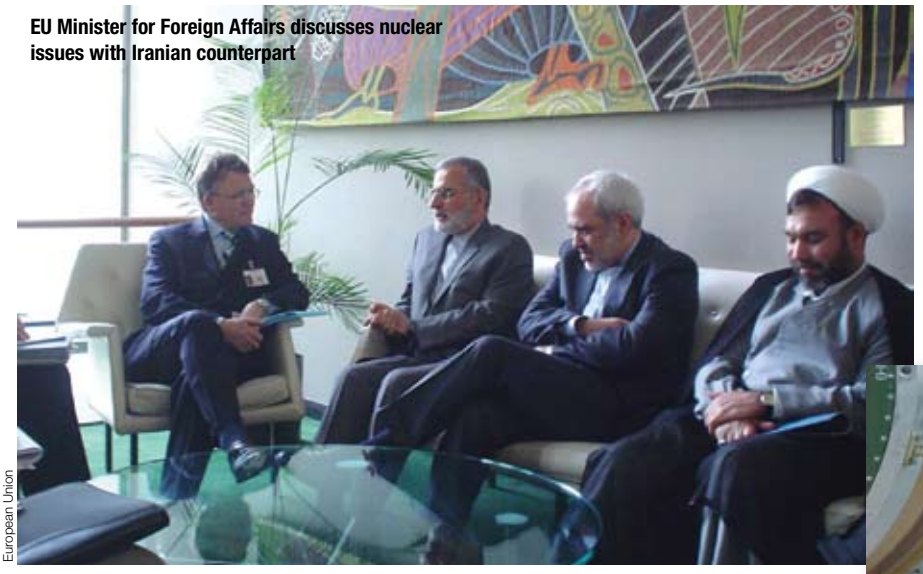


EU Minister for Foreign Affairs discusses nuclear issues with Iranian counterpart

European Union

attention needs to be paid to the events that could push a latent nuclear actor toward a more active posture

SS–18 ICBM slated for elimination under Nunn-Lugar Cooperative Threat Reduction Program

Office of Senator Richard Lugar

reconstitute their nuclear weapons programs in response to changed conditions.

These considerations have significant implications for political and technical intelligence, not least of which is the need for a sharper focus on intentions. More broadly, there needs to be a way to measure latency that is meaningful to decisionmakers and planners. Metrics may be qualitative and/or quantitative and should strive to enable policies that can influence both intentions (through incentives) and capabilities (through barriers).

Pressures Against Cooperation

The latency challenge will grow as more states gain access to either basic or more advanced levels of nuclear technology. Consider the countries that recently have expressed interest in or intent to initiate or expand nuclear energy activities, including in some cases developing an indigenous capability to enrich uranium: Algeria, Argentina, Australia, Brazil, Bulgaria, Canada, Egypt, the Gulf Cooperation Council states, Indonesia, Jordan, Kazakhstan, Morocco, South Africa, Tunisia, Turkey, Ukraine, Venezuela, and Yemen. Driving these decisions is a dynamic mix of motivations shaped by security, energy, and science. Anxiety about North Korea and Iran likely is fueling proliferation pressures in East Asia and the Middle East as threat perceptions evolve and concerns grow about the fraying of the international nonproliferation regime. Others may look at these cases and conclude that possessing or seeking nuclear weapons results in enhanced leverage and influence. Energy security is an increasingly salient factor in the appeal of nuclear technology, given the economics of oil and what may become growing pressures to find alternatives to fossil fuels in light of global warming. Additionally, many countries associate *nuclear* not just with security or energy, but with modernity as well. That is, access to nuclear science and technology is seen by those who consider themselves behind as a powerful means to join the community of advanced nations.

The problem is not limited to states. Small groups or individuals operating outside traditional political boundaries may be capable of assisting states or terror groups in developing or acquiring nuclear capability. In this sense, the A.Q. Khan clandestine nuclear procurement network—to cite only the most prominent nuclear black market activity—is a concrete manifestation of globalization in the security arena. In the future, we may look back at the Khan phenomenon not as an anomaly but as the harbinger of a period in which literally anything could be bought or sold. Certainly, this is a problem that the framers of the Nuclear Non-Proliferation Treaty (NPT), 40 years ago, could not have anticipated.

It is no surprise, then, that the nuclear nonproliferation regime is under great stress. The regime overall has been effective in containing the spread of nuclear weapons, not least by giving governments confidence that restraint is in their self-interest. But the progress of determined, hostile proliferators poses a major threat to the integrity of the regime and the norms that it embodies. Failure to resolve these challenges and delegitimize various models of creeping proliferation could lead to a broad-based loss of faith in the regime and its effectiveness as a security alternative to possessing nuclear weapons. Increasing global energy demand is a complicating factor not only because nuclear energy is becoming more appealing but also because of the geopolitics of oil. In a time of higher oil prices, it will be difficult to impose the type of hard sanctions that may be necessary to induce states such as Iran—a major oil exporter that also has the capability to interfere with other exporters' oil shipments—to limit their nuclear ambitions. China's rapidly growing need for imported energy is of particular concern here, as Beijing seeks to establish strategic relationships with major oil exporters such as Iran.

Indeed, it is not possible to separate regional nuclear proliferation challenges fully from the dynamics of great power strategic relations. While the United States has been highly proactive in developing innovative approaches to the weapons of mass destruction (WMD) problem, it needs the help of Russia and China to work the hardest cases, such as North Korea and Iran. Washington, Moscow, and Beijing clearly have some common interest in managing these problems, but there are also pressures working against cooperation, including differing assessments of the importance and urgency of these regional proliferation challenges and uncertainty in each capital about where the others are headed in terms of nuclear and other strategic force capabilities. Strategic dialogue to address these uncertainties and forge a more common perspective on the nuclear

future may make it easier to bridge some of the differences evident in addressing the WMD challenge. Exploring linkages across these dimensions of security may yield new opportunities for great power cooperation.

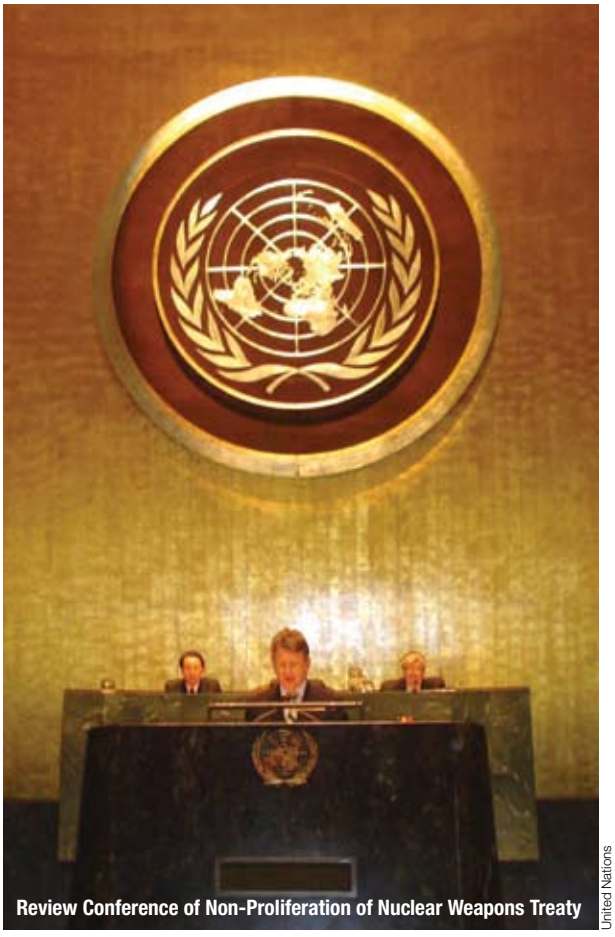
The Major Challenges

Impact of the Iraq War on U.S. Nonproliferation Efforts. Many governments feel alienated from Washington because the public rationale for the Iraq war is widely viewed as either illegitimate or based on a massive intelligence failure. The damage to American credibility has been serious, making it more difficult to marshal others to confront new proliferation threats vigorously (or support U.S. objectives more broadly).

Forging a common approach to Iran within a coalition that divided bitterly over Iraq has compelled the United States to make significant adjustments to its strategy. The war also has deepened political divisions at home, making the search for bipartisan approaches more difficult. These domestic political constraints and the strain on U.S. forces resulting from the war are recognized by Iran and North Korea, whose leaderships may now see the United States as less willing or able to pursue coercive strategies that implicitly or explicitly threaten military action in response to their proliferation activities. As a result, these countries may be emboldened to resist international pressure to dismantle their nuclear programs or capabilities.

Moscow and Beijing care about containing the spread of nuclear weapons, just not as intensely as does Washington

Limited Help from Russia and China. Moscow and Beijing care about containing the spread of nuclear weapons, just not as deeply or intensely as does Washington. While Russia and China do not wish to see unchecked proliferation, neither are they prepared to make major political or economic sacrifices to support a nonproliferation agenda that is viewed at least by some officials as preserving American advantage. Strategic economic considerations increasingly reinforce this: nuclear technology is one of the few technologies that Russia can market competitively, and China's aggressive effort to secure energy sources colors its posture toward proliferation problems, such as that of Iran. Whereas in the past it may have been possible to treat the proliferation problem as a more or less stand-alone issue in great power relations, it is no longer possible to separate it from broader economic, energy, and regional security considerations. Any effort by the United States to forge a more common or cooperative great power approach to managing WMD challenges will require recognizing and addressing Russian and Chinese equities.



Review Conference of Non-Proliferation of Nuclear Weapons Treaty

United Nations

Chinese officials and commentators increasingly suggest that U.S. nonproliferation policy is self-serving and based on double standards. Whereas China is pressed on cases such as Pakistan, Iran, and North Korea, the United States expects others to support preserving the special status of Israel, rewarding India despite its refusal to join the NPT, and accepting the "creeping nuclearization" of Japan. Russia, for its part, has recently issued an official document on nonproliferation policy that accuses the United States of politicizing nonproliferation and opposes key elements of U.S. strategy (although without mentioning the United States).[2] On the other hand, neither country likely would allow differences over proliferation to cause a fundamental breach in their relationships with Washington, and there are cooperative activities that are potentially significant. The ongoing strategic dialogue with China provides an opportunity to seek stronger common ground on countering WMD. Presidents Bush and Vladimir Putin recently launched the Global Initiative to Combat Nuclear Terrorism, designed to expand and accelerate efforts and capacity among like-minded nations to control nuclear materials, stop illicit trafficking, respond to acts of nuclear terror, deny safe haven, and strengthen national legal frameworks.[3]

Gaps in Knowledge and Understanding of Suspect Programs and Activities. Limitations in WMD intelligence are by now a well-studied problem. Even before the serious questions raised by the Iraq war, there were efforts to assess the capabilities of the Intelligence Community with respect to WMD and identify required reforms.[4] The WMD intelligence track record is mixed. There have been major successes (not always publicly acknowledged), and there are recognized oases of excellence in the community with respect to WMD intelligence collection and analysis. There have also been significant failures and chronic dysfunctions stemming from a broad range of organizational, operational, and analytical shortfalls.[5] In the aftermath of Iraq and in the face of continuing uncertainties vis-à-vis the nuclear intentions and capabilities of North Korea, Iran, al Qaeda, and others, it is not surprising to hear the question: Are our intelligence capabilities good enough to understand this threat properly and anticipate the range of challenges that may emerge?

While there is significant room for improvement, it is essential to have realistic expectations. Determined, adaptive proliferators skilled at deception and denial will find ways to conceal at least some of their activities from even a greatly improved WMD intel-

ligence enterprise. To some degree, therefore, uncertainty will always outweigh certainty, and policymakers must accept that there are inherent limits to WMD intelligence. But much can be done to reduce uncertainty and the ambiguity associated with clandestine WMD programs. Emphasis should be placed on minimizing the prospects for significant strategic surprise and providing decisionmakers with more robust and timely actionable intelligence. Reforms to enable this must encompass organization, methodology, and technology. Compensating for inevitable intelligence gaps also requires the military to emphasize a capabilities-based approach to planning and investing.

Organizationally, a fundamental problem has been the lack of aggressive Intelligence Community ownership of all aspects of the combating WMD intelligence mission. Creating the Office of the Director for National Intelligence (ODNI) and a supporting National Counterproliferation Center (NCPC) is intended to remedy this problem. Among the greatest challenges facing the ODNI and NCPC are improving horizontal integration across the WMD Intelligence Community and coordinating collection and analysis efforts around specific high-priority targets.[6] With respect to methodology and technology, new sources and approaches are required that are less well known to adversaries and more tailored to discovering concealed WMD activities. These methods overall must focus more on the earliest stages of the proliferation process, and they require a sharper focus on intentions, people, transactions, and critical nodes, enabled by improved human intelligence, information processing, and exploitation of persistent intrusive sensing technologies.

Cultural and Organizational Obstacles to Effective Responses. Strategy and policy analysts often do not understand science and technology well. Nuclear functionalists tend to lack in-depth regional expertise, while regional or country specialists are not always well versed in strategic force issues (China is a good example). There also is a gap between nuclear analysts and those working on other military issues. These cultural problems both reflect and perpetuate divergent vocabularies and frames of reference, and contribute to stovepipes, turf battles, and weak integration of activities. In the combating WMD arena, stovepiped organizations and processes have been a persistent problem dating back many years. There are signs, however, that the community is moving toward greater unity of effort.

In the last 2 years, the Department of Defense (DOD) has established an organizational and planning framework to define and execute the combating WMD mission. The National Military Strategy to Combat WMD provides an "ends-ways-means" approach to planning, executing, and resourcing to guide the activities of combatant commanders, Services, and support agencies. It defines core military strategic objectives, guiding principles for developing concepts of operations and plans, and eight critical missions for the Armed Forces.[7] The designation of U.S. Strategic Command (USSTRATCOM) as lead command for combating WMD has laid the foundation for a more integrated, synchronized effort across the combatant commands and DOD as a whole to implement this strategy. For the first time, there is a single focal point for the Armed Forces, an important step toward further institutionalizing combating WMD in DOD.

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To execute on a day-to-day basis, the commander, USSTRATCOM, has established the USSTRATCOM Center for Combating WMD, a component-like organization closely linked to the Defense Threat Reduction Agency. The test of these new command and organizational arrangements will be the degree to which they can help regional commands to define, plan and resource for, and execute rigorously all aspects of the combating WMD mission. One key focus today is the development of Concept Plan 8099, the global concept for the combating WMD mission that will provide the planning template for all regional commands. Another is the set of joint concepts and capabilities-based assessments that are being conducted to support the definition of warfighter requirements and enable the USSTRATCOM commander to be an effective advocate in the requirements process.

In the Department of State, the Office of the Under Secretary for Arms Control and International Security has reorganized to align its activities with national combating WMD priorities, to include nuclear detection activities, nuclear information-sharing, consequence management, and the development of country- and region-specific plans that can be synchronized with DOD plans. In the Intelligence Community, the aforementioned National Counterproliferation Center will integrate intelligence, coordinate planning, and conduct strategic operational planning at the national level.

Indicators of greater intra- and interagency cooperation are encouraging, as are signs that the WMD terror threat has brought the counterproliferation and counterterrorism communities closer together. But a strong push is needed to ensure that interagency structures and processes are capable of effectively managing complex contingencies involving WMD from start to finish—from policy formulation to coordination and execution of operations. Policymakers a decade ago recognized that WMD could be a complicating factor in managing complex contingencies.[8] This is no less true today, and indeed has been brought into even sharper relief by intervening events. So the question remains: How can the Government institutionalize a collaborative process to plan, execute, and assess combating WMD activities and operations, utilizing all the tools of statecraft? Especially as the combating WMD playing field becomes more crowded, as the toolkit becomes more diverse and sophisticated, and as multiple national and international efforts become more interdependent, the requirement for timely and effective interagency coordination will only grow. This will require more than refining national strategy and preparing decisions for the President; it must include putting in place mechanisms to create and sustain long-term plans for combating WMD that develop integrated courses of action and enable their execution across multiple agencies, including DOD. This capability, if it can be achieved, will create new opportunities for defeating the threat, in some cases reducing pressures for military action.

Practical steps toward strengthening interagency capabilities for combating WMD include developing an overarching interagency concept of operations; clarifying DOD's relationship to other agencies for both war plan execution and response to domestic events, and the associated requirements for interagency support; creating the capacity for

rapid interagency crisis action planning and mission execution; and increasing capacity in civilian agencies to better support operations.

Progress in Addressing Nuclear Threats

A range of programs is now in place to enhance capabilities to deny terrorists access to WMD materials, technologies, and expertise. These include initiatives that target the spectrum of chemical, biological, radiological, and nuclear threats, such as the Proliferation Security Initiative, and efforts managed by the Department of the Treasury to disrupt terrorist financing. In the nuclear area specifically, additional effort has been focused on a number of important challenges, such as the security of nuclear facilities in Russia, detecting the movement of nuclear or radiological materials, attributing nuclear attacks in the United States, and meeting the consequence management information needs of first responders.

Security of Russian Nuclear Facilities. Terrorists may acquire nuclear capability in a number of ways, including an outright purchase or gift from a nuclear weapons state, or through the theft of materials that could be used to construct a nuclear or radiological weapon. Theft, in fact, is our greatest concern with respect to the security of nuclear facilities in Russia. Efforts to date to improve nuclear security there have been effective: today, 80 percent of the sites where materials are stored have been secured, and current programs are on a pace to complete this process by 2008. There has been some progress as well in instilling a security culture, a best practices approach, and an emphasis on emergency management capabilities.

But there are troubling trends as well. The growing influence of the security services has created obstacles to accessing some sensitive sites, though Russian authorities have said that they will upgrade security at these sites on their own. It is also clear that Russian standards for physical security are less robust than our own. Moreover, a culture of corruption persists in Russia, underscoring the risks associated with the insider threat. Many small-scale incidents demonstrate this, and while it is a problem the Russian military seems to appreciate, it is less clear that officials of the Federal Agency on Atomic Energy have a similar appreciation. Of equal or greater concern are questions about whether the Russian leadership is willing to commit the resources needed to sustain security improvements over time. If they are not, much of the progress that has been made under bilateral threat reduction programs could be at risk.

Nuclear Detection. The U.S. organizational focal point for this mission is the Domestic Nuclear Detection Office (DNDO), which is a jointly staffed national office established to improve capabilities to detect and report unauthorized attempts to import, possess, store, develop, or transport nuclear or radiological material for use against the United States. Managed by the Department of Homeland Security (DHS), the DNDO has formulated a global nuclear detection architecture with multiple geographic layers and multiple opportunities for detection, including materials protection, control, and accountability, overseas border security, port of departure screening, overseas interdiction, Coast Guard inspections, and U.S. border protection. A systematic assessment has been performed of these layers and associated capabilities to encounter, detect, identify, and interdict the threat. Plans to close capability gaps have been put in place.

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Currently, two programs provide the majority of detection assets to foreign ports of departure: the DOE Megaports Initiative and the DHS Container Security Initiative (CSI), which operates at 50 ports worldwide. In 2005, CSI ports processed 73 percent of all containers destined for the United States prior to lading.[9] Secondary screening measures are executed on containers that trigger existing detectors. Future emphasis will be placed on increasing the volume of U.S.-bound cargo scanned for nuclear and radiological material, using both passive detection and automated radiography, and transmitting all collected data to appropriate government authorities. An important R&D thrust is to develop

U.S. Air Force (Isaac Freeman)

Personnel don protective gear for exercise

Department of Homeland Security

Customs and Border Protection agent deploys nuclear detection technology

next-generation passive sensors to enable 100 percent passive coverage of all official ports of entry, with relocatable assets for other locations. There is also substantial investment in handheld and portable systems to support the Border Patrol and Coast Guard, commercial vehicle inspection, expanded surveillance for high-risk cities, and Federal surge capacity.

Nuclear Attribution. Developing a robust forensics and attribution capability for covert nuclear attacks presents major technical, organizational, and policy challenges. The national-level effort in this area, known as the National Technical Nuclear Forensics program, is an interagency activity managed by the Domestic Nuclear Detection Office in the U.S. Department of Homeland Security. Within this national effort, the DOD Defense Threat Reduction Agency has the lead for post-detonation technical nuclear forensics. Such forensics can support a determination of attribution that would also be informed by intelligence and law enforcement findings. An initial operational capability for post-detonation forensics has been achieved for improvised nuclear devices, and government authorities have expressed a high degree of confidence that this mission can be accomplished in a timely way.[10] Attention has now turned to radiological dispersal devices, for which many more potential sources exist.

From a technical standpoint, the forensic requirement is to determine materials and design, and from there identify the source. For the former, capabilities such as robotic technologies and deployable field laboratories are being developed. For the latter, there must be a known source against which to compare debris, and our database of sources needs to be as comprehensive as possible. Whether the goal is to support legal prosecution or to respond politically and militarily to an attack (or both), it is essential to maintain a chain of evidence and to exercise the decision process with decisionmakers. Ultimately, attribution is a political process that will require senior leaders to determine how much and what kind of information to make available to allies, adversaries, the international community, and the public. An effective attribution capability contributes importantly to deterrence.

Nuclear Consequence Management. With the increased concern today about the likelihood of nuclear use, especially by terrorists, greater attention is being paid to the Nation's preparedness to respond to the effects of one or more low-yield nuclear detonations in a major urban area. In a series of workshops, the Center for the Study of Weapons of Mass Destruction (WMD Center) undertook to identify the key questions about such effects that responders would need answered in the immediate aftermath of an event and to determine whether the answers would be available to them in a timely way.

In identifying the key questions that would need to be answered, the WMD Center found that one or more low-yield nuclear detonations in a major U.S. urban area would directly engage to varying degrees almost all U.S. Federal agencies as well as those of affected states, localities, and private sector entities. These entities would turn to U.S. nuclear experts, particularly at the Federal level, to provide fast, accurate, and actionable responses to a large and diverse set of questions about nuclear effects and response. The most important questions that U.S. nuclear experts would be looked upon to field in the immediate aftermath of the detonations would concern:

- impacts on key infrastructure, especially communications, transportation, and power
- government capacity for response, especially the availability of response personnel and medical resources
- who is in charge of the response
- timely guidance on how to respond, especially evacuation versus shelter-in-place, triage, and movement from the hot zone to a clean zone
- rapid delineation of radiation hazard zones, especially their perimeter and variability, and whether responders can safely enter.

In examining the Nation's preparedness to answer those questions in a timely way, it becomes evident that important, actionable gaps exist. Most gaps arise from a failure to communicate existing knowledge effectively about nuclear effects and the most appropriate responses thereto from national sources of expertise to responders at state and local levels. Responders need greater education about nuclear weapons effects and response, especially regarding radiation. National standards for nuclear response need to be established and/or harmonized across all levels of government. Nuclear response standards and guidance need to be made available to responders in readily accessible, field-useable form. Closing some gaps may require new knowledge, which may be obtainable through modeling/simulation, technological research and development, surveys/inventories, and other research.[11]

Improving U.S. preparedness to respond to low-yield nuclear detonations in a major urban area does not necessarily require a new, high-profile government initiative; it should be possible to accomplish via existing Federal interagency and Federal/state/local government information-sharing and cooperation mechanisms. However, it will require sustained, active leadership and oversight by a national entity with the requisite mission and authorities, such as the U.S. Homeland Security Council or Department of Homeland Security.

Adapting Declaratory Policy

Despite significant, even dramatic, changes in U.S. strategy and security policies in response to new concerns about weapons of mass destruction and terrorism, there has been little debate about or innovation in declaratory policy in recent years. Some senior policymakers have suggested that declaratory policy is an underutilized tool in the fight against proliferation and WMD terrorism and requires more systematic thought—and not simply in terms of managing crises or the run-up to conflict, but as an integral element of ongoing efforts to dissuade and deter new kinds of adversaries and reassure allies.

The longstanding U.S. policy of calculated ambiguity has eschewed explicit statements concerning how the United States would respond to WMD attacks in order to avoid both limiting the President's freedom of action and placing too high a value on nuclear weapons as an instrument of policy. The benefits and risks of this declaratory posture are well understood; less clear is whether new security concerns argue for adaptations or changes to declaratory policy. Alternative policies would either make the threat of nuclear response more explicit, or eliminate it entirely through some type of no-first-use pledge.

New concerns about the spread of nuclear capabilities raise new challenges for

greater attention is being paid to the Nation's preparedness to respond to the effects of one or more low-yield detonations in a major urban area

declaratory policy. To what degree, and how, should U.S. declaratory policy address the possible transfer by a state of nuclear capabilities to hostile third parties (states or terror groups)? One could argue that developments in this arena, including documented terrorist interest in nuclear weapons and the extensive covert nuclear procurement network operated by A.Q. Khan, point to gaps in declaratory policy that should be filled as part of a comprehensive combating WMD strategy that also emphasizes prevention and interdiction. Declaratory policy can help reinforce the risks associated with nuclear transfers, in part by indicating some of the specific consequences that would follow exposure of such activities. This is an area where nonnuclear responses are likely to figure prominently and where focused concept development should be undertaken.

As the technical means to attribute nuclear attacks improve, policymakers will need to decide how to communicate this capability to potential adversaries in order to maximize its deterrent value. In doing so, it will be essential to strike a balance between conveying a credible capability to identify the source of an attack and protecting intelligence and scientific techniques which, if known to adversaries, could provide the means to complicate the process of forensic investigation and possibly escape attribution.

Finally, it is worth asking whether the anticipated maturation of nonnuclear capabilities as part of the New Triad raises issues or new requirements with respect to declaratory policy. In particular, as missile defenses and conventional strike systems (both kinetic and nonkinetic) become more advanced and assume a more prominent role as strategic-level force assets, there may be value in crafting some specific messages regarding these capabilities (including their relationship to nuclear forces) for the consumption of both allies and adversaries. **JFQ**

NOTES

[1] Mohamed ElBaradei, "Towards a Safer World," *The Economist*, October 16, 2003.

[2] See Nikolai Sokov and Leonard S. Spector, "Russian Government White Paper on WMD Nonproliferation Reveals Both Differences and Similarities with U.S. Approach," *WMD Insights*, issue 8 (September 2006), available at <www.wmdinsights.com/PDF/FP_SeptIssue.pdf>. On the positive side, the white paper endorses the Proliferation Security Initiative and acknowledges the contribution of the United States (among others) in enhancing WMD security in Russia.

[3] "The Global Initiative to Combat Nuclear Terrorism," Fact Sheet, Office of the Press Secretary, The White House, July 15, 2006; and "U.S.-Russia Joint Fact Sheet on the Global Initiative To Combat Nuclear Terrorism," Office of the Spokesman, Department of State, July 15, 2006.

[4] These include the Commission to Assess the Organization of the Federal Government to Combat the Proliferation of Weapons of Mass Destruction (the Deutch-Specter Commission) of 1999 as well as multiple internal Intelligence Community reviews.

[5] These are discussed in the report of the Commission on the Intelligence Capabilities of the United States Regarding Weapons of Mass Destruction (Silberman-Robb Commission), March 31, 2005.

[6] Ibid., 317–319.

[7] The six guiding principles are active, layered defense; situational awareness and integrated command and control; global force management; capabilities-based planning; effects-based operations; and assurance. The military missions are offensive operations, elimination operations, interdiction operations, active defense, passive defense, WMD consequence management, security cooperation and partner activities, and threat reduction cooperation.

[8] See Presidential Decision Directive 56, "Managing Complex Contingency Operations," May 1997, which states: "We must also be prepared to manage the humanitarian, economic, and political consequences of a technological crisis where chemical, biological, and/or radiological hazards may be present. The occurrence of any one of these dimensions could significantly increase the sensitivity and complexity of a U.S. response to a technological crisis."

[9] U.S. Customs and Border Protection, *Container Security Initiative 2006–2011 Strategic Plan*, August 2006, 34, available at <www.cbp.gov/linkhandler/cgov/border_security/international_activities/csi/csi_strategic_plan.ctt/csi_strategic_plan.pdf>.

[10] The final analytic or technical judgment on the findings of a forensic investigation would be made by the Joint Atomic Energy Intelligence Committee.

[11] There is a wealth of information on nuclear effects based on atmospheric testing that occurred until 1963, and a good deal of data on responding to nuclear attacks as well. But many first responders are unaware of this information. Additionally, available data are not adequately adapted to the needs of contemporary first responders. Some efforts are under way to address this, such as the Department of Homeland Security Protective Action Guides for Radiological Dispersal Devices and Improvised Nuclear Devices.