



Counterterrorism and the Nonproliferation Regime

From the Editors...

In October of 2000, in a talk at the University of Georgia entitled “The New Terrorism: Hype or Reality?” John Parachini and Michael Moodie chronicled the history of attacks using weapons of mass destruction (WMD) over the past 30 years. The abbreviated list, (which included no cases of nuclear terror, only biological and chemical attacks) made the point that instances in which motivation and means have combined to result in an actual attack have been rare. Will and way are the prerequisites for such attacks and their union has been infrequent. Now, although the WMD capabilities of militant Islamic terrorist groups like al-Qaeda are a topic of dispute, the will to cause maximum devastation and civilian casualties is clear. The attacks of September 11th and the subsequent war on terror have thrust nonproliferation efforts into the spotlight as the United States takes stock of resources

that might be brought to bear in its anti-terror campaign.

Without a doubt, the nonproliferation community has much to contribute to the fight against terrorism. Some of the mechanisms for preventing terrorists from acquiring WMD are already in place and congressional support for nonproliferation efforts is stronger and more widely diffuse than ever. The mainstream press has taken unprecedented notice of the threat posed by poorly guarded WMD and their components in the U.S. and abroad, theft and smuggling of such materials, and nuclear scientists sympathetic to Islamic fundamentalist causes. For those who have been raising the red flag for years, nonproliferation is finally getting the attention it deserves. It seems that, in many respects, the effort to combat terrorism will strengthen nonproliferation institutions.

However, it may be that the new focus on terrorist groups or sub-state actors will divert attention from the problem of state-level proliferation, especially where U.S. allies are concerned. For example, the lifting of sanctions on India and Pakistan in exchange for their cooperation in the current campaign sends the message that the U.S. stance on nonproliferation is equivocal; combating current threats will take precedence over nonproliferation ideals. Moreover, the

C o n t e n t s

The Nexus of Counterterrorism and Nonproliferation Policy by Leonard Weiss, <i>formerly of the U.S. Senate Committee on Governmental Affairs</i>	3
Combating Terrorism: The Role of Regimes by Ian Anthony, <i>Stockholm International Peace Research Institute</i>	7
Testimony: Export Controls, WMD Proliferation and Terrorism by Richard T. Cupitt, <i>Center for International Trade and Security</i>	11
MPC&A: The First Step in Countering Nuclear Terrorism by Nathan Busch, <i>Center for International Trade and Security</i>	15
The First Line of Defense Against Biological and Chemical Terrorism by Jean Paul Zanders, <i>Stockholm International Peace Research Institute</i>	20



United States is feeling pressure to assist Pakistan, and to a lesser extent India, in securing nuclear weapons and fissile materials lest they fall into the hands of terrorist groups. There is a real question as to whether these are steps down a slippery slope. It has been the position of the U.S. government that helping other governments secure their WMD materials implies tacit acceptance of their programs. Having taken such steps as part of the war on terrorism, it is difficult to see how the U.S. will manage to return to a posture of disapprobation with any credibility. Will it ignore states attempting to develop WMD programs as long as they join in the fight against terror?

In this issue, we present a collection of insights and recommendations on what should be done to make existing nonproliferation tools more effective. Leonard Weiss mines recent history to illustrate how attention to short-

term strategic goals can undermine long-term security and emphasizes the need for coordinated international intelligence networks in fighting both proliferation and terrorism. Ian Anthony sees great potential for increased cooperation among nations party to the export control arrangements and newly emergent regional coalitions like the Stability Pact of South Eastern Europe, but holds up the lack of a common risk assessment as hindering optimal cooperation. Richard Cupitt makes a series of recommendations centered on improving multilateral transparency in WMD export controls in the testimony he gave before the Senate Committee on Governmental Affairs in November. Nathan Busch discusses the importance of stepping up materials protection, control and accounting (MPC&A) efforts in Russia and expanding the scope of U.S.

assistance to other nations. Finally, Jean Paul Zanders points out weaknesses in Biological and Chemical Weapons conventions and offers suggestions for improving them.

All of our experts agree that the events of September 11th created an international environment conducive to improving nonproliferation tools. The moment is ripe for change. But it is by no means a given that greater international security will be the result of the U.S. response to those terrible events if military considerations in the war on terror eclipse long-term nonproliferation objectives. The fact that the al-Qaeda network carried out its attacks on September 11th using airplanes manned by suicide hijackers instead of weapons of mass destruction can be taken as a testament to the success of past nonproliferation efforts. It is also a mandate for increased vigilance. ♦

The Monitor

CITS Director

Gary Bertsch

Executive Editors

Igor Khripunov and Michael Beck

Managing Editor

Terrell Austin

Center for International Trade and Security (CITS)
The University of Georgia
204 Baldwin Hall, Athens, GA 30602
(706) 542-2985
(706) 542-2975 (fax)
cits@arches.uga.edu
www.uga.edu/cits

Policy

The Nexus of Counterterrorism and Nonproliferation Policy

by Leonard Weiss

In the wake of the events of 9-11, the anthrax attacks in the U.S., Osama bin Laden's declaration of *jihād*, the war against al-Qaeda and the Taliban in Afghanistan, bin Laden's claim to possess nuclear (more likely radiological) and chemical weapons (why not biological?), and the 1995 sarin gas subway attacks by the Aum Shinrikyo cult in Japan, it appears that we have firmly entered the brave new world of WMD terrorism, or the use of weapons of mass destruction (WMD) by sub-state actors for political and ideological purposes.

Many of the current hearings on terrorism are infused with a distinct flavor of Yogi Berra-ism ("déjà vu all over again") for those of us who organized Congressional hearings on nonproliferation a generation ago when the subject of possible (nuclear) terrorism was being given its first major exposure as a public policy issue. At that time (the 1970s), the hearings helped establish a general consensus that if safeguards, export controls, and physical protection of nuclear materials were not substantially improved, it would be

only a matter of time before further proliferation would occur, not only by other countries, but also by sub-national groups. That lesson clearly holds for chemical and biological weapon materials as well.

Although Congress was told by weapon scientists from Los Alamos that a small team of actors with technical expertise and access to appropriate materials could manufacture their own nuclear, chemical, or biological weapons, the main focus remained on state proliferators and state programs for producing weapon usable materials. The tacit assumptions were that, first, supporting and expanding international nonproliferation regimes, reducing stocks of WMD via arms control agreements, and adequately protecting weapons usable materials would help prevent terrorists from obtaining access to these weapons and second, that the principle of deterrence that seemed to work so well in the Cold War against a superpower antagonist would also prevent a much weaker power from attacking the United States.

But the end of the Cold War has introduced a new element to the world's geopolitical situation that changes the nonproliferation calculus somewhat. The overwhelming and unchallenged superiority and dominance of U.S. military power does not mean we are less likely to be attacked by our adversaries, only that such attacks are much less likely to be performed on a traditional

battlefield with traditional weapons. Deterrence may still prevent a frontal assault using WMD against the U.S., but the new reality is that, as was the case with 9-11, future attacks are likely to proceed in such a way as to maximize the element of surprise, obscure the identity of the attackers, create chaos and disruption in the lives of civilians, and inflict a sense of physical and psychological vulnerability among the general populace. The Pentagon calls this "asymmetric warfare" when it is state sponsored, but targeting a civilian population for attack is an exercise in terrorism regardless of who does it and what it is called. The inability to identify the sponsors of such attacks emasculates the principle of deterrence and deals a serious blow to counterterrorism efforts. Both counterterrorism and nonproliferation efforts depend on having good intelligence, something that was lacking in the case of Iraq, whose WMD program was discovered to be much larger and more advanced than previously thought when the UN inspectors did their survey after Desert Storm. These observations lead us to the first policy principles and recommendations to improve counterterrorism and nonproliferation.

Intelligence should be seen as the first line of both defense and offense in pursuing counterterrorism and nonproliferation. We must develop a better cooperative worldwide network of allied intelligence activities, and close all relevant identified gaps in

both U.S. intelligence collection and analysis. The catalogue of recent lapses is disturbing: we had no warning of the 9-11 attack or the subsequent use of weaponized anthrax by a bioterrorist whose nationality, let alone identity, is still not known. We were unaware of the WMD activities of the Aum Shinrikyo group in Japan that carried out the 1995 Sarin gas attack in the Tokyo subway, and surprised by the state of WMD development by Iraq prior to the Gulf War. We simply cannot afford to be in the dark when it comes to the WMD activities of either nations or sub-national groups.

Nonproliferation and counterterrorism are served by denying terrorists access to the materials by which terror is carried out, and by the ability of the international community to pressure states to provide the appropriate level of protection of such materials. We should eliminate identified weaknesses in WMD-related material control, protection, and accounting, and, wherever feasible, eliminate direct-use WMD materials in commerce while tightening controls over dual-use items. The Nunn-Lugar program should be expanded, but its exclusive focus on Russia, while understandable, should not obscure the fact that the threat of theft of readily weaponizable WMD materials exists wherever such materials are found. It would not be unreasonable to establish the same level of security for readily weaponizable WMD materials as for the weapons themselves, and this level ought to be a universal standard. Unless this is done, the threat of terrorist acquisition of such materials by theft or diversion will continue to be high, and the vulnerability of the materials will itself become a tool in the psychological campaign waged by terrorists. Bin Laden's claim of having WMD cannot be completely dismissed because of current vulnerabilities.

In examining the nexus of counterterrorism and nonproliferation, it is as important to know what not to do as it is to know what to do. And here, some history

and an examination of past policy decisions can teach us much. Let us consider the situation in South Asia beginning with the Soviet invasion of Afghanistan in 1979. At that time, Pakistan was under pressure by the U.S., via a cutoff of economic and military assistance, to halt its nuclear weapons program, which was still years away from fruition and still needed considerable outside assistance to succeed. Afghan refugees were flowing into the northwestern part of the country, and there was concern that Soviet influence in that part of the world might be substantially enhanced, possibly with longer-

term adverse impact on U.S. interests in the Middle East. The C a r t e r Administration offered to provide aid to the Pakistanis (an offer of \$400

It would not be unreasonable to establish the same level of security for readily weaponizable WMD materials as for the weapons themselves...

million was rejected as "peanuts" by the then-President Zia ul-Haq) and it was left to the incoming Reagan Administration in early 1981 to deal with the issue. It responded with a Congressionally approved program of massive clandestine military support for the *Mujaheddin* via the CIA, with arms shipments going through Pakistan. Pakistan itself also received arms, ostensibly in response to its fear of a Soviet incursion into its own territory. (It was subsequently learned that the Pakistanis deployed about two thirds of those arms, not along the northwestern border with Afghanistan, but along the opposite border with India). Most egregiously, however, the U.S. administration turned a blind eye to the Pakistani nuclear program while telling Congress that the program of assistance to Pakistan would give the U.S. the influence to keep its nuclear program from advancing.

Congressional supporters of nonproliferation, fearing a total abandonment of our nonproliferation policy in Pakistan, began working to secure inviolable minimum standards for the policy. As a result, Congress did refuse to go along with the administration in repealing sanctions laws, but agreed to the first of what became a series of

time-limited waivers of sanctions, passed resolutions expressing a desire to end assistance to Pakistan if it proceeded to develop nuclear weapons, and provided for mandatory cutoffs of assistance to any country that violated U.S. export laws in order to obtain nuclear-weapon related items. When it became apparent that these measures were having no effect on Pakistani nuclear behavior, Congress passed the Pressler amendment in 1985, meant as a strong deterrent, which made assistance to Pakistan dependent on an annual certification by the

President stating that: (a) Pakistan did not “possess” a nuclear explosive device; and (b) that the assistance program would significantly reduce the risk that Pakistan could gain possession of such a device. The latter clause was inserted to allow a cutoff in the event that there was no evidence of a halt in the Pakistani weapons program regardless of whether they possessed a device or not, but the State Department immediately undermined this deterrent by choosing to interpret that clause as a repetition of the “no possession” test and Congress did not challenge this patently absurd interpretation. It is also of interest to note that it took a struggle to get the State Department to formally agree that “possession” did not require final assembly of a device, but rather the completion of all component construction.

Thus it came to be that Pakistan, recognizing the reluctance of the U.S. government to do anything that might jeopardize its program of support for the Mujaheddin, crossed every proliferation barrier put in front of it without much of a fuss by the Reagan and Bush Administrations, and both Presidents made the needed annual certifications to keep the arms flowing in order to bleed the Soviets. In 1987, Pakistan completed its first nuclear device, but, claiming insufficient information to do otherwise, the

Presidential certifications continued until 1990, when the beaten Soviets left Afghanistan and were no longer considered a superpower. We gave the Pakistanis about

\$5 billion dollars in assistance during all those years, while shredding the deterrent value of our sanctions laws, which yielded nothing in the way of Pakistani cooperation on nonproliferation. Was this only because members of Congress were kept in the dark about the extent of

Congress ...effectively traded our nonproliferation policy for a tactical victory in the cold war that only hastened marginally the Soviet collapse, but that also ultimately delivered Afghanistan to the Taliban...

administration forbearance of Pakistani violations? Unfortunately not. Their eyes were wide open but clouded by Cold War fever that allowed many of them to shamefully refer to the collection of human rights abusers called the Mujaheddin, whose ranks included the Taliban and bin Laden, as “freedom fighters.”

Their votes for nonproliferation notwithstanding, Congress supported the administration’s program and, in doing so, effectively traded our nonproliferation policy for a tactical victory in the cold war that only hastened marginally the Soviet collapse, but that also ultimately delivered Afghanistan to the Taliban, made us unwitting accomplices to the rise of bin Laden, gave large numbers of conventional weapons, including stingers that can down airliners, to anti-western, anti-U.S. terrorists, brought the prospect of future nuclear war in South Asia closer to reality, raised the risk of nuclear weapons falling into the hands of al-Qaeda, and resulted in a decade of abject misery for the Afghans, especially Afghan women. It leads one to recall the famous line: “Outside of that, Mrs. Lincoln, how did you enjoy the play?”

Given the cold war climate we were operating in during

the 1980s, it was not surprising that high priority was given to helping the Afghans expel the Soviets. But regardless of whether supporting the Mujaheddin against the Russians without having any plan for mitigating what would follow in the wake of a Soviet defeat was a good or bad idea, there was no need to give the Pakistanis a green light on their nuclear program. They had the incentive to support the Mujaheddin themselves in order to deal with the refugees, which were becoming a serious political problem for them. The U.S. could have stayed tough on nonproliferation and the economic and political fragility of the Soviets at that time would have caused them to abandon Afghanistan anyway. Stopping the Pakistani bomb and keeping advanced weaponry out of the hands of the Mujaheddin (some of our Stingers reportedly went to Iran) would have served the cause of counterterrorism and made it more politically difficult for the Indians to proceed with their own snub of the world's interest in reducing the danger of nuclear war.

This raises questions about current strategy in fighting terrorism. The need for cooperation by all the countries within which al-Qaeda operates is undisputed. But cooperation by those countries is in their interest as well as ours. We should be careful not to repeat the errors of the past as we work to achieve our objectives against bin Laden and his cohorts. Should the U.S. turn a blind eye to Iran's WMD development in order to keep them in the coalition? Should the U.S. turn a blind eye once again to the inevitable result of our new assistance program to Pakistan, that is, shifting more of their resources to improve their already advanced nuclear weapons program? We are told that General Musharraf should be rewarded for his courageous 180-degree shift

from support for the Taliban to support for their removal in Afghanistan. So be it. But doesn't Musharraf owe the U.S. something for the \$5 billion of assistance Pakistan received in the 1980s while lying about their nuclear intent? What is he willing to give, in return for generous new assistance, on freezing his program, preventing the spread of his weapons technology, and neutralizing his nuclear weapons so that anti-western forces inside and outside his military cannot obtain them by seizure, theft or inheritance? Repeated assurances that all is well are insufficient, especially in light of the sympathies toward bin Laden that have been reportedly expressed by at least two senior Pakistani nuclear scientists working in the weapons program and that have alarmed the Pakistani establishment itself.

Should the U.S. turn a blind eye once again to the inevitable result of our new assistance program to Pakistan, that is, shifting of more of their resources to improve their already advanced nuclear weapons program?

The thought of destabilization of Pakistan because of the opposition by many Pakistanis to the war against al-Qaeda has caused some policy analysts to raise the hoary idea of providing the technology of permissive action links (PALs) to Pakistan (and, by extension, to other proliferators as well), devices that require an

action such as insertion of a code in order to make a nuclear weapon operable. The purpose would be to help prevent accidents or unauthorized use of nuclear weapons. This idea is sometimes analogized to "providing clean needles to drug addicts", thereby making proliferators seem like helpless victims of uncontrollable physiological appetites. With these similes, the message that is sent to "friendly" proliferators is that if they build the bomb against our wishes, then they (poor victims of their own brain chemistry) may be rewarded with technology that will make their weapons "safe" so they can be free to threaten others and engage in nuclear war on their own timetable.

The analogy of providing “clean needles” is not apt in any case, since such provision is designed to prevent the spread of epidemic disease (AIDS) unrelated to drug addiction, and has no impact on the drug-related behavior of the addict himself. PALs, on the other hand, may embolden the proliferator to deploy his weapons more openly and to place more weapons in more places thus raising further the risk of nuclear war. It seems to me a more apt analogy for giving PALs to proliferators is providing trigger locks to hit men so they won’t accidentally shoot themselves before they gun down their chosen victim. Giving PALs to proliferators is not something we should do. It is another example of degrading nonproliferation in the name of another objective. Trading off nonproliferation objectives to achieve other policy objectives, including reduction of terrorism, is a Faustian bargain that ultimately increases the risk of war with WMD as well as WMD-armed terrorists. It is justifiable only in conditions of extremis. In particular, counterterrorism is well-served by nonproliferation and it is an illusion to think otherwise. ♦

Leonard Weiss is the former staff director of the U.S. Senate Committee on Governmental Affairs and its Subcommittee on Nuclear Proliferation. He was the chief architect of the Nuclear Non-Proliferation Act of 1978 and wrote or directed numerous other legislative initiatives on proliferation and many other issues during a 23-year association with former Senator John Glenn (D-Ohio). Prior to that he was a Professor of Applied Mathematics and Engineering at Brown University and the University of Maryland. He is currently an independent consultant.

Export Control Regimes

Combating Terrorism: The Role of Regimes

by Ian Anthony

In attempting to counteract transnational terrorist networks, the need for international cooperation is self-evident. Since the attacks against the United States on 11 September, the international community is marshalling all resources that might counter the activities of state and non-state actors who plan, support or carry out terrorist acts. Export controls are certainly one instrument with a role to play in this wider campaign.

On 29–30 November, a group of governmental and non-governmental experts met in Stockholm under the auspices of the Nonproliferation and Export Control Working Group of the Partnership for Peace Consortium of Defence Academies and Security Studies Institutes. The Consortium is an initiative linking more than 190 academies and institutes from countries across the territories of the Euro-Atlantic Partnership Council. The purpose of the meeting was to assess the impact of the events of 11 September and the aftermath for export control, and to consider what role export controls might play as part of the overall response. The discussion was organized into three parts. The first centered on the impact that the events might have on international cooperation. The second was devoted to debate over the potential impact of export controls in the particular regional contexts of South East Europe and Central Asia. And the last explored possible approaches to a sector whose relevance has been underscored since 11 September and in which technological growth is particularly dynamic: biotechnology.

The Impact of Recent Terrorist Acts on International Cooperation in Export Control Regimes

Many of the issues that have been under consideration in recent meetings of the multilateral export control regimes (Australia Group, Missile Technology Control Regime, Nuclear Suppliers Group, and Wassenaar Arrangement) are directly relevant to the combating terrorist groups. There are several issues that have or are likely to feature prominently in these discussions.

The implementation of end-use or “catch-all” controls that have gradually been adopted by more and more of the member states may prove to be one of the most effective ways of thwarting terrorists. Although finding an acceptable general definition of terrorism has proven impossible within the United Nations, recent UN security council resolutions have identified terrorist groups and individuals in specific terms. This development could make catch-all ubiquitous among members, making any transfers of goods or services to the identified groups subject to licensing.

Second, the widespread application of end-use controls has increased the need for information sharing among members, yet regimes remain without a common risk assessment that can serve as the basis for the implementation of national export controls. The political importance now attached to combating terrorism may remove obstacles to such an agreement, opening the door to proposed enhancements in information exchange that have been unpalatable to members in the past.

Third, the development of procedures to help to identify the actual end-user of controlled items and reduce the risk of unauthorized re-export of controlled items has been a focal point and a number of approaches or combinations are under discussion.

Cooperation between exporters and importers to implement import certification and delivery verification procedures would increase confidence that controlled items are being used for the purposes stated during licensing.

As a first step, an agreement could be sought among regime participants that each national export control authority would increase the emphasis they place on this issue in dialogue with their exporters and with importing states. It may be, too, that current political conditions will result in an increase in the resources allocated to national intelligence agencies for gathering end-use and end-user information. However, given the volume of international transfers of controlled items of potential interest to terrorists, enhanced cooperation among nations is more likely to achieve meaningful results than technical improvements.

Since the dissolution of the COCOM arrangements, states that participate in the regimes have emphasized national decision-making, insisting that the regimes not target any particular state or group of states. In the present conditions, however, this approach may be called into question, particularly if the risk assessment process described above suggests that programs of concern are concentrated in a small number of countries. Any public statement issued or endorsed now by regime participants that identifies countries housing programs of concern could prove to be a watershed moment for these organizations.

Participants are also examining the growing use of simplified export control procedures between states that enjoy a high level of confidence regarding their compliance with arms control agreements and the effectiveness of their export control systems. The realization that groups planning terrorist acts may already be located inside countries with these characteristics is causing the regimes to reassess the wisdom of simplified procedures.

Regional Cooperation

Although the international regimes are the best known institutions of international cooperation on export control, regional groups are growing in prominence.

During the 1990s a number of countries in South Eastern Europe became host to non-state armed factions. In several of these countries—Albania, Bosnia and

Herzegovina, FYR Macedonia and the Kosovo region within the former Yugoslavia—such groups continue to be active and there is evidence linking some of them to similar groups in and around Afghanistan, including Al Qaeda.

In 1999, at the European Union's initiative, the Stability Pact for South Eastern Europe was adopted by more than 40 countries and organisations with the objective of enhancing stability and security in the region. Over the subsequent period, the Stability Pact has helped to develop a series of coordinated efforts to increase security in the region. Among these are the SPOC (Stability Pact against Organized Crime), the Police and Border Police Initiative, the Judicial Reform Initiative and the Small Arms and Light Weapons Initiative.

The Stability Pact has also led to the creation of a number of institutions and organizations to facilitate exchange of information and analysis and to carry out operational activities such as training and technical assistance. Among these, the SECI Center in Bucharest was established to gather information on organized crime networks active in the region. In addition, a number of initiatives have been put forward that are intended to develop informal habits of cooperation among countries of

the region. The development of enhanced procedures for end-user controls was one such initiative, intended to stimulate bilateral cooperation between export and import control authorities.

In South Eastern Europe a number of relevant initiatives are being implemented within an institutional framework that is itself connected to the wider process of European integration.

One objective of the governments currently in power in South Eastern Europe is to bring about an overall reduction in armament levels in the region.

Although Central Asia too has experienced similar growth in numbers and military capabilities of non-state armed groups, there has been little in the way of parallel cooperative efforts in this region.

In fact, states in Central Asia have significantly increased their investment in the military sector in response to the extremely negative security environment. Perhaps most indicative of the complexity of the regional armament dynamic, is the fact that there have been significant recent arms transfers from Russia to groups regarded in Moscow as representatives of the legitimate government of Afghanistan—the forces controlled by former President Burhanuddin Rabbani and the late commander General Ahmad Shah Massoud. While regional cooperation is not entirely absent, none of the existing

The Stability Pact Partners

- The European Union Member States and the European Commission
- The countries of the region and their neighbours: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, FYR Macedonia, Hungary, Poland, Romania, Slovakia, Slovenia, Yugoslavia, Turkey, Moldova
- Non EU-members of the G8: USA, Canada, Japan and Russia
- Other countries: Norway and Switzerland
- International organisations: UN, OSCE, Council of Europe, UNHCR, NATO, OECD
- International financial institutions: World Bank, International Monetary Fund (IMF), European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), Council of Europe Development Bank (CEB)
- Regional initiatives: Black Sea Economic Co-operation (BSEC), Central European Initiative (CEI), South East European Co-operative Initiative (SECI) and South East Europe Co-operation Process (SEECF)

arrangements has membership, mandate or capacities comparable to those in South Eastern Europe.

Under these conditions, the role of external powers will be enhanced, and the policies pursued by Russia in particular will have a major impact on the armament dynamic and the prospects for stability in the region. To avoid being misunderstood, it is in Russia's interest to explain its policies in the region, particularly the extent of its military-technical cooperation and the objectives of that policy. The export control regimes can facilitate such information sharing and, additionally, initiate dialogue with non-participants such as China, India, Iran and Pakistan who have a direct interest in regional stability.

Biological Weapons

Initiatives that might prevent the development, production and use of biological weapons are being examined at three levels—the global, the national, and the corporate or entity level.

The stage was set for global-level discussions at the Fifth Review Conference of the Biological and Toxin Weapons Convention held in Geneva in November 2001. The heavily politicized atmosphere of the Conference should not obscure some basic and important points of agreement that emerged. In particular, there was strong consensus that biological weapons are illegal and that achieving compliance with this international norm will depend on actions taken at the national and entity levels.

At the national level, the need for comprehensive legislation, including catch-all controls, is particularly evident in the area of biotechnology. The rapid pace of technology development in this area means that lists identifying technical characteristics of an item are constantly in need of updating. Effective implementation of catch-all controls depends on the ongoing development and distribution of risk assessment criteria to national export control authorities. Access to the best available information through international cooperation is particularly important to the national authorities of smaller countries where

biotechnology industries are increasingly located.

Also of critical importance are enhanced measures at the entity level. National export control authorities have an important task to perform in ensuring that entities understand their obligations under export control laws. In addition, entities that handle dangerous or potentially dangerous items on a routine basis have an obligation to develop and implement procedures that reduce the risks of unauthorized persons gaining access to such items.

As noted above, the use of simplified procedures has been gaining acceptance in low-risk conditions in an effort to stimulate (or at least not impede) legitimate international economic, industrial and technological cooperation. Access to simplified procedures is a powerful incentive for entities to develop internal procedures that reduce risks of unauthorized use. Yet simplifying procedures for the export of products in an increasingly complex technological sector like biotechnology poses an obvious dilemma. A system of international certification, recognized by national export control authorities, for entity-level procedures in the biotech sector which would allow certificate holders to use simplified procedures might be a way to balance the need to stimulate legitimate cooperation with the need to reduce security risks.

Conclusions

Prior to September 11, national export control authorities were already trying to develop and implement a significant number of procedures and initiatives to counter terrorist threats. Although it is obvious that the emphasis placed on these discussions will increase in the short term, it remains to be seen how lasting any changes made under the current circumstances will be. Two points of contention that pre-date September 11 persist. Arriving at an accepted general definition for terrorism and establishing accepted general guidelines for the use of force against (or military assistance to) sub-state actors still present a challenge within the regimes.

Yet there is some agreement on ways that threat can be reduced that do not require the once- and-for-all set-

ting of these issues. Improving the instruments available to national export control authorities for assessing the risks of export of controlled items and any items to end-users of concern, enhancing procedures for end-user identification and post-shipment control of exported items, and increasing the cooperation between national authorities and their exporters will improve international security significantly for the time being. Nevertheless, continued dialogue on the deeper questions is required if an optimal system of risk reduction is to be developed.

♦

Ian Anthony is Leader of the Stockholm International Peace Research Institute (SIPRI) Project on Conventional Arms Transfers Controls in Europe. Prior to this, he was Leader of the SIPRI Arms Transfer Project from 1992-98. He holds a PhD in War Studies from King's College, London.

Export Control Reform: Testimony

Prepared for "Current and Future Weapons of Mass Destruction Threats," Hearing, United States Senate, Committee on Governmental Affairs, Subcommittee on International Security, Proliferation, and Federal Services, November 7, 2001.

Export Controls, WMD Proliferation, and Terrorism

by Richard Cupitt

Prompted by the Gulf War, in the early 1990s the United States and its partners strengthened the system of multilateral export control arrangements related to Weapons of Mass Destruction (WMD) and their means

of delivery. In recent years, however, the impetus to adapt export controls continuously to the emerging challenges of the post-Cold War world dissipated. Consequently, the four major export control arrangements entered into an era of stagnation without their members having resolved several critical deficiencies in the multilateral system.¹

The tragic events of the past two months not only emphasize the need to reform the multilateral system, they have shaken the international community enough that reform initiatives may succeed. In particular, the attacks on September 11 scuttled any doubts that some terrorists have the will to use WMD if they have the capability to do so. The importance of limiting WMD capabilities of terrorists and states that support terrorists never has been more clear to the international community.

Squandering this opportunity will have severe consequences. The world of WMD export controls has two fundamental principles:

- If your system is not getting better, it is getting worse. No system is perfect and those that seek to acquire WMD always will find ways to exploit existing vulnerabilities; and,
- A good export control system will make WMD acquisition more difficult, more expensive, and more time-consuming. In some cases these factors will dissuade WMD acquisition, but not all. Export controls can not prevent WMD proliferation, but they can buy time for other policies to work.

Failure to strengthen the multilateral export control arrangements and the larger nonproliferation regimes now will increase the likelihood that terrorists or states that

¹ The four major export control arrangements are the Australia Group (for chemical and biological items), the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG), and the Wassenaar Arrangement (for conventional weapons).

² See, for example, the Study Group on Enhancing Multilateral Export Controls for US National Security, *Final Report*, Washington, DC: The Henry L. Stimson Center, April 2001; and CSIS Commission on Technology Security in the Twenty-First Century, *Computer Exports and National Security in a Global Era*, Washington, DC: CSIS, May 2001.

support terrorism will obtain new or increase existing WMD capabilities.

Multilateral Coordination of WMD Export Controls

The international community witnessed several important advances regarding WMD export controls, particularly in the early 1990s. These achievements included:

- Developing new guidelines to control nuclear, chemical, biological, and missile weapons;
- Developing new control lists for nuclear, chemical, biological, and missile weapons;
- A sharp increase in the number of governments adhering to supplier group guidelines and control lists, including several countries of proliferation concern; and,
- Increased harmonization of national export control licensing systems.

Nonetheless, several recent projects have portrayed a spate of problems with current multilateral efforts to coordinate WMD export controls.² In summary, these reports identify several broad classes of problems:

- Infrastructure weaknesses, especially limited sharing of licensing, enforcement, and intelligence information;
- Inadequate and irregular threat assessments for list reviews, especially regarding general purpose dual-use goods;
- Inadequate harmonization of national export control systems overall, especially in enforcement;
- Lack of consensus regarding end-user controls, especially regarding China and, to a lesser extent, Iran; and,

- Inadequate recognition of the impact of new global models of research, commerce, and industry.

A paucity of systematic evidence on the export control policies and practices of key US allies, much less other critical suppliers, moreover, has made efforts to assess these issues very problematic.³

In no small measure, the United States bears considerable responsibility for both the successes and failures of multilateral export controls. Above all, the inability of the US government to design new WMD export control policies — exemplified by repeated reverses in developing a new Export Administration Act (EAA) — has undermined US efforts to provide international leadership. Almost by default, the policies of the European Union now appear to have greater influence on international export control standards than those of the United States.

Coordinating Multilateral WMD and Anti-Terrorism Export Controls

These same problems endanger prospective efforts to coordinate WMD and anti-terrorism export controls. Before September 11, the multilateral export control arrangements did not serve as centers for discussion and information exchange regarding transnational terrorist WMD threats (indirectly, some terrorist issues could be addressed in discussing some state projects of proliferation concern, such as those in North Korea, Iran, and Libya). In addition, no comprehensive study of the anti-terrorist export control policies of key US allies or the emerging anti-terrorist coalition exists. Although it seems certain that terrorist WMD threats will reach the agenda of the Wassenaar Arrangement and perhaps the other supplier groups in the coming months, without fixing several

³ The National Export Control Evaluation Project of the Center for International Trade and Security of the University of Georgia (CITS/UGA) is one effort to address this problem, at <http://www.uga.edu/cits>. See, for example, CITS/UGA, *Nonproliferation Export Controls: A Global Evaluation 2001*, Athens, GA: CITS/UGA, June 2001. Also see Stockholm Peace Research Institute (SIPRI) Export Control Project, available at <http://projects.sipri.se/expcon/>

⁴ The Office of Foreign Assets Control (OFAC) of the Treasury Department, for example, implements the Terrorism Sanction Regulations (TSR), the Terrorism List governments sanctions Regulations (TLR), and the Foreign Terrorist Organizations Sanctions Regulations (FTOR), while the Commerce and State Department have additional anti-terrorist export controls..

⁵ The seven include Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

fundamental problems the members of the arrangement will end up with no more than a primitive attempt to coordinate disparate national policies unlikely to have much impact on WMD terrorism. Using the problems of multilateral coordination mentioned above, for example, one should expect to see at least five difficulties in efforts to improve WMD anti-terrorism export control coordination, including:

1. *A weak infrastructure for coordinating anti-terrorism WMD export controls.*

While the events of September 11 appear to have brought down many of the barriers between national law enforcement and intelligence agencies, sharing of critical information within and between supplier groups is not always timely, adequately distributed, or sufficiently substantive. Establishing a new arrangement for anti-terrorism export controls will only make information sharing that much more complex. Creating working groups on WMD terrorism in each of the supplier groups also will make information sharing more complex, unless nascent attempts to coordinate the activities within and between the existing supplier arrangements become much more active. In addition, the various supplier groups do not include key parties to the emerging anti-terrorism coalition.

2. *A list of sensitive items based mainly on delaying state-sponsored WMD proliferation.*

Pursuant to the Commerce Control List (CCL), for example, the United States controls a few dual-use items only for anti-terrorist purposes, such as some vaccines, explosive detection devices, and oil well perforators. The vast majority of items it controls for anti-terrorism purposes, it also controls for national security, nuclear nonproliferation, missile proliferation, and chemical or

biological proliferation purposes. Terrorists operating without the support of state sponsors will almost certainly adopt WMD acquisition, production, and dispersal methods different than those used by states, and an appropriate control list should reflect these differences.

3. *Divergent national anti-terrorism WMD export control systems.*

As noted earlier, no comprehensive, open source study of foreign anti-terrorism export controls exists. Starting as early as January 1995, the United States has developed a mix of anti-terrorist export control regulations, which it does not coordinate multilaterally.⁴ The US Commerce Department, for example, administers anti-terrorism export controls on Iran, Syria, and Sudan unilaterally, in addition to the broad, sometimes unilateral, trade embargoes the United States maintains against the seven governments identified as supporting international terrorism (the United States also has had special controls on exports to the Taliban controlled regions of Afghanistan since 1999).⁵ Regarding dual-use items, the Commerce Department, with a presumption of denial, requires a license for the export or re-export of any item on the CCL to individuals on the Specially Designated Terrorist (SDT) or the Foreign Terrorist Organization (FTO) lists, a requirement no licensing exemption overrides. In addition, no US person may export or re-export any item subject to the Export Administration Regulations (EAR), whether it appears on the CCL or not, to such individuals or entities without a license.⁶ For defense articles (i.e., items on the United States Munitions List (USML) under the International Traffic in Arms Regulations (ITAR), the State Department has a policy of license denial for exports destined or bound for countries designated as supporting international terrorism. For violation of these and other anti-terrorist regulatory provisions, the United States

⁶ Although the export of virtually all goods, technologies, and services are subject to the EAR, some critical exceptions, such as products classified as fundamental research or subject to the exclusive jurisdiction of another agency, exist.

⁷ See Richard T. Cupitt, "Survey on US Industry Compliance and Export Controls: Findings," available on line at http://www.uga.edu/cits/news/news_us_indi_full.htm.

⁸ See, for example, Center for Information on Strategic Technology Controls (CISTEC), *Export Control System in Japan*, Tokyo: CISTEC, February 2001; or Danish Agency for Trade and Industry, *On the Way to a New Export Control System*, Copenhagen: Ministry of Trade and Industry, September 2000, also available in Danish at www.efs.dk.

maintains a range of criminal and civil sanctions. Given that many governments define and implement their WMD export control policies on dual-use and defense items somewhat (and at times very) differently from the United States, and that the existing supplier regimes operate on the basis of national discretion, harmonizing anti-terrorism export controls will take considerable effort.

At the same time, the success of persistent US efforts to promote “catch-all” controls will have at least an indirect impact on WMD anti-terrorism controls. Most members of the four supplier arrangements control the export of items on the international control lists going to any WMD program, conceivably including projects undertaken by terrorists as well as government authorities (or both). Through catch-all controls, many states also can restrict a broad range sensitive items, whether they appear on the control lists or not, going to any WMD program. This may provide the framework for coordinating WMD anti-terrorism export controls.

4. Divergent views on the targets of anti-terrorist WMD export controls.

President Bush has indicated that the administration seeks to bring international terrorists to justice. Once past the Al Qaeda network and the Taliban, however, it remains uncertain that the United States can create international agreement on the individuals, entities, and governments appearing on its roster of SDTs, FTOs, and Terrorism List Governments. Disagreements about WMD export controls on trade with China, Iran, and India, for example, already plague the supplier groups. Even where they agree on which groups are international terrorists, it seems likely that countries will disagree on which terrorists constitute WMD threats. Given the imprecision and politicization involved in defining terrorism, much less on which entities pose a threat to use WMD, considerable disagreement will emerge outside of several clear-cut cases.

5. Divergent approaches to industry – government cooperation.

Although the United States and several other governments have strong sets of outreach programs to

inform industry about WMD export controls, evidence suggests that industry compliance remains haphazard in the United States, even among the biggest high-tech exporters.⁷ Several countries, such as Denmark and Japan, already rely more extensively on corporate compliance programs to implement export control policy than does the United States.⁸ Arguably, the most effective actions the United States might take in developing better WMD and anti-terrorism export controls would be to create and certify minimum standards for industry internal compliance programs and export control administrators (some companies already do the latter). These will be particularly important for those companies that operate most of the functions at the US national laboratories.

Conclusion

Unfortunately, the international nonproliferation export control community appears much better at reacting to catastrophic events than undertaking proactive reforms. The 1974 Indian nuclear test, the use of chemical weapons by Iraq in the 1980s, and the exposure of the extensive Iraqi WMD programs after the Gulf War, among other events, all prompted long-needed reforms in multilateral coordination of export control policies. The tragic events of the last two months appear to offer another opportunity to make the international system more effective. The fundamental weaknesses of the existing multilateral system, however, will hamper coordination on WMD anti-terrorism export controls if left untreated. Let me suggest a few immediate steps to address these concerns:

- *Develop working groups in each supplier arrangement to address anti-terrorism, but coordinate their work with a small international anti-terrorism export control working group.*
- *Identify anti-terrorism export control policies of other countries, especially those related to WMD, starting with the G-8 and other key members of the supplier groups.*
- *Develop a list of items to control that are of greatest concern related to WMD anti-terrorism as a basis for international negotiations on anti-terrorism export controls.*

- *Develop a list of terrorists and terrorist organizations that pose the greatest WMD threat as a basis for international negotiations on anti-terrorism export controls.*

- *Be willing to provide funding, technical assistance, and critical information to help US partners implement and coordinate WMD anti-terrorist export control intelligence, licensing, and enforcement policies.*

- *Create new standards for industry compliance programs that make it more likely that companies, research institutions, and especially the national laboratories of greatest WMD concern do not inadvertently export items that enhance the threat of WMD terrorism.*

Export controls alone cannot prevent WMD terrorism. Nonetheless, they will play an important role in the anti-terrorism campaign. Without appropriate export controls, those groups already willing to use WMD could more easily obtain WMD capability.

As important, without improving existing export controls, sufficient weaknesses in the multilateral export control system may be exposed so that terrorists now dissuaded by the difficulties in obtaining WMD will recalculate the costs and benefits of using WMD that will lead to more terrorists seeking and acquiring WMD. Making it harder for terrorists to acquire WMD capabilities through export controls, without unnecessarily impeding legitimate commercial and scientific exchange, is an important preventative step in that direction. ♦

*Richard T. Cupitt is the Associate Director of the Center for International Trade and Security at the University of Georgia and Visiting Fellow, Center for Strategic and International Studies, Washington, DC. He is the author of **Reluctant Champions: U.S. Presidential Policy and Strategic Export Controls-Truman, Eisenhower, Bush and Clinton** (Routledge, 2000) and co-editor of two other books on export controls.*

Materials Protection, Control and Accounting

MPC&A: The First Step in Countering Nuclear Terrorism

by Nathan Busch

Since the September 11 terrorist attacks, increased attention has been paid to the possibility that terrorists may use weapons of mass destruction—including chemical, biological, or nuclear devices—to achieve their goals. As the recent attacks clearly demonstrate, Osama bin Laden and his terrorist network al-Qaeda would have no qualms about using such weapons if they were able to acquire them. While chemical and biological agents remain a more likely means of attack, bin Laden has declared that obtaining nuclear weapons is a religious duty and has reportedly attempted to obtain stolen fissile materials on several occasions. He even boasted in November 2001 that he actually possessed nuclear weapons, though this claim seems unlikely. Nevertheless, given bin Laden's interest in nuclear terrorism, one of the highest priorities of the U.S. war on terrorism should be to ensure that nuclear materials and facilities throughout the world are adequately protected, especially those in nuclear weapons states (NWS).

There are several potential types of nuclear terror, including the use of fissile materials in nuclear or radiological devices and the sabotage of nuclear facilities in order to spread radiological contamination. The best way to reduce the likelihood of these types of terrorism is to implement effective fissile material protection, control, and accounting (MPC&A) systems. MPC&A systems are generally divided into two distinct, though interrelated systems: physical protection, and material control and accounting (MC&A). Physical protection systems are designed to prevent thefts of nuclear materials

and sabotage of facilities by deterring or defeating direct attacks by groups or individuals. MC&A systems, on the other hand, are used to detect a theft or diversion of nuclear materials once it has occurred. Materials must be effectively “controlled” through technologies and procedures intended to verify the precise location and storage condition of nuclear materials. In addition, there must be effective “accounting” systems in place to provide “a regularly updated, measured inventory of nuclear weapons usable material, based on routine measurements of material arriving, leaving, lost to waste and remaining within the facility.”¹

Because effective MPC&A systems are critical elements in preventing nuclear terrorism, all countries with nuclear materials must have adequate MPC&A at their nuclear facilities. As IAEA Director General Mohamed ElBaradei stated on November 30, 2001, “We need to urgently identify the most vulnerable locations and see they get the necessary security upgrades.” Unfortunately, several NWS appear to lack sophisticated MPC&A systems, which may leave their fissile materials vulnerable to thefts or their nuclear facilities vulnerable to sabotage.

Russia

The greatest risks currently exist in Russia, where thousands of nuclear weapons and hundreds of tons of fissile materials are stored in facilities with inadequate security. The security system originally created by the Soviet Union was simple and very effective: it maintained authoritarian controls over its population and relied on the presence of guards, gates, and guns (known as “3G’s”) at its nuclear facilities. But the fall of the Soviet Union vividly demonstrated that this type of system can become

extremely vulnerable during political, social, or economic upheavals. After the Soviet collapse, what remained were numerous facilities whose workers were poorly paid, inadequately fed, and sorely tempted to sell nuclear materials to the highest bidder.

In order to address these problems, the United States and Russia have engaged in collaborative programs to help Russia improve its nuclear controls. In particular, in 1991 Congress approved funding for the Cooperative Threat Reduction program, or the Nunn-Lugar program, as it became called after its primary co-sponsors in the U.S. Senate. Since its inception, this program has grown to incorporate a number of projects, including those intended to help Russia improve its MPC&A. While these programs have made notable progress, there is much that still needs to be done. It is currently estimated that only 40% of the 600 metric tons of nuclear materials at risk are now stored in buildings with adequate MPC&A.

There have been reports of recent attempted and successful thefts of nuclear materials from nuclear facilities in Russia and the former Soviet Union. For example, in December 1998 employees at a Chelyabinsk facility reportedly were stopped just as they were about to steal 18.5 kg of highly-enriched uranium (HEU); on April 19, 2000, Georgian police reportedly arrested four men and seized nearly a kilogram of HEU;² and on November 13, 2001, Yuri Volodin, head of the safety department at the Russian nuclear regulatory agency, reported a previously undisclosed security violation involving an attempted theft of nuclear materials that occurred sometime in the past two years. While Volodin refused to provide further details, he said the incident was of “the highest possible consequence.”³

¹ Jason Ellis and Todd Perry, “Nunn-Lugar’s Unfinished Agenda,” *Arms Control Today*, vol. 27, no. 3 (October 1997), p. 16.

² “Confirmed Proliferation-Significant Incidents of Fissile Material Trafficking in the Newly Independent States (NIS), 1991-2001,” Center for Nonproliferation Studies, <<http://www.cns.miis.edu/pubs/reports/traff.htm>>.

³ Michael Dobbs, “Russian Official Reveals Attempt Made to Steal Nuclear Materials,” *Washington Post*, November 13, 2001, p. A22.

⁴ Matthew Bunn, Oleg Bukharin, and Kenneth Luongo, “Renewing the Partnership: One Year Later,” in *Proceedings of the 42nd Annual Meeting of the Institute for Nuclear Materials Management* (Northbrook, IL: INMM, 2001), pp. 1-2.

⁵ *Ibid.*, p. 1.

⁶ “Text: U.S., Russia to Step-up Efforts to Safeguard Nuclear Materials,” *Washington File*, U.S. Department of State, December 4, 2001.

⁷ Kenneth Baker, congressional testimony, Hearing of the International Security, Proliferation and Federal Services Subcommittee of the Senate Governmental Affairs Committee, November 29, 2001.

The Bush administration can and should place efforts to help Russia improve its controls among its highest priorities. Unfortunately, the administration's policies on U.S.-Russia nonproliferation program did not get off to a propitious start. Despite President Bush's pledges to increase support for these programs prior to his election, the Bush administration started its term by proposing to cut the program's budget by \$40 million compared to the previous year's budget and nearly \$100 million compared to the FY 2002 budget envisioned by the Clinton administration.⁴

After the 9/11 terrorist attacks, however, there has been renewed urgency to improving Russia's nuclear controls. For example, in September, Russia agreed to open the majority of its remaining facilities for MPC&A improvements.⁵ Moreover, after their November 2001 summit meeting, Presidents Bush and Putin issued a joint statement, which called for "improving the physical protection and accounting of nuclear materials for all possessor states." Following on these provisions, U.S. Department of Energy Secretary Spencer Abraham and Russian Minister of Atomic Energy Alexander Rumyantsev announced an agreement on November 29, 2001 to expand and accelerate efforts to improve MPC&A.⁶

In addition to these efforts, it is also possible that the scope of the MPC&A program will be dramatically expanded. With the recent government and media attention focused on the possibility that bin Laden might possess a radiological device (or a "dirty bomb"), there may be efforts to control not only plutonium and HEU, but also other types of radioactive substances such as spent fuel and uranium enriched to below 20% U-235 (the amount necessary for a nuclear explosion).⁷

In December 2001... the U.S. Senate proposed an allocation of \$226 million in emergency supplemental funding for nonproliferation and nuclear security programs in Russia and the former Soviet Union.

It also appears that funding for these programs may be significantly increased. President Bush recently signed into law a bill that provided \$173 million to MPC&A programs, roughly the same as 2001 levels.⁸ In December 2001, however, the U.S. Senate proposed an allocation of \$226 million in emergency supplemental funding for nonproliferation and nuclear security programs in Russia and the former Soviet Union. This money is part of a \$20 billion supplemental allocation attached to the defense appropriations bill. If approved by the House of Representatives, this funding will support research and development on weapons of mass destruction detection systems, efforts to secure fissile materials in Russia more rapidly, and activities to increase security and safety at civilian nuclear power plants in Russia and the FSU. The House and Senate will soon meet to discuss their differing proposals for the \$20 billion supplemental allocation.⁹

While Russia's difficulties are possibly the most serious, there are other NWS that could potentially encounter similar difficulties. Indeed, because several other countries, including China, India, and Pakistan, also base their nuclear controls on the "3G's," the Russian experience can be an important model for the types of problems NWS can encounter, particularly during political,

⁸ Philipp C. Bleek, "DOE Threat Reduction Funding Cut, Programs Reorganized," *Arms Control Today*, December 2001.

⁹ "U.S.-Russian Experts Applaud Senate's Decision to Fund Nuclear Security, Urge House-Senate Conference Support," press release, Russian-American Nuclear Security Advisory Council,

December 11, 2001, available at <http://www.ransac.org/new-web-site/whatsnew/pr_121101.html>.

¹⁰ For a similar argument, see Evan A. Feigenbaum, "China's Strategy of Weakness," *Far Eastern Economic Review*, vol. 164, no. 8 (March 1, 2001), p. 29.

...during the Tiananmen Square crisis, Beijing's leaders feared the army might split over the decision to crush student protests, causing the central government to lose control of its nuclear arsenal.

social, and economic upheavals.

China

China currently has approximately 400 nuclear weapons and about 29 tons of fissile materials stored in numerous facilities across the country. Because China's system is based on the Soviet model, many arms control specialists are concerned that China's system could share the weaknesses of the Soviet system during similar crises. Indeed, China's nuclear controls have been found wanting during severe upheavals in the past. During the Cultural Revolution in the late 1960s and early 1970s, a regional military leader threatened to take over the Lop Nor nuclear test base, which is also believed to be the location of a nuclear weapons stockpile, and a group of radicals attacked a nuclear facility at Lop Nor. More recently, Chinese officials reportedly admitted to U.S. officials that during the Tiananmen Square crisis, Beijing's leaders feared the army might split over the decision to crush student protests, causing the central government to lose control of its nuclear arsenal.

But this is not necessarily a problem of the past; it is far from clear that China will be able to avoid future domestic upheavals. China has its own terrorism problems. For example, in recent years, Muslim separatists in the

western province of Xinjiang have engaged in numerous acts of terrorism. Many of these separatists reportedly receive arms and training in places like Afghanistan and Pakistan, then return to oppose Beijing. Although Beijing has engaged in severe crackdowns on this movement—Western-based monitoring groups have recorded more than 200 death sentences and 200 executions of Xinjiang separatists since 1997—it has been surprisingly unsuccessful in

quelling the unrest. The possibility that these separatists might want to sabotage a nuclear facility or obtain fissile materials for terrorist purposes cannot be ruled out.¹⁰

In addition, China has been undergoing fundamental changes in several respects in recent years and these changes are sources of significant domestic instability. The liberalization of China's economy combined with the Communist Party's increasing inability to quell separatist movements and ameliorate the pressures of liberalization, and the significant dissatisfaction in the populace with widespread government corruption all are potential sources of unrest. After years of denying these problems, the Chinese government recently acknowledged them. According to a June 2001 article in the *New York Times*, "A startlingly frank new report from the Communist Party's inner sanctum describes a spreading pattern of 'collective protests and group incidents' arising from economic, ethnic and religious conflicts in China and says relations between party officials and the masses are 'tense, with conflicts on the rise.'"¹¹

These problems may only grow worse now that China has entered the World Trade Organization (WTO). Many analysts argue that China's entry into the WTO will create severe shocks to its political system in both the short and long term. As Minxin Pei, a senior associate at the Carnegie

¹¹ Eric Eckholm, "China Inner Circle Admits Big Unrest," *New York Times*, June 2, 2001.

¹² Minxin Pei, "Future Shock: The WTO and Political Change in China," *Policy Brief*, vol. 1, no. 3 (Washington D.C.: Carnegie Endowment for International Peace, February 2001), p. 1.

¹³ Interviews by author, November 15–18, 2000.

¹⁴ "Four Arrested in Shillong on Charge of Uranium Smuggling," *All India Radio Network* [the Indian Government's Official News Network], October 17, 1994.

Endowment for International Peace, argues that, “in both the short and long term, China’s entry into the WTO—and the radical economic reforms likely to accompany it—will generate powerful shocks to the country’s existing political system...It remains highly uncertain, however, whether the Chinese regime is resilient enough to withstand such shocks.”¹²

Due to concerns that China’s nuclear security could be undermined in times of severe domestic crisis, in 1994, scientists at U.S. National Laboratories, in accordance with guidelines established by the U.S. government, began discussions with their counterparts at Chinese nuclear laboratories over possible collaborations similar (though smaller in scale) to the Russian lab-to-lab program. These discussions resulted in the “U.S.-China Lab-to-Lab Technical Exchange Program” (CLL), which included joint projects on MPC&A. It was hoped that the CLL programs would help build a strong foundation of trust and mutual cooperation and help build a strong basis for future MPC&A programs in China. Unfortunately, this program was derailed after allegations of Chinese espionage in 1999 and no new events have been scheduled.

India

India has been estimated to possess approximately 310 kilograms of weapons-grade plutonium, enough for approximately 65 nuclear weapons. Because India has a much smaller nuclear arsenal and fissile material stockpile than Russia, many experts believe that its nuclear materials should be easier to control. But some risks still do exist. India possesses a fairly large nuclear infrastructure, including 13 nuclear reactors, uranium mines and processing plants, and facilities to extract plutonium from spent fuel. According to recent reports, nearly all of these facilities are being used to support India’s nuclear weapons

program. Because of the diverse locations of these facilities, it may in fact be harder to control the materials than the size of India’s nuclear arsenal and fissile material stockpile would lead one to expect.

Moreover, there have been some concerns about the security systems at India’s nuclear facilities. Although India’s facilities reportedly employ some security systems, U.S. government officials have questioned the adequacy of these systems, maintaining that they probably fall short of international standards. Indeed, India appears to rely largely on institutional structures for the security of its fissile materials, rather than sophisticated MPC&A systems.¹³ In the absence of advanced systems to help track and control fissile materials, it is possible that insiders could steal these materials from Indian nuclear facilities. In fact, in 1994, four men were arrested trying to sell 2.5 kg of “semi-processed” uranium, as well as 95 kg of “unprocessed” uranium reportedly stolen by a scientist working within India’s Department of Atomic Energy.¹⁴ While it is unlikely that these materials could be used to make a nuclear device, it does indicate that some personnel at India’s nuclear facilities may be willing to steal materials for sale on the black market.

Pakistan

Some of the greatest nuclear risks are in Pakistan. Like India, Pakistan largely relies on institutional controls for its nuclear weapons and fissile materials. As such, Pakistani nuclear controls also could become severely disrupted by political, social, and economic upheavals. Events following the September 11 attacks have underscored some of these difficulties. Reports of public riots, the close affiliation among some elements of the Pakistani military with the Taliban regime, and President Musharraf’s apparently tenuous hold on power have raised

¹⁵ Kamran Khan and Molly Moore, “2 Nuclear Experts Briefed Bin Laden, Pakistanis Say,” *Washington Post*, December 12, 2001, p. A01.

¹⁶ David E. Sanger, “Nuclear Experts in Pakistan May Have Links to Al Qaeda,” *New York Times*, December 9, 2001, p. A1.

¹⁷ For these and other recommendations, see Matthew Bunn and

George Bunn, “Reducing the Threat of Nuclear Theft and Sabotage,” paper delivered October 30, 2001 at the International Atomic Energy Agency Safeguards Symposium, Vienna, Austria and Kenneth N. Luongo, “Options for Increased U.S.-Russian Nuclear Nonproliferation Cooperation and Projected Costs,” RANSAC Report, October 2001.

concerns among arms control experts that Pakistan could face extreme difficulties controlling and protecting its nuclear weapons and fissile materials.

In November 2001, two Pakistani nuclear scientists were arrested for possible connections with the Taliban and Al Qaeda. One of these scientists, Sultan Mahmood, was a nuclear engineer who reportedly played an important role in Pakistan's programs to produce highly enriched uranium and plutonium. The scientists reportedly admitted to having briefed Bin Laden and his associates several times on nuclear, biological, and chemical weapons.¹⁵ Although neither scientist appears to have particular experience in building these weapons, this incident highlights concerns about possible connections between some members of Pakistan's nuclear industry with Islamic fundamentalist groups. Moreover, according to recent reports, the United States is currently investigating new leads on possible contacts between Pakistani nuclear scientists and the Taliban or al-Qaeda. While there are few details on the new investigations, these nuclear scientists may have actual experience in the production of nuclear weapons and related technologies.¹⁶

What Can Be Done?

There is much that can be done to address some of these problems. First, the United States and the international community should significantly increase their efforts to help Russia improve its MPC&A systems. This would include substantially increasing funding for MPC&A upgrades; development of a joint strategic plan to complete upgrades as rapidly as possible; commitments among high-level Russian officials to sustain MPC&A systems in the future; and agreements on expanded and accelerated efforts to consolidate Russian fissile materials to a smaller number of facilities.¹⁷ Second, the United States should explore opportunities for renewing MPC&A collaborations with China. Although there have been few prospects for this in recent years, there has been an improvement in U.S.-China relations since the September 11 attacks, which may allow opportunities for re-

introducing such a program in the future. Third, given the urgency of the situation in Pakistan, the United States should consider a contingency plan to provide emergency assistance in protecting Pakistani nuclear materials and facilities.

Finally, the United States and the international community should increase their nonproliferation efforts in South Asia and the rest of the world. In the aftermath of the terrorist attacks, the United States has eased its economic sanctions and much of its nonproliferation pressure on Pakistan. While these actions may be necessary in the short-term, it is important not to forget long-standing nonproliferation objectives as the United States turns its focus on the war on terrorism. Indeed, given the enormous potential impact of even a moderately successful act of nuclear terrorism, improving MPC&A should be an integral part of this war. ♦

Nathan Busch is a new Senior Research Associate at the Center for International Trade and Security at the University of Georgia. He holds a PhD. from the University of Toronto.

Biological and Chemical Weapons Conventions

The First Line of Defense Against Biological and Chemical Terrorism

by Jean Paul Zanders

On 11 September 2001 three planes were deliberately slammed into the World Trade Center in New York and the Pentagon in Washington, DC. A fourth plane, whose target is unknown, crashed in a field in Pennsylvania after the passengers reportedly tried to overpower the hi-

jackers to prevent further disaster. These unprecedented terrorist attacks have had some immediate repercussions. First, democracies across the world sensed an increased vulnerability to aggression, more so as the terrorists apparently exploited the openness of these societies to plot their strikes. Second, a national security posture primarily based on defence may offer citizens and critical infrastructure too little protection too late. Third, rather than a massive strike involving sophisticated weaponry, the main threats to democracies may consist of unexpected and unpredictable attacks carried out through relatively unsophisticated means but which have terrible consequences for the targeted society.

Non-conventional weapons in particular pose extra concern in this new threat environment, because they increase the sense of helplessness and have the potential to stretch the resources of the health infrastructure, law enforcement and security agencies to their limits. Failure to deal swiftly and efficiently with the consequences of the release of chemical and biological agents will undoubtedly erode public confidence in the capability of local and national authorities to provide effective security to the civilian population.

There are many tools to deal with terrorism involving the release of chemical and biological agents, including national legislation, national defensive measures and international instruments (such as the UN conventions on terrorism, the International Criminal Court, and so on). Within the framework of international instruments against terrorism, the 1972 Biological and Toxin Weapons Convention (BTWC) and the 1993 Chemical Weapons Convention (CWC) take up a central position. The treaties are not a panacea, but they do establish a core set of norms that govern the behaviour of states, companies and individuals. In addition, they offer party states tools to deny terrorists access to CBW, improve their national

emergency capabilities, and manage the consequences in the event of a terrorist release of chemical and biological agents.

The Prohibitions

The first line of defence against terrorist acquisition of chemical and biological weapons (CBW) is prevention. The core prohibitions in the BTWC and CWC are an important tool in this respect. They are to a large extent comparable, although both conventions differ considerably regarding the means of verifying implementation and enforcing compliance. The treaties partially overlap as they both cover toxin agents (poisonous substances produced by organisms and their

synthetically manufactured equivalents).

The timely destruction of chemical weapons worldwide is... imperative.

The BTWC and CWC make the acquisition,

possession and use of CBW illegal. (In the case of the BTWC, the understanding of Article I was extended to include biological weapon (BW) use at the Fourth Review Conference in 1996.) In addition, parties to the conventions are required to destroy biological and chemical warfare agents, their delivery systems and infrastructure related to their development, production and storage. They may retain limited quantities for non-prohibited purposes, such as protection and prophylaxis. The net effect of these obligations with respect to terrorism is that no such weapons are available for theft. The timely destruction of chemical weapons (CW) worldwide is therefore imperative. This is particularly relevant with respect to the Russian CW, as there has been considerable international concern that criminal or terrorist organizations might try to remove some highly toxic munitions from poorly guarded stockpile sites, although security at the sites is said to have been improved since the 11 September attacks. Nevertheless, the risk persists that agents may be diverted from legitimate inventories in laboratories, as illustrated by the speculation that the anthrax spores sent

in letters may have originated from a US defence laboratory.

The non-proliferation clauses in both treaties make up a second pillar of the prevention strategy. None of the treaty-controlled items may be transferred to any recipient whatsoever for prohibited purposes. Parties must take the necessary measures (in the case of the CWC, explicitly via national implementation legislation) to ensure that no nationals, companies or individuals operating on their territory undertake any activities in contravention of the BTWC and CWC. In most cases, states have adopted national export controls to govern transnational transfers. Other economic units, such as multinational companies, laboratories or individuals also bear responsibility for the ensuring the legitimacy of transfers of relevant technologies, although the ability to prosecute negligence

or deliberate malfeasance depends on the quality of domestic penal legislation. Unfortunately, many parties to the BTWC and the CWC have yet to adopt the barest minimum of national measures to implement the conventions and thus deny themselves an important tool to prevent CBW terrorism.

A third pillar of prevention is the universality of the norm. The BTWC and CWC benefit from the high number of ratifications (over 140 states each). Universality increases the chances that a state sponsor of CBW terrorism can be identified. This accords the conventions a deterrent quality. However, the value of the deterrent is directly linked to the treaty verification regime. The BTWC lacks the elaborate verification mechanisms of the CWC, and the failure of the international community to agree on verification and monitoring tools to strengthen the

Comparison of Positive Security Guarantees

	BTWC	CWC
Applicability to Terrorism	Clarification of relevant provisions at 4th RevCon	Any use of toxic chemicals; no actor requirement
Institutional Setup	----	OPCW
Defence	Art. I, 1	Art. II, 9(b); Art. X, 2
Assistance	Art. VII <ul style="list-style-type: none"> ◆ UNSC determines exposure ◆ right to bilateral assistance ◆ role of UNSC implies that only inter-state, not intra-state use of BW is addressed ◆ no clarification at 4th RevCon 	Art. X <ul style="list-style-type: none"> ◆ OPCW determines use of CW following request ◆ automatic procedure ◆ detailed procedures in development ◆ emergency stockpiles; voluntary fund

convention will inevitably hamper international efforts to prevent BW terrorism.

Positive Security Guarantees

The BTWC and the CWC also contain a number of measures designed to enhance the security of individual party states in the event that CBW have been used or when their use is threatened. First, in order to mitigate the threat posed by biological or chemical warfare agents or to deal with the consequences of exposure, both conventions grant parties the right to develop and acquire the necessary means for defence, protection, detection and prophylaxis. This right covers both indigenous development and production and transfers from one party to another. Second, parties also have the right to receive assistance and support from other parties if faced with a CBW threat or use. Third, they also have the right to lodge complaints and to request investigations regarding such threats or use.

The relevant provisions in the BTWC and the CWC cover the use or threat of use of CBW by any actor, be it a state, a terrorist group, a criminal organization or an individual. The language of the CWC does not specify a type of perpetrator; however, only a party state can lodge a complaint or receive assistance. The BTWC, in its original conception, was state-oriented. Through the process of review, conference participants recognized the growing relevance of other actors in international security. At the Third Review Conference (1991), the concept of non-state actor was introduced. Following the 1995 attacks with sarin in the Tokyo underground,

the term ‘terrorist’ was added to relevant treaty provisions during the Fourth Review Conference (1996).

While both conventions contain similar principles, the means and procedures for implementing them differ considerably (see table). Perhaps the single most important difference is the lack of an institutional organ for the BTWC. The CWC established the Organisation for the Prohibition of Chemical Weapons (OPCW), which is located in The Hague. In the event of CW use (especially

Unfortunately, many parties to the BTWC and the CWC have yet to adopt the barest minimum of national measures to implement the conventions and thus deny themselves an important tool to prevent CBW terrorism.

if the claim of victims is credible) the CWC has a quasi-automatic rapid response mechanism in the sense that the OPCW Director-General can take immediate action without waiting for the approval of the OPCW policy-making bodies. These policy-making organs will play a larger role in the case of the need for further emergency assistance, and the OPCW can coordinate efforts to deal with the consequences of CW use with other states party to the CWC and international organizations. The organization, however, is also tasked to contribute to the development and improvement of the CW protection capabilities of individual parties to the CWC by means of, *inter alia*, expert advice and the organization of national courses for first responders. It is also expected to develop rapid response mechanisms and set up a central stockpile of medical and protective emergency assistance in The Netherlands. The OPCW is currently also developing plans to preposition emergency equipment in various regions

of the world in order to be able to speed up the emergency response. deal with BW terrorism.

These obligations and implementation proposals stand in stark contrast to the BTWC, under which the UN Security Council must determine the exposure to danger. Following such determination, parties to the BTWC have the right to bilateral assistance. The role of the UN Security Council limits the assistance to cases of BW use between states and, as a consequence of the veto power, a party to the BTWC cannot be certain of the confirmation of the right to bilateral assistance by the UN Security Council. Furthermore, the procedure almost certainly precludes an immediate response. The draft protocol to the BTWC, which was negotiated by an ad hoc group of party states and envisaged as a compliance monitoring regime for the convention, contained proposals for the establishment of an Organization for the Prohibition of Biological Weapons. The document also proposed emergency assistance mechanisms modelled on those of the CWC. The US rejection of this document in July 2001 was effectively a rejection of these improved mechanisms to prevent and

Conclusion

The BTWC and the CWC offer a first line of defence against the terrorist use of CBW. Neither offers a cure-all, however, and their future relevance will depend greatly on the development of the respective treaty regimes. The CWC, which is much further developed than the BTWC, incorporates certain provisions with the potential to make it an important instrument in preventing and dealing with the consequences of CW terrorism. While the parties to the BTWC have expanded the understanding of several provisions so as to include BW terrorism, it still lacks concrete obligations for party states for establishing effective defences against BW attacks and coping mechanisms in the event of a terrorist release of pathogens. The failure to achieve a protocol for the BTWC seems to indicate that an emergency assistance action plan like the one developed under the CWC will not be established in the foreseeable future. ♦

Jean Pascal Zanders directs the Chemical and Biological Warfare Project at the Stockholm International Peace Research Institute (SIPRI). He was previously a Research Associate at the Centre for Peace and Security Studies at the Free University of Brussels. He is the author of “The Destruction of Old Chemical Munitions in Belgium” in the 1997 SIPRI volume The Challenge of Old Chemical Munitions and Toxic Armament Wastes, co-author of the SIPRI fact sheets “The Chemical Weapons Convention” (1997) and “Iraq: The UNSCOM Experience” (1998), and co-author of chapters in the SIPRI Yearbooks 1997, 1998, and 1999.

The Monitor Spring 2002:

New Developments and Challenges in International Export Controls



The University of Georgia