



USAF COUNTERPROLIFERATION CENTER
CPC OUTREACH JOURNAL
Maxwell AFB, Alabama

Issue No. 583, 20 August 2007

Articles & Other Documents:

[Meeting The Risks Of Proliferation](#)

[Upkeep Of Security Devices A Burden](#)

[U.S. Envoy On N. Korea Nuclear Issue Cites Progress](#)

[Missile defense](#)

[Indian uranium deal as good as NPT: Australia](#)

[Pyongyang Seen Aiding Effort To Scrap Nukes](#)

[Floods Postpone Summit Between Koreans](#)

[New Nuclear Deterrents](#)

Welcome to the CPC Outreach Journal. As part of USAF Counterproliferation Center's mission to counter weapons of mass destruction through education and research, we're providing our government and civilian community a source for timely counterproliferation information. This information includes articles, papers and other documents addressing issues pertinent to US military response options for dealing with nuclear, biological and chemical threats and attacks. It's our hope this information resource will help enhance your counterproliferation issue awareness.

Established in 1998, the USAF/CPC provides education and research to present and future leaders of the Air Force, as well as to members of other branches of the armed services and Department of Defense. Our purpose is to help those agencies better prepare to counter the threat from weapons of mass destruction. Please feel free to visit our web site at <http://cpc.au.af.mil/> for in-depth information and specific points of contact. Please direct any questions or comments on CPC Outreach Journal to Jo Ann Eddy, CPC Outreach Editor, at (334) 953-7538 or DSN 493-7538. To subscribe, change e-mail address, or unsubscribe to this journal or to request inclusion on the mailing list for CPC publications, please contact Mrs. Eddy, joann.eddy.ctr@maxwell.af.mil.

The following articles, papers or documents do not necessarily reflect official endorsement of the United States Air Force, Department of Defense, or other US government agencies. Reproduction for private use or commercial gain is subject to original copyright restrictions. All rights are reserved

Washington Times

August 11, 2007

Pg. 13

Meeting The Risks Of Proliferation

By Richard Lugar

In a remote corner of Southern Europe, the United States and Albania recently scored a quiet but important victory in the battle against the spread of weapons of mass destruction. This success points the way toward helping resolve some of the greatest threats the world faces from nuclear, chemical and biological weapons.

The location was Albania's mountainous interior. During the Cold War, the predominantly Muslim nation was a Maoist dictatorship, the most isolated country in Europe and one of the most anti-Western in the world. Its journey from tyranny toward democracy has been determined but fitful — just a few years ago the country's economy and government collapsed when the population was seized by a nationwide Ponzi scheme.

Albania's current leadership, however, is eager to join the West and to eradicate the legacies of the communist past. One of the most frightening of those legacies was a secret cache of deadly chemical weapons and materials, 16 tons of lethal agents illegally imported during the 1980s by an earlier government. Discovered only in 2002, these chemicals posed an enormous danger to Albanians, should they have leaked, and to the rest of the world if they fell into the hands of terrorists or criminals.

Luckily, the government in Tirana recognized the risk and promptly sought out assistance from the United States. I visited the weapons site in Albania in August 2004, to discuss plans for security upgrades to the storage facility, and to help arrange for the stockpile's destruction under new provisions of the Nunn-Lugar Cooperative Threat Reduction Program.

Launched 15 years ago, the Nunn-Lugar program has concentrated primarily on securing and destroying nuclear, chemical and biological weapons in Russia and other states of the former Soviet Union. In 2003 I introduced legislation signed by President Bush to expand the Nunn-Lugar concept worldwide.

The president authorized a Nunn-Lugar weapons destruction project for Albania, and American and Albanian officials worked out a plan for the complicated and dangerous operation. Experts at the Pentagon's Defense Threat Reduction Agency, which has over the years gained great experience in the complexities of how to destroy weapons safely, arranged for fabrication of the specialized equipment necessary.

Beginning last year, a team of U.S. contract workers, operating under Defense Department supervision, trucked the equipment and other materials up primitive mountain roads to the remote weapons site. There they constructed a warehouse-sized destruction facility to take the barrels of chemicals from the nearby bunker and destroy them.

Last month, the Albanian Defense Ministry announced Albania is the first nation to eliminate its complete stockpile of chemical weapons. All 16 tons were successfully destroyed. A potential terrorist threat was peacefully neutralized, and the United States forged closer links with an emerging nation, laying the groundwork for future cooperation.

This was an important first test of the Nunn-Lugar program outside the former Soviet Union, proving we can work with other governments in new environments. And it shows the value of expanding the Nunn-Lugar program so the United States can respond to nonproliferation opportunities wherever they may appear.

Russia, of course, will continue to be a focus of our weapons-destruction efforts. So far, Nunn-Lugar has deactivated 6,982 nuclear warheads, all previously aimed at the United States, and destroyed more than 1,500 long-range missiles. The program also secures and destroys chemical and biological weapons, and seeks to re-employ scientists in peaceful research so they won't be tempted to sell their skills to rogue states or terrorist organizations.

But the Albanian success shows we can and must be prepared to address similar risks in the Middle East, Asia and anyplace else where supplies of weapons of mass destruction may be. The United States has developed a unique capability to meet a variety of proliferation threats, and we should actively seek new opportunities to dismantle dangerous weapons programs.

One of the most immediate occasions could be North Korea, which has resumed the six-party negotiations aimed at eliminating its nuclear weapons program. If a final agreement can be reached, the Nunn-Lugar program could play a central role in neutralizing the grave threat posed by the nuclear weapons and materials that Pyongyang has accumulated.

But this will require firm policy guidance and aggressive diplomacy by the administration to gain North Korea's cooperation. The time to begin that process is now, well ahead of a final deal. With persistence and constant attention from the highest levels of the government, we can repeat the success of Albania in our most crucial challenge.

Richard Lugar, Indiana Republican, is ranking member of the U.S. Senate Foreign Relations Committee. Distributed by Scripps Howard News Service.

<http://www.washingtontimes.com/article/20070811/COMMENTARY/108110013/1012/commentary>

[\(Return to Articles and Documents List\)](#)

Washington Post

Upkeep Of Security Devices A Burden

By Mary Beth Sheridan

Washington Post Staff Writer

Monday, August 13, 2007; A01

In 2003, the FBI used a \$25 million grant to give bomb squads across the nation state-of-the-art computer kits, enabling them to instantly share information about suspected explosives, including weapons of mass destruction. Four years later, half of the Washington area's squads can't communicate via the \$12,000 kits, meant to be taken to the scene of potential catastrophes, because they didn't pick up the monthly wireless bills and maintenance costs initially paid by the FBI. Other squads across the country also have given up using them.

"They worked, and it was a good idea -- until the subscription ran out," said Mike Love, who oversees the bomb squad in Montgomery County's fire department. At the local level, he said, "there is not budget money for it."

Since the Sept. 11, 2001, terrorist attacks, the area has received more than \$1 billion in federal money to strengthen first responders and secure the region. That money has bought satellite phones, radios, protective suits, water-security monitors and a host of other items.

But local officials are grappling with how to maintain the huge infusion of equipment. Like a driver whose 5-year-old luxury sedan has worn-out brakes, cracked tires and engine problems, local governments are facing hefty bills to keep their gear working.

The region has a long list of terrorism-fighting items that need parts and service. Officials recently set aside nearly one-fifth of the area's latest federal homeland security grant -- about \$12 million -- to cover maintenance over the next two years.

The shopping list includes \$120,000 in new batteries for emergency radios; \$400,000 to maintain chemical and radiation monitors for rivers; and \$250,000 in replacement equipment for top officials' videoconferencing system. Wanting to avoid a maintenance time bomb, governments are starting to plan for the end of the decade, when state and local jurisdictions will probably be forced to shoulder most of the costs.

"There's an agreement we're going to start weaning ourselves, such that more and more, we'll pick up" the maintenance costs, said Fairfax County Executive Anthony H. Griffin, who heads a committee of local government administrators working on the grants.

In some cases, officials are slowing homeland security projects while the question of upkeep is worked out.

This year, for example, the region asked the U.S. Department of Homeland Security for more than \$13 million to build a broadband wireless network for emergency workers. In the end, officials decided to spend just \$1 million -- on plans that will determine the maintenance costs.

Behind such caution is concern that the anti-terrorism dollars that have rained down on the D.C. area in recent years might begin to dry up. Michael Chertoff, the homeland security secretary, warned cities recently that the grants were not like Social Security checks that would arrive year after year.

"In fact, as communities begin to build their capabilities, we should see them getting less money," Chertoff said at a news conference.

The FBI bomb-kit program shows how even the best-intentioned plans to equip first responders can go awry over the simple question of maintenance.

The program was requested in 1999 by Congress, which had been alarmed by a nerve-gas attack on a Tokyo subway that killed 12 people and sickened thousands. Legislators set aside \$25 million for the FBI to prepare state and local bomb squads to deal with weapons of mass destruction.

The FBI developed a special suitcase of tools that bomb squads could take to scenes. The core of the kit was a rugged wireless laptop loaded with files describing explosives and chemical and biological agents.

The kit also included a digital camera so technicians could snap a picture of any strange device and e-mail it to FBI bomb experts for quick advice.

"It was a unique communication tool," said FBI Special Agent Barbara Martinez, a top official in the agency's Critical Incident Response Group.

The "Cobra kits" were handed out to nearly 400 state and local bomb squads across the country in 2003. Each came with a prepaid three-year service agreement and a one-year wireless card.

But apparently, no one realized that the squads might not have the cash to maintain the wireless subscription.

Local officials said it could run \$60 a month per kit, totaling a few hundred dollars for a squad with several kits.

Also, the kits needed periodic updates, which could run into the hundreds or thousands of dollars, they said.

"It was quite expensive for the local jurisdictions to absorb the cost," said Jerry Swain, bomb-squad commander for Loudoun County.

Montgomery's Love said his department had to stop paying for the system in 2005, just two years after getting it.

"Basically, we're still dealing with the same budget we had 10 years ago, except for personnel costs," he said.

The D.C. and Arlington County police bomb squads also dropped the wireless subscription. The Prince George's County bomb squad chose to replace that system with other technology purchased through federal grants, a spokesman said.

Some local squads said they had more pressing needs than maintaining the system, which they described as occasionally helpful but not essential.

"To say it's something that's going to make or break us on the scene, I would say not," Swain said.

Others said they found the kit valuable because of its wireless connection to other bomb experts and its copious reference material.

"We could carry around 10 textbooks, but it's all there" in the computer, said Sgt. Thomas Sharkey, Metro's bomb-squad commander. Metro has continued to maintain its kits, as have bomb squads run by the Fairfax County police and Virginia State Police.

Jeff Fuller, a spokesman for the National Bomb Squad Commanders Advisory Board, said that many squads had found the kits too expensive to maintain but that he didn't know how many stopped using it. Martinez, the FBI official, also said she did not know.

Martinez said the kits were initially successful in teaching bomb technicians about weapons of mass destruction.

Now, though, some of the kits are sitting unused, she acknowledged.

"It is sad -- now you've got that paperweight doorstop out there," she said.

But the FBI made it clear from the start that local and state squads would eventually have to pick up the maintenance costs, she said. "Maybe people didn't read the fine print," she added.

FBI bomb technicians across the country have continued to maintain their kits and can take them to scenes to assist, she said.

Was the project a bad use of \$25 million? No, Martinez said, but she added, "I wish it came with the maintenance thing."

Because of advances in technology, the 2003 kits would need significant upgrades to be effective now, she said. In this year's application for its homeland security grant, the region's bomb squads included a request to upgrade their Cobra kits and pay for wireless cards. But local officials say it is not clear whether they would use their funding award on the project because they have higher priorities for their squads, including protective suits and robots.

"The last thing we want to do is put money into something the grant is not going to keep up over time," said Loudoun County Fire Marshal Keith Brower, who heads a regional committee overseeing bomb squads. "We're flagging those issues right now."

<http://www.washingtonpost.com/wp-dyn/content/article/2007/08/12/AR2007081201244.html?hpid=topnews>

[\(Return to Articles and Documents List\)](#)

Los Angeles Times

August 14, 2007

U.S. Envoy On N. Korea Nuclear Issue Cites Progress

Bilateral talks reportedly result in agreement to identify ways to disable reactor.

By Associated Press

BEIJING —The chief U.S. nuclear envoy said Monday that he and his counterpart from North Korea had reached a limited agreement on the next steps toward the communist country's nuclear disarmament in a meeting to lay the groundwork for upcoming six-nation talks.

Christopher Hill said the two sides "have an agreement that we're going to try to identify types of disablement and how we can approach it." However, he said they had not reached any kind of agreement on the dismantling of North Korea's nuclear facilities.

Hill also said that he and the North Korean envoy, Kim Kye Gwan, had tentatively agreed to meet late this month to discuss the possibility of normalizing relations between their countries, something North Korea has been pressing for.

In February, North Korea pledged to make a full declaration of all its nuclear programs and disable them in exchange for energy assistance. It switched off its sole operating nuclear reactor in July as part of that agreement with the five other nations in the disarmament talks -- the U.S., Japan, China, South Korea and Russia.

"We had a discussion about the sequence of declaration and disablement," Hill said. "In particular, we discussed the question of what is being precisely declared and what is being disabled."

Hill described the meeting in Beijing as "very businesslike" and said it was aimed at smoothing the way for six-nation talks Thursday and Friday in the northeastern Chinese city of Shenyang.

"I think it's going to be a very good meeting, a very serious meeting," Hill said.

<http://www.latimes.com/news/nationworld/world/la-fg-norkor14aug14,1,6125036.story?coll=la-headlines-world>

[\(Return to Articles and Documents List\)](#)

Washington Times

August 17, 2007

Pg. 6

Inside The Ring

By Bill Gertz

Missile defense

The Pentagon and State Department recently published a report explaining the need to set up a third ground-based interceptor site in Eastern Europe to counter the growing threat of long-range missiles from rogue states.

The report was produced to better explain why the Pentagon wants to build a 10-missile interceptor site in Poland by 2011 to 2013, and a midcourse tracking and discrimination radar in Czech Republic by 2011. Talks are under way for the system.

The report states that the threat from missiles "is real and growing" and notes that in 1972 only nine states deployed ballistic missiles while by 2006 the number had grown to 25 nations.

The number of states with missiles capable of attacking U.S. allies and U.S. territory has increased from five states to nine, with Iran and North Korea the most worrisome.

"If Europe is not secure, the United States is not secure," the report stated.

The report notes that to protect against missile attacks, "we need defenses stationed and operational in Europe before a threat fully emerges."

In addition to North Korea's long-range Taepodong-2 missile, the report identified another major threat as Iran's Shahab-3 medium-range missile, which was test-fired in November during Iran's "Great Prophet II" exercises. The Shahab-3 has a range of about 800 miles, enough to hit targets in Israel and Turkey. Additionally, Iran is developing longer-range missiles, including a 1,240-mile range Shahab and eventually intercontinental-range missiles.

"We cannot afford to be surprised by waking up one day and discovering that Iran has an [intercontinental ballistic missile] capability," the report stated.

The report shows that the Polish-Czech site would not "catch" any Russian ICBMs, but would protect all European NATO allies from attack against a long-range missile fired from the Middle East.

<http://www.washingtontimes.com/article/20070817/NATION04/108170082/1008/NATION04>

[\(Return to Articles and Documents List\)](#)

YaHoo! News

Indian uranium deal as good as NPT: Australia

Fri Aug 17, 4:04 AM ET

SYDNEY (AFP) - Prime Minister John Howard on Friday defended Australia's landmark deal to sell uranium to nuclear power India, saying its safeguards were as strong as the international anti-proliferation treaty.

The in-principle deal reached Thursday has been widely criticised, as India has not signed the Non-Proliferation Treaty (NPT) and has nuclear weapons.

India is involved in a long-running nuclear stand-off with neighbouring rival Pakistan, leading to fears the uranium could be used to make bombs.

With an election a few months away, Australia's opposition Labor party has vowed to scrap the deal if it is elected to government.

But Howard's government insisted it was both environmentally friendly and likely to bring India under more supervision by the UN's International Atomic Energy Agency (IAEA).

Safeguards in the deal would have the same effect as signing the NPT, which is meant to limit the spread of nuclear weapons, Howard said.

"I can assure your listeners that the net effect of our safeguards agreement will be the same," Howard told national radio.

"It's a different approach and India has not signed the nuclear non-proliferation treaty. But we believe that these arrangements will deliver effectively the same outcome."

There would be a bilateral safeguards agreement, and India would have to enter a similar agreement with the IAEA, Howard said.

"And the sort of conditions that are going to be imposed on India are the same as the conditions that are being imposed on countries like China and Russia and I think also France," Howard said.

"We've been selling uranium to France for many years," Howard said.

The NPT permits five countries, including China, Russia and France, to hold nuclear weapons.

Howard said he would be writing to his Indian counterpart Manmohan Singh to stress the conditions.

Foreign Minister Alexander Downer said the deal was environmentally friendly, as India was expected to see enormous growth in energy demand in the next few years.

It would also mean some of India's power plants would now come under UN supervision, he said, and would build up Australia's relationship with the emerging regional economic powerhouse.

Downer said India did not have a "record of proliferation", adding it was unrealistic to expect New Delhi to sign the non-proliferation treaty.

"I would rather they did sign the treaty but you have to be realistic about this, if you read the treaty you can see why they won't sign it, the treaty says there shall only be five nuclear weapons states," he said.

India would have to abandon its nuclear arsenal first to sign it, he said.

Australia is a major producer of uranium, with some of the world's largest known deposits in South Australia state.

http://news.yahoo.com/s/afp/20070817/wl_sthasia_afp/australiaindiaenergy nuclear uranium; ylt=AIYeCaNaMfppe5RGeW166d5vaA8F

[\(Return to Articles and Documents List\)](#)

Washington Times
August 18, 2007
Pg. 7

Pyongyang Seen Aiding Effort To Scrap Nukes

U.N., U.S. report progress; shutdown of facilities confirmed

By George Jahn, Associated Press

VIENNA, Austria — The U.N. atomic watchdog agency and the U.S. government both reported progress yesterday in the international effort to eliminate North Korea's nuclear program.

The International Atomic Energy Agency (IAEA) said the communist regime is cooperating with U.N. specialists overseeing the mothballing of key nuclear facilities, while a senior U.S. diplomat said talks with the communist regime had produced a basic "consensus on the way forward."

The two assessments suggested that efforts to do away with the North's nuclear weapons threat remained on track since the process resumed in July, when the reclusive country made good on promises to shut down a plutonium-producing facility.

In Vienna, a confidential report prepared for next month's meeting of the IAEA's 35-nation board said U.N. specialists have been able to monitor and verify the nuclear program's status "with the cooperation" of North Korea. The paper is the first since 2003 to confirm the status of the North's known nuclear activities. That year, the North expelled U.N. inspectors and quit the nuclear Non-Proliferation Treaty — the start of events that led to its test explosion of a nuclear bomb last October.

The report said IAEA specialists last month confirmed the shutdown of four nuclear facilities at Yongbyon — a nuclear fuel fabrication plant, a reprocessing plant and two nuclear power plants, one still under construction. An unfinished 200-megawatt nuclear power plant at Taechon also was shuttered, it said.

Separate word of progress came from U.S. Assistant Secretary of State Christopher Hill at the end of two days of technical talks on North Korea's nuclear program in the northeastern Chinese city of Shenyang.

The sessions were "very businesslike, very specific," with negotiators discussing details about how North Korea should abide by commitments to disclose all its nuclear facilities and disable them, Mr. Hill told reporters.

"I think we now have the basis for achieving consensus on these issues and consensus on the way forward," he said.

The talks are building on North Korea's commitment to disable its plutonium reactor at Yongbyon and declare and eventually dismantle all its nuclear facilities as part of a February agreement with the United States, China, Russia, Japan and South Korea. In exchange, the economically struggling North is to receive oil and other aid.

Despite that agreement, disputes about whether the North has an alternative, undeclared nuclear weapons program based on uranium continue to bedevil the disarmament process.

North Korea said for the first time this week that it was willing to resolve the issue, although it did not acknowledge having a uranium enrichment program, envoys said.

"I think we'll have to take that at its face value, with the understanding that a full declaration needs to include uranium enrichment and they acknowledge that fact for resolution of the issue," Mr. Hill said.

The IAEA report made no mention of any enrichment efforts.

<http://www.washingtontimes.com/article/20070818/FOREIGN/108180042/1003/foreign>

[\(Return to Articles and Documents List\)](#)

New York Times
August 19, 2007
Pg. 4

Floods Postpone Summit Between Koreas

SEOUL, South Korea, Aug. 18 (AP) — North and South Korea agreed Saturday to postpone a summit meeting until early October because of recent floods that devastated the impoverished communist North.

The North Korean leader, Kim Jong-il, had been scheduled to sit down with South Korea's president, Roh Moo-hyun, in Pyongyang Aug. 28 to 30 for the first top-level meeting between the countries in seven years. That has now been rescheduled for Oct. 2 to 4, the Koreans said.

The North, in unusual openness, has said a week of storms destroyed 11 percent of its rice and corn fields. On Saturday, state television showed inundated rice paddies, cornfields and streets, saying the downpours inflicted "unprecedented" damage.

The number of dead and missing has risen to more than 300, according to an aid group operating in the country. On Friday, South Korea offered the North a \$7.5 million aid package.
<http://www.nytimes.com/2007/08/19/world/asia/19korea.html>

[\(Return to Articles and Documents List\)](#)

Washington Times
August 19, 2007
Pg. B4

New Nuclear Deterrents

By Peter Zimmerman and Hans Binnendijk

The failed attempt by a bunch of medical doctors who tried to detonate Mercedes Benz automobiles parked on London's busy streets and packed with the kind of propane cylinders Americans use to fuel backyard barbecues sent antiterror alert levels in the United Kingdom to their highest possible level.

Without minimizing the danger posed by the doctors' plot, it is worth noting that the men were incompetent and the explosives no larger than is commonplace in Iraq today. Suppose a group of terrorists were less incompetent, were nuclear physicists, and the explosive made from uranium?

In 1977, the standard answer to the question, "can terrorists make their own atomic bomb?" was likely "no, it takes another Manhattan Project." Today, the answer is more likely a clear "yes, if somebody gives them uranium or plutonium." Indeed, some of America's deepest strategic thinkers, including former Defense Secretary William Perry and hydrogen bomb designer Richard Garwin, think the probability of a terrorist nuclear explosion is around 20 percent per year. If that is so, it is only a matter of time, and perhaps not very much time.

We ask, "What do we do in the days and years before an attack to discourage terrorists from trying and to deter potential donor states which might provide either the nuclear explosive material or even a complete device?"

During the Cold War, the United States and the Soviet Union understood certain rules of the game, at least after the Cuban Missile Crisis of 1962. A nuclear attack by either country against the other would result in a second strike certain to inflict "unacceptable damage." Deterrence was stable over a wide range of possible scenarios.

In contrast, the kinds of wellfunded religious or millennialist terror groups capable of assembling nuclear devices, given the uranium or plutonium, have neither infrastructure nor population that can be threatened by a second strike. The tool of mutual deterrence has been lost. But something remains. Few believe even a group such as al Qaeda or Aum Shinrikyo (which actually tried to create its own Manhattan Project in Australia) will be able to produce its own nuclear explosive material. That material must come from a small, but potentially growing, number of states.

If the donor of the fissile material, or even a complete weapon, could be identified with certainty, a process involving nuclear forensics, appropriate retaliation could be contemplated. And if potential donors knew they would be caught, they might well be deterred from furnishing material to terrorists in the first place. Both uranium-235 and plutonium, as used in nuclear weapons, do contain fingerprints and signatures that can lead back to their origin with fairly high certainty, if not as good as DNA analysis.

Most signatures rely on the fact no sample of material is ever "pure." There are always impurities associated with the mine of origin, the refining, processing and enrichment (or reprocessing of plutonium), and the chemical separation of the fissile metal. These can all be traced and identified, the combination is unique, or nearly so, to the source.

The United States needs to beef up its current program for nuclear attribution and forensics. The national laboratories at Livermore, Calif., and Los Alamos, N.M., need improved facilities, and more people to make major progress. One of the core groups at Lawrence Livermore National Laboratory lacks the funding to keep even its top scientists engaged fulltime on forensics. Other groups at both labs are also thin. Without new investment in people and laboratory equipment, the nation will likely lose its ability to attribute nuclear blasts.

It is likely to be necessary to gather the radioactive fallout from a nuclear explosion very quickly and return it to a laboratory within hours before the rarest isotopes decay away. To do so, the United States will need a domestic sampling program using aircraft with sniffers and filters to gather the dust. Probably half a dozen C-130 class planes will do, each prefitted with attachment points, and with roll-on/bolt-on sampling machines that need only be used on a real mission or in training so the aircraft need not be dedicated to the role. It would be appropriate for the Air National Guard to supply both planes and crew.

But all this requires a library of samples from every state that enriches uranium or reprocesses plutonium, regardless of whether they have nuclear weapons or intend to acquire them. This "nuclear type culture collection" should include material from every uranium mine, from every enrichment plant, and from every reprocessing facility. Ideally, samples should be routinely collected after every batch of material passes through the various stages from ore to finished product.

As soon as the samples are collected, they must be characterized in several appropriate labs in a number of states; after an incident is not when to begin sifting through hundreds or thousands of flasks of radioactive material for the first time. The results must be held confidential, because some nuclear weapons information could be contained within a small minority of them. Analyses done both before and after any event will have to be done in a doubleblind manner so the labs do not know the origin of the samples, nor even which samples are used as calibration standards, and which are real.

The whole will need to be coordinated by an international body such as the International Atomic Energy Agency (IAEA) or a purpose-built organization. Mohamed ElBaradei, IAEA director general, recently confirmed to us his agency would be willing to coordinate such a project and establish the sample gathering and cataloging system. We believe national laboratories as well as the IAEA's own laboratory in Austria must be involved in the lab work to give any results full credibility.

All this will require an international agreement, a "Prove Innocence Treaty," or PIT, which establishes a nuclear sample library and the organization to run it. We believe virtually all nations will sign up to such a treaty and faithfully adhere to it. After all, in a terrorist nuclear strike, the country that refused to cooperate in advance will be the first suspect.

If a state that supplies nuclear material to terrorists can be identified with reasonable certainty, and if the United States makes clear that state will suffer consequences appropriate to its culpability, we believe some deterrence will be restored to what is now an uncontrolled situation. The nature of the American response must be thought through and be appropriate; it need not be nuclear but can fall anywhere on a broad spectrum.

A country that knowingly and deliberately supplied the material might rate a military response; one that had massive stockpiles of uranium and plutonium, previously under loose controls, might get off more lightly if it could show it sought to recover missing material. There is no reason the United States or other potential victim countries need make public their contemplated reactions in advance, and every reason the potential victims should have well-thought-through contingency plans.

There is another benefit to a PIT. Providing samples to the PIT laboratory system could be written into safeguards agreements that cover states such as Iran that declare they wish to enrich or reprocess nuclear material purely for peaceful purposes.

We have focused on nuclear explosives because they present the greatest threat. But "dirty bombs" are likelier to be used. A broad program of nuclear forensics combined with an appropriate PIT library of samples will help track the perpetrators of a radiological attack.

We believe the risk of a nuclear strike by terrorists is real and think a good system to identify the culprit is the first, essential step toward reducing the prospects of such a catastrophe.

Peter D. Zimmerman, a nuclear physicist is professor of science and security in the War Studies Department of King's College, London, and is the former chief scientist of the Senate Foreign Relations Committee. Hans Binnendijk is the Theodore Roosevelt Chair and founding director of the Center for Technology and National Security Policy at the National Defense University. The opinions expressed are the authors' own and not necessarily those of the United States government or any organizations with which they are affiliated.

<http://www.washingtontimes.com/article/20070819/COMMENTARY/108190013/1012>

[\(Return to Articles and Documents List\)](#)