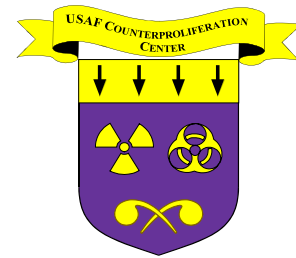


#135

19 Dec 2001

USAF COUNTERPROLIFERATION CENTER

# CPC OUTREACH JOURNAL



*Air University*

*Air War College*

*Maxwell AFB, Alabama*

*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 here at the Air War College 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 [www.au.af.mil/au/awc/awcgate/awc-cps.htm](http://www.au.af.mil/au/awc/awcgate/awc-cps.htm) for in-depth information and specific points of contact. Please direct any questions or comments on CPC Outreach Journal to Lt Col Michael W. Ritz, ANG Special Assistant to Director of CPC or 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.*

*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*

## CONTENTS

[Nuclear Sites Ill-Prepared For Attacks, Group Says](#)  
[Bush's Move To Void ABM Pact Has Democrats Looking For Options](#)  
[After ABM Treaty: New Freedom For U.S. In Different Kind Of Arms Control](#)  
[ABM Treaty May Be History, But Deterrence Doctrine Lives](#)  
[Army Reorganizes Chemical Weapons Disposal Oversight](#)  
[Anthrax Shot Considered For Civilians](#)  
[Pakistan Releases Nuclear Scientists For Ramadan's End](#)  
[Formal Talks On Nuclear Cuts To Begin Next Month](#)  
[Putin Sees Continued Alliance Despite The End Of ABM Pact](#)  
[American Aide Meets Chinese On U.S. Pullout From ABM Pact](#)  
[A New Arms Game](#)  
[Arms Control 'Twilight': Blessing Or Curse?](#)  
[Anthrax Vaccine Urged For Hill Staff](#)  
[State Dept. Hit By New Anthrax Scare](#)  
[Anthrax U.S.-Made, Officials Say](#)  
[Genetic Anthrax Match Not Seen As Clue To Sender](#)  
[CDC Urges Study of Smallpox](#)  
[U.S. Offers Anthrax Vaccine To Thousands](#)  
[After The ABM Treaty, More Trouble Ahead](#)  
[Army Proposes Unit To Destroy Other Weapons](#)  
[Letter Called Anthrax Hoax](#)  
[Anthrax's Dogged Detective](#)  
[Anthrax Probe Focusing on Labs](#)

[Bush Calls Putin on Arms Reduction](#)  
[Low-Yield Nuclear Device Considered](#)

New York Times  
December 17, 2001

## **Nuclear Sites Ill-Prepared For Attacks, Group Says**

By Matthew L. Wald

WASHINGTON, Dec. 16 — The security drills created by the Nuclear Regulatory Commission to ensure that reactor security guards can repel terrorists involve mock attacks by only three intruders, assisted by one confederate inside the plant, according to a nuclear safety group.

Even against such limited challenges, crews at nearly half the reactors have scored poorly on the drills, according to documents assembled by the group, the Committee to Bridge the Gap, based in California.

In an article in the January issue of *The Bulletin of the Atomic Scientists* ([www.thebulletin.com](http://www.thebulletin.com)), Daniel Hirsch, the president of Bridge the Gap, contends that the drills are unrealistic, especially in light of the terrorist attacks of Sept. 11, which involved 19 hijackers operating in four well-coordinated teams.

"The N.R.C. and the industry seem to be stuck in a time warp of a quarter of a century ago, and are simply hoping that the problem goes away," Mr. Hirsch said. He called for upgrading the level of assumed threat that is the basis for designing protections of nuclear power plants.

Federal regulations call for plants to be prepared to deal with "a determined violent external assault, attack by stealth or deceptive actions of several persons." The attackers are to be assumed to have light weapons, a four-wheel-drive vehicle and help from a knowledgeable accomplice in the plant.

But the regulations do not call for protections against attackers with aircraft or boats, even though many plants are on lakes, rivers or seashores or are in zones where flying is not tightly restricted.

The regulations require a minimum of five guards on duty at plants — enough to outnumber the attackers, by their calculations. The Nuclear Regulatory Commission's documents call this a matter of "conservatism," and the agency has said that the threat of a larger attack is "not credible."

Commission officials have said that the meaning of "several" attackers in their regulations is secret, but a 1976 policy paper identifies it as three. The number was made public in a 1982 decision about licensing the Pacific Gas and Electric Company's Diablo Canyon reactors.

At the regulatory commission, William M. Beecher, the director of public affairs, said he could not confirm that the number was three. "We cannot discuss safeguards information," Mr. Beecher said. "Regardless of what's in the public record, I can't break security."

In 1977, the regulatory commission found that "on the basis of intelligence and other relevant information available to the N.R.C., there are no known groups in this country having the combination of motivation, skill and resources to attack either a fuel facility or a nuclear power reactor." At the time, the agency said it would review the issue in the future.

Mr. Hirsch said the current regulations were obsolete long before Sept. 11. He cited an attack planned by the radical environmental group Earth First in 1986 against the three-reactor Palo Verde nuclear complex, in Arizona. The group tried to cut power lines leading to the plant. Had it succeeded, instruments controlling the reactors could have lost power.

Mr. Hirsch's group has tried repeatedly to get the commission to toughen its security standards. The agency did tighten its rule setting safeguards against truck bombs in 1993. That was a reaction to the terrorist bombing of the World Trade Center's parking garage and an incident in which a former mental patient sped past the guard shack at the Three Mile Island reactor in Pennsylvania and crashed his station wagon into the plant.

Mr. Hirsch said the commission had taken its action extremely late, ignoring a previous series of huge truck bomb attacks abroad.

But Mr. Beecher said that the commission was conducting a "top to bottom review" of security and that many states had called out state troopers or the National Guard to help secure the reactors.

[Return to Contents](#)

## **Bush's Move To Void ABM Pact Has Democrats Looking For Options**

By Miles A. Pomper, CQ Staff

Robert C. Byrd, D-W.Va., almost invariably is described as the "powerful chairman of the Senate Appropriations Committee," but you would not have guessed that on the night of Dec. 13.

Hours earlier, President Bush had announced that the United States was withdrawing from the 1972 Anti-Ballistic Missile Treaty, a landmark arms control pact of the nuclear age. An infuriated Byrd complained that Bush should have first consulted Congress or allowed the Senate to deliberate the issue.

"We're taking this major, major step without the smallest scrap of debate in the United States Senate," Byrd said. "Shutting Congress out of the decision-making process involving agreements among nations is a dangerous and corrosive course of action," the Senate stalwart added. "It effectively undermines the intent of the framers of our Constitution. Monarchs make treaties. American presidents propose treaties."

But in the end, even Byrd, who views himself as the custodian of the Senate's prerogatives, was forced to admit that "our hands are effectively tied" because a provision in the treaty allows the president to abandon the accord.

Byrd's protests were limited to a largely symbolic step: He cast one of two "nay" votes against the conference report on the fiscal 2002 defense authorization bill (S 1438), complaining that the final measure eliminated any legislative brakes on Bush's decision. (Story, p. 2990)

Byrd was not alone in his frustration. Key Democrats fumed at Bush's move, which they said would harm U.S. relations with Russia, anger European allies and potentially lead to an arms race in Asia - all while the United States was seeking to lead an international coalition against terrorism.

"I'm concerned because I think it could rupture relations with key countries and governments around the world," said Senate Majority Leader Tom Daschle, D-S.D.

Lawmakers acknowledged that in the short term, it would be politically difficult to challenge Bush, who is riding a wave of popularity as the commander in chief of the successful military operation in Afghanistan.

But Byrd and his Democratic allies may not be powerless forever. As the Bush administration seeks to transform missile defense from partially tested prototypes into a full-blown system, Congress' control of the purse and Byrd's position at the helm of the appropriations panel could prove pivotal.

"The greater emphasis is going to be on how much it's going to cost and how much security it's going to buy," said Senate Armed Services Committee Chairman Carl Levin, D-Mich. "Now it's a program that's going to be looked at like other systems."

### **A Practical Challenge**

"The Cold War is long gone. Today, we leave behind one of its last vestiges," Bush said in announcing his decision. While withdrawal from the treaty may eliminate some of the legal restrictions that prevented the United States from testing and deploying a missile defense, Democrats will have some basis for challenging the program.

The congressional debate "may become more focused on the workability of the system, some of the practical considerations," said Jeff Bingaman, D-N.M., a member of the Senate Armed Services Committee. "How much of the threat would it counter, if it works as advertised?"

Conservatives, the longtime backers of building a missile shield, hope Bush's announcement will lead to increased spending, particularly on developing those mobile systems explicitly prohibited by the treaty, such as sea-based defenses.

"It's going to take more money to accelerate the program," said James M. Inhofe, R-Okla., a member of the Senate Armed Services Committee.

But liberal Democrats, such as Senate Foreign Relations Committee Chairman Joseph R. Biden Jr. of Delaware, argue that any increased spending on missile defense is likely to come at the expense of other, more urgent national security priorities, including reorganizing the U.S. military to deal with new threats; reducing Russia's nuclear, chemical and biological stockpiles; and beefing up security at various U.S. domestic facilities.

"Do we embark on a multibillion-dollar, possibly trillion-plus-dollar program to defend against the one thing that the military says is the least likely threat to our security?" Biden told reporters Dec. 12.

John McCain, R-Ariz., a member of the Senate Armed Services Committee, said that funding for the program ultimately will be determined by how vital it is seen as a defense against terrorism.

"I think it's all going to be sorted out in terms of the terrorist threat, rather than this particular issue," McCain said.

## **Funding Changes?**

Depending on the overall size of the Pentagon budget, missile defense funds could be squeezed by competition with programs favored by the services or individual lawmakers.

A number of moderate Republicans, such as Ted Stevens of Alaska, ranking member on the Senate Appropriations Committee, and John W. Warner of Virginia, the ranking member on the Senate Armed Services Committee, do not expect major changes in funding because of Bush's decision.

"I don't think it will have any impact at all," Stevens said. "It's just a procedural issue."

Even before Bush's announcement, the House had begun to apply to missile defense the same technical and financial criteria it routinely applies to other Pentagon programs. The House version of the fiscal 2002 defense appropriations bill (HR 3338) would cut \$441 million from the \$8.3 billion Bush requested. The bill still has to be reconciled with a Senate version that essentially meets the request. (CQ Weekly, p. 2856)

A significant portion of the House cuts would come from programs favored by the same conservatives who wanted to jettison the treaty, programs that have yet to demonstrate much technical feasibility.

For example, the House bill would provide only \$70 million of the \$190 million requested to develop a laser-armed anti-missile satellite.

It also would cut \$96 million from the \$596 million requested for a long-range, anti-missile system based on the Navy's Aegis cruisers. Since 1995, many conservatives have argued that this program could be fielded more quickly than the land-based system begun by President Bill Clinton. But the House Appropriations Committee deleted funds for missiles intended to be used in that type of hurried deployment.

The bill also would force the Pentagon to overhaul development of a fleet of satellites designed to carry infrared telescopes to detect attacking missiles and help steer intercepting rockets. Arguing that the program, designated SBIRS-Low, was plagued with delays, technical shortcomings and cost overruns, the House eliminated the \$385 million requested for this program. Instead, the bill would provide \$325 million to explore alternative detection technologies.

The administration, in a Nov. 28 statement, said it strongly opposes the missile defense cuts.

Mary L. Landrieu, D-La., a member of the Senate Armed Services Committee, said she expects lawmakers to put greater emphasis on technological criteria in the future.

"You can't develop a system faster than the technology will allow, so even if you don't have a political limitation, you have a technical limitation," Landrieu said.

In fact, many Democrats and arms control groups argue that it is foolish to spend so much money on a program in which preliminary testing has produced a mixed record.

But Republicans counter that efforts to comply with the treaty were needlessly restraining U.S. attempts to test the best alternatives.

"If we get out of the ABM treaty, we can get the best missile defense system instead of trying to go through contortions to comply with the treaty," said Senate Armed Services Committee member Jeff Sessions, R-Ala. "We can study the whole panoply of possible options."

In his announcement Dec. 13, Bush made much the same point.

"I have concluded the ABM treaty hinders our government's ability to develop ways to protect our people from future terrorist or rogue-state missile attacks," he said.

Administration officials concluded that trying to reach agreement with Russia to amend the treaty and allow such testing was not feasible.

"In order to have a flexible testing program, you must be able to go in directions in which you have not planned," a senior administration official said. "And we simply couldn't get there by negotiating strict parameters. That would have put us into a box in which we would have more differences than areas of agreement with the Russians on this."

## **Testing Programs**

Pentagon officials have telegraphed Bush's decision for months, with Defense Secretary Donald H. Rumsfeld warning in October that the missile defense testing program was "going to bump up against the treaty."

That month, Rumsfeld deferred tests that he said could have violated the treaty, shortly before Bush met with Russian President Vladimir V. Putin to discuss revisions to the accord, among other issues. (CQ Weekly, p. 2554)

The deferred tests would have involved use of an Aegis radar aboard a warship to track a long-range missile; its purpose would be to assess the feasibility of modifying the Navy's fleet of ships to supplement other anti-missile weapons.

Pentagon officials had concluded that plans to build an additional testing facility in Alaska also could violate the accord. The testing range would include five missile silos on Kodiak Island and a command center and five missile silos at Fort Greely on the Alaskan mainland, connected to an upgraded radar at Shemya Island.

While additional testing facilities of this type might be allowed under the treaty, Pentagon officials have said that they might deploy the system on an emergency basis by 2004, which would have been a violation of the accord. Democrats and arms control groups argued that those steps were unnecessary given the immaturity of missile defense technology. Instead, they said the administration intentionally scheduled the tests to force a showdown over the treaty.

"There is a lot more fanfare, a lot more interest in bumping up against the treaty than in trying to help find a system that works," said Sen. Jack Reed, D-R.I.

Still, lawmakers and outside experts agree that Bush's decision marks a historic milestone. By withdrawing from the treaty, Bush crystallized a shift in both U.S. strategic weapons policy and international relations.

### **Democratic Warnings**

Since the start of the Cold War, U.S. and Russian nuclear strategy has been based on deterrence: the view that each side would not use its massive arsenals of nuclear weapons as long as it knew that any attack would be met with a devastating counterattack. The ABM treaty was the cornerstone of an arms control regime built on this strategy. Democrats argue that the same strategy that prevented a single nuclear weapon from being fired in the Cold War is the best guarantee against a future conflagration.

"This is a terrible decision for our country," said Max Cleland, D-Ga., a member of the Senate Armed Services Committee. "This can't help us one iota with our security."

Biden warns that Bush's plans to deploy a national missile defense could sour U.S. relations with a number of countries around the world, from Russia to China.

Moscow is less likely to cooperate on a number of issues, including U.S. concerns about the proliferation of missile and nuclear technology to Iran, Biden said.

Beijing is likely to accelerate the modernization of its nuclear force, fearing that its small arsenal of intercontinental ballistic missiles would not be enough to overwhelm U.S. defenses. That could help spark an Asian arms race, according to Biden.

"I suspect we will see that within the next five years the Chinese arsenal of ICBMs will be considerably larger than it is now, considerably larger than it would have been, and that is going to put incredible pressure on India and Pakistan," Biden said, and he added, "eventually there'll be a debate in Japan about whether they should be a nuclear power."

Putin reacted mildly to Bush's decision, calling withdrawal from the treaty "mistaken," but saying that it should not threaten overall U.S.-Russia relations.

Bush also offered to begin strategic talks with Beijing to allay Chinese concerns.

### **Reagan's Vision Revisited**

Ever since President Ronald Reagan proposed his Strategic Defense Initiative in 1983, Republicans have longed for a system that would make the United States invulnerable to a missile attack.

Reagan's ambitious plan for space-based battle stations, which critics ridiculed as "Star Wars," was never realized, and Republican efforts to turn missile defense into a political issue met with public indifference. In his two terms, President Bill Clinton could leave development of a program on the back burner in a post-Cold War era.

Several events in the late 1990s, however, sped up development of a system, setting the stage for Bush's decision. In 1998, a panel of experts led by Rumsfeld, warned that Iran and North Korea could have missiles within five years that would be capable of reaching the U.S. mainland. North Korea tested a medium-range missile over the Pacific that year. (1998 Almanac, p. 8-17)

The following year, Congress cleared and Clinton signed legislation (PL 106-38) declaring U.S. intentions to deploy a national missile defense as soon as technologically feasible. Citing technical problems and diplomatic opposition, Clinton ultimately left that decision to his successor. (1999 Almanac, p. 9-36)

During the 2000 presidential campaign, Bush made clear that testing and deploying such a system was one of his top national security priorities. Opposition from Russia, European allies, China and congressional Democrats failed to sway Bush.

The Sept. 11 terrorist attacks made it easier for the president to argue his case, with Bush portraying missile defense as another element of his overall plan to protect the nation.

"We know that the terrorists, and some of those who support them, seek the ability to deliver death and destruction to our doorstep via missile," Bush said Dec. 13. "We must have the freedom and the flexibility to develop effective defenses against those attacks."

Said Sen. Byron L. Dorgan, D-N.D.: "Sept. 11 gave a boost to all these defensive systems."

### **Arsenal Cuts**

While the response from Russia on the ABM Treaty was muted, senior Bush administration officials indicated that they would be willing to yield to Moscow's demands that proposed cuts in both countries' nuclear arsenals be codified, with appropriate verification and enforcement mechanisms.

Bush has said that the United States intends to cut its arsenal to between 1,700 and 2,250 nuclear warheads. Putin announced Dec. 14 that he would cut his arsenal to between 1,500 and 2,200 warheads. Stuck with an aging arsenal it cannot afford to replace, Russia has long sought such reductions. Currently, the United States has more than 7,000 warheads and Russia has more than 6,000.

"The United States and Russia have developed a new, much more hopeful and constructive relationship," Bush said. "We are moving to replace mutually assured destruction with mutual cooperation."

European allies, reluctant to criticize Bush as they participate in the global anti-terrorism campaign, have also muted their criticism.

That has left Republicans celebrating and Democrats grasping for a strategy to counter Bush.

"The critics vowed the world's response would be hostile and provocative," said Jon Kyl, R-Ariz., a leading missile defense advocate and a member of the Senate Intelligence Committee. "Instead, it has been measured and restrained."

Democrats warned that problems could emerge over the long term.

"It's too early to tell what kind of issue it's going to be until we consider all of the ramifications and the reaction from Russia, China and our allies," Daschle said.

[Return to Contents](#)

New York Times  
December 15, 2001  
Pg. 8

## **After ABM Treaty: New Freedom For U.S. In Different Kind Of Arms Control**

By David E. Sanger

WASHINGTON, Dec. 14 -- When President Bush stepped into the Rose Garden on Thursday morning, he did far more than announce America's exit from the 1972 Antiballistic Missile Treaty. He buried an entire era of arms control.

Whether it deserved to die, or was killed off prematurely, will be debated endlessly by ideologues and experts who have sharply different views about the wisdom of walking away from accords that some argue have helped prevent nuclear war for almost 30 years.

But the most interesting arguments in Washington, Moscow and Beijing this week are less about the wisdom of what Mr. Bush did than about what comes next. For while nuclear confrontation between superpowers seems more unlikely than ever, the probability of nuclear, biological or chemical calamity delivered by stray missile, cargo ship or mail seems greater than ever.

And that requires a very different kind of arms control, taking forms Mr. Bush has already begun to consider.

"Clearly we are not against all arms treaties," the president's national security adviser, Condoleezza Rice, said several months ago, ticking off a short list of accords Mr. Bush thinks are a good idea, chiefly the Nuclear Nonproliferation Treaty. "But the threats have changed and with them the definition of our interests has to be adjusted."

Gone forever, in the Bush view, is the age in which American negotiators and their Russian counterparts haggled for months or years over multiple warheads and megatonnage, throw-weights and basing modes. Mr. Bush recently recalled how, in years past, watching television news meant "seeing that people would sit at tables for hours and hours and hours trying to reach reduced levels of nuclear armament."

It is a waste of time, the president argues. But the deeper problem for Mr. Bush is that he wants freedom -- freedom to test new defensive technologies, freedom to cut America's offensive arsenal to the minimum levels he considers safe for Americans, without regard for what other countries think.

The ABM Treaty was all about constraints, and that is why it became a lightning rod for conservatives and for proponents of missile defenses. They knew there was no way to test, much less deploy, an effective missile defense system without violating its terms. But only when relations with Russia warmed over the past few years did those

who supported keeping the old structure in place begin to concede Mr. Bush's point that the treaty is a "relic" born of a bygone era of confrontation.

"The problem isn't Russia and hasn't been for a long time," said James Steinberg, President Bill Clinton's deputy national security adviser. "Everyone hopes that one day Russia and its nuclear arsenal will be viewed the way we view Britain's or France's. But we're not there yet, and so many of the arguments are about what kind of transitional arrangements we need."

President Vladimir V. Putin told the Russian people on television on Thursday that the demise of the ABM Treaty is not likely to change the strategic balance between Russia and the United States. He said he plans to retain 1,500 to 2,200 nuclear missiles -- about the numbers Mr. Bush announced last month for the American arsenal -- which is enough to overwhelm any missile defenses now on the drawing board.

The mutual reduction is also a significant advantage for Mr. Putin, because Russia cannot afford to sustain a large arsenal. Senior Russian officials have declared the ABM Treaty "strategically irrelevant."

In short, Russia is the easier part of the equation. The far harder issues -- arguably more difficult now that Mr. Bush has shown his willingness to scuttle a treaty -- involve keeping the lid on established nuclear powers like China and new nuclear ones like Pakistan. China has complained about the American plans to build missile defenses and warned it would build up its nuclear stockpile in response. It is feared that Pakistan's stockpiles could fall into the hands of disgruntled military officers or Islamic fundamentalists with ties to Al Qaeda.

And then there are concerns about countries like Iraq or North Korea, or nuclear-armed terrorists, who dream of delivering nuclear weapons that arrive with no return address.

The very existence of the ABM Treaty for the past 29 years meant that China did not have to worry that either Washington or Moscow would construct a missile defense system that would neutralize its minimal force of 20 or so intercontinental ballistic missiles. Long before Mr. Bush came to office, China said it planned to "modernize" that force, meaning it would slowly become bigger and more accurate.

But now that Mr. Bush is free to build missile defenses, China is likely to speed up that effort -- or so the American intelligence community warned a year ago. "That's the real problem here," said Senator Joseph R. Biden, the chairman of the Senate Foreign Relations Committee. "China will speed up. And I just saw the Indian ambassador, who nodded and said that would put pressure for India to do the same. And then, of course, the Pakistanis match the Indians. Pretty soon, you've started another arms race."

Perhaps with that in mind, Mr. Bush called President Jiang Zemin of China on Thursday and offered to start up broad strategic talks. That doesn't mean talks on a treaty, the administration says, but on making sure each country understands the other.

"It's about a lot more than offensive reductions on our part, and on what they have said for a long time will be a build-up on their part," said Richard L. Armitage, the deputy secretary of state, in an interview today. "It'll be a bit on missile defenses, some on conventional weapons, some about not doing things that heighten tensions with Taiwan."

Pakistan represents a different kind of problem. It has never signed a major nuclear treaty, including the Nuclear Nonproliferation Treaty. It has always kept out international inspectors. Pakistani officials say that just as Mr. Bush wants freedom to test his defense systems, they want freedom to test and build their nuclear answer to India's arsenal.

Mr. Armitage said today that the administration's goals with Pakistan were basic. "We're a long way from talking" about the nonproliferation treaty, he said. "We are interested in making sure their nuclear programs are secure, that their materials are properly stored, among other things."

While Mr. Armitage was too diplomatic to say so, those talks have become particularly urgent since the Central Intelligence Agency began identifying Pakistani nuclear scientists of dubious loyalties. And it means that the United States is counting on its ability to pressure Pakistan politically, rather than fitting it into a treaty framework.

Then come Iraq and North Korea, where Mr. Bush demands that nuclear inspectors must be allowed free rein. So far, both countries have refused. And that may set up the true post-arms control, post-Sept. 11 confrontation: Dealing diplomatically, and perhaps militarily, with countries that could supply or launch nuclear weapons long before Mr. Bush's missile defenses are ready.

#### **A LOOK BACK: Arms Control, During and After the Cold War**

Some of the main nuclear arms control agreements between the United States and the Soviet Union and Russia. The date each agreement entered into force is in italics.

*AUGUST 1963* -- Limited Test Ban Treaty Prohibits nuclear testing or any other nuclear explosions in the atmosphere, in outer space and under water. (*October 1963*)

*JANUARY 1967* -- Outer Space Treaty Prohibits sending nuclear weapons into Earth orbit, placing nuclear weapons on celestial bodies or stationing them in outer space. (*October 1967*)

JULY 1968 -- Nuclear Nonproliferation Treaty Prohibits the transfer of nuclear weapons to other countries and prohibits helping countries without nuclear weapons to make or acquire them. (March 1970)

MAY 1972 -- Strategic Arms Limitation Treaty (SALT I) Interim agreement to freeze existing aggregate levels of American and Soviet strategic nuclear missile launchers and submarines. (October 1972)

MAY 1972 -- Antiballistic Missile Treaty Bans space-based defensive missile systems and limits the United States and Soviet Union to one ground-based defensive missile site each. (October 1972)

JULY 1974 -- Threshold Test Ban Treaty The Soviet Union and the United States agree to limit underground nuclear weapons tests. (December 1990)

JUNE 1979 -- Strategic Arms Limitation Treaty (SALT II) The first formal strategic arms treaty sets an initial overall limit of 2,400 intercontinental ballistic missile launchers, submarine-launched missiles, heavy bombers and air-to-surface missiles. (Never entered into force; was superseded by Start I.)

DECEMBER 1987 -- Intermediate-Range Nuclear Forces Treaty Provides for the dismantling of all Soviet and American medium- and shorter-range land-based missiles and establishes a system of weapons inspection to guard against violations. (June 1988)

JULY 1991 -- Strategic Arms Reduction Treaty (Start I) Reduces the number of American and Soviet long-range nuclear warheads to 6,000 from 11,000 to 12,000. (December 1994)

JANUARY 1993 -- Strategic Arms Reduction Treaty (Start II) Reduces the superpowers' arsenals to 3,000 to 3,500 warheads each. (Final implementation awaits United States ratification of two related agreements.)

OCTOBER 1999 -- The United States Senate rejects the Comprehensive Test Ban Treaty, which President Clinton signed in September 1996. The treaty has been signed by 164 nations and ratified by 89.

DECEMBER 2001 -- President Bush announces that the United States will withdraw from the Antiballistic Missile Treaty.

*(Sources: Arms Control Association; State Department, Congressional Research Service; NATO)*

[Return to Contents](#)

Washington Post  
December 16, 2001  
Pg. 37

## **ABM Treaty May Be History, But Deterrence Doctrine Lives**

By Steven Mufson, Washington Post Staff Writer

At the confirmation hearings for Under Secretary of State for Arms Control and International Security Affairs John R. Bolton, Sen. Jesse Helms (R-N.C.) had these words of advice about the 1972 Anti-Ballistic Missile Treaty:

"John, I want you to take that ABM Treaty and dump it in the same place we dumped our ABM Treaty co-signer, the Soviet Union, and that is to say, on the ash heap of history," Helms said with a chuckle.

Less than nine months later, the ABM Treaty is, indeed, destined for the ash heap of history. On Thursday, President Bush formally announced that the United States would withdraw from the landmark agreement to allow ambitious testing of missile defenses.

Yet, many arms control experts say the doctrine of nuclear deterrence, or mutually assured destruction, that the treaty enshrined remains alive and well. It has even been a centerpiece of the Bush administration's efforts to win Russian acceptance of missile defense tests; officials in Washington have repeatedly assured their counterparts in Moscow that U.S. missile defenses will not be able to block a full-scale Russian nuclear strike.

The United States has about 5,950 strategic nuclear warheads capable of striking Russia, and Russia has about 5,800 strategic nuclear warheads capable of hitting the United States. Because military planners on each side fear the other might strike, some of those weapons are always on alert, capable of being fired within minutes -- and that does not appear likely to change anytime soon.

Even though both countries have promised to reduce their arsenals and Bush spoke last week about replacing mutually assured destruction with "mutual cooperation," the militaries on both sides remain under orders to maintain the threat of annihilation.



"Our force is configured to hold Russian nuclear and economic targets at risk," said Joseph Cirincione, director of the nuclear nonproliferation project at the Carnegie Endowment for International Peace. "Even while we're talking to President [Vladimir] Putin, we're targeting his office. It's a fact of life."

The nuclear balance of terror has been remarkably stable. Even at the height of the Cold War, Russia and America tried to avoid coming to direct blows. Now, as some American critics of the Bush administration's missile defense plan argue that it won't work, some Russian critics of the plan worry that it might.

Russian military planners fear that fewer than 100 of Moscow's warheads would be able to survive an American first strike and that a leap forward in missile defense technology might enable the United States to defend itself against that rump nuclear force, according to Bruce Blair, president of the Center for Defense Information, a Washington think tank.

"So they look to the future and the day when the U.S. might deploy a couple of hundred interceptors or so, and they do worry that their weakened nuclear force would be neutralized by even a thin U.S. system," Blair said.

Moreover, Russia's array of satellites and radars designed to warn of a nuclear attack is aging and losing reliability.

"This probably adds to the almost daily instability," said John Rhinelander, a lawyer who helped negotiate the ABM Treaty under President Richard M. Nixon. "The Russian early warning system is full of holes, and Russia will keep large numbers of ICBMs on hair-trigger alert. And I don't see how we'll improve that situation if we keep throwing sand in their face."

Some arms experts also argue that pulling out of the ABM Treaty could encourage Russian hard-liners who want to renounce parts of the START II agreement. Under that pact, Russia is supposed to eliminate 100 SS-18 missiles, with 10 warheads each, and to reduce the number of warheads on each of its 100 SS-19 missiles from six to one by 2007. Some Russian officials have suggested they might keep the multiple warheads to improve the chances of overwhelming any U.S. defenses.

Putin might have been better off if he had reached a deal with the Clinton administration, something senior Clinton administration officials tried to impress upon him. But the Russian president, believing either that he had a better chance of a deal with Bush or that Bush would kill any deal made with Clinton, held out.

"What did the United States have to do to the ABM Treaty to make sure that we were dealing with new [missile] threats? The answer is: There's a whole lot you can do without breaching the ABM Treaty," said Strobe Talbott, who tried to negotiate modifications in the ABM Treaty while serving as Clinton's deputy secretary of state. "The other question is: Do you think that bilateral negotiated agreements between the United States and Russia with the force of law are still useful or not? The Clinton administration felt they were very useful."

The Bush administration places higher priority on developing a layered missile defense system. Even Colin L. Powell, regarded as the Bush official most reluctant to withdraw unilaterally from the treaty, stood behind Bush in May 2000 when the then-presidential candidate said he would pull out of the ABM Treaty if Russia did not allow missile defense tests.

More generally, the Bush administration tends to view global treaties with suspicion. Perhaps nothing indicated that better than the choice of Bolton to lead negotiations on arms control.

Bolton summarized his philosophy in an article last fall in the University of Chicago Journal of International Law that divided the policy world into "Americanists" and "globalists." He said globalists -- "each tightly clutching a favorite new treaty or multilateralist proposal" -- want to bind the United States in a web of agreements on everything from arms to the environment to human rights, while Americanists seek to preserve U.S. sovereignty and policy flexibility.

"Every time America is forced to bend its knee to international pressure," wrote Bolton, who has traveled to Moscow eight times this year for ABM talks, "it sets a significant, and detrimental, precedent for all of the others."

Far better, he has argued in congressional testimony and speeches, would be an approach that relies on informal agreements, glorified handshakes between leaders like Bush and Putin. He has said that arms control accords became floors, rather than ceilings, on numbers of nuclear weapons.

Yet the Bush administration has bowed to the need for some written agreements. Although the president's national security adviser, Condoleezza Rice, said new targets for levels of strategic nuclear weapons would be set informally, Powell is now negotiating a formal, written agreement with verification measures.

[Return to Contents](#)

# Army Reorganizes Chemical Weapons Disposal Oversight

By Matthew Creamer, Star Staff Writer

The Army has shifted oversight of its chemical weapons disposal program from one high-ranking official to another, a shuffle welcomed by those who have lambasted the program for time and cost overruns and a lack of accountability.

The chemical demilitarization program previously had been divided between two Army offices. Wednesday's move consolidates responsibilities for the program under the Assistant Secretary of the Army for Installations and Environment.

While the Army bills this shift as a smoother way of doing business, others say it's an acknowledgment of long-standing problems within the program.

"(The announcement) is a signal from the Army that they recognize the chemical demilitarization program is fundamentally broken," said Sen. Mitch McConnell, R-Kentucky, one of the program's harshest critics.

Last spring, McConnell, along with Sen. Richard Shelby, R-Tuscaloosa, called for a restructuring of the program. They cited a sense of mistrust in the communities impacted by the program, a result of what they considered misleading testimony and finger-pointing on the part of its leadership.

In May, after a flurry of letters from Alabama politicians, Secretary of Defense Donald Rumsfeld moved the chemical demilitarization program into his office.

Shelby praised this week's move.

"This decision indicates the Army's recognition that the chemical demilitarization program needs day-to-day oversight and leadership," Shelby said. "This is absolutely a positive development for the program."

What the development means for Anniston, where more than 2,000 tons of chemical munitions are to be incinerated in a process scheduled to begin next summer, is unclear.

"The impact should be higher up on the chain of command as opposed to an immediate change in Anniston," said Mike Abrams, spokesman for the incinerator.

Joseph Summers, a legislative aide to Shelby, said a recent meeting with Dr. Mario Fiori, the assistant secretary now charged with oversight, was productive.

"We feel very good about most of the things he had to tell us, especially from a safety standpoint," he said.

Established in 1985, the program also operates disposal facilities in Oregon, Arkansas, Indiana and Maryland.

Future sites will be in Kentucky and Colorado.

*Matt Creamer covers rural life for The Anniston Star.*

[Return to Contents](#)

New York Times  
December 16, 2001

## Anthrax Shot Considered For Civilians

By Warren E. Leary

WASHINGTON, Dec. 15 -- The government is considering making the anthrax vaccine that is now used by the military available to postal workers and others at high risk of exposure to the deadly bacteria, federal health officials said today.

Tommy G. Thompson, the secretary of the Department of Health and Human Services, could make a decision on expanded anthrax vaccinations next week, officials said after a forum, arranged by the Centers for Disease Control and Prevention, on what to do next to prevent inhalation anthrax in people who have already taken antibiotics because of possible exposure.

The Defense Department has agreed to turn over 220,000 doses of vaccine to the health department and the Food and Drug Administration has given the disease centers permission to use the vaccine in an experimental treatment program.

Since early October, more than 32,000 persons have been given initial courses of antibiotics to counteract possible infections of anthrax from contaminated mail, officials said. Of these, about 10,000 were advised to continue taking antibiotics for 60 days because they were most likely to have been exposed. Five people have died of inhalation anthrax since the outbreak began.

Dr. D. A. Henderson, director of the office of public health preparedness at Health and Human Services, said candidates for the vaccine would be those with possible exposure to large amounts of anthrax spores.

"We are concerned with people who may have had a very heavy dose," Dr. Henderson said after the meeting. This group, he said, probably numbers about 3,000.

Once in the body, the spores are believed to germinate into disease-causing bacteria within 60 days. But because antibiotics kill the bacteria, not the spores, there are concerns that some spores might remain after the 60-day treatment and turn deadly, experts said.

Dr. Anthony S. Fauci of the National Institutes of Health said that there was not yet a consensus among health experts on whether to offer an anthrax vaccine to civilians because the antibiotics treatment is considered sufficient. If the vaccine becomes available, patients will have to make their own decision about taking it, he said.

If the vaccine, which previously has been used only by the military and only for protection against a future exposure, becomes available for civilians, its use as a treatment after exposure would be considered experimental and require special informed consent agreements from the patients, said Dr. Katherine Zoon, an official at the Food and Drug Administration.

Animal-test data suggests that the vaccine should be given in three doses over a month's time, while the patients are getting an additional 30-day course of antibiotics to ward off any potential disease before the vaccine takes effect, experts said at the meeting.

About 2.1 million anthrax vaccine doses have been administered to 521,000 members of the military with few severe adverse effects, experts said. While most reactions are mild, including redness, itching and swelling at the inoculation site, severe allergic reactions have been seen in 1 in 100,000 cases, they said.

Dr. Ivan Walks, health commissioner for the District of Columbia, said any vaccine program should be accompanied by education and communication programs directed at various economic and racial groups. He reminded participants that when antibiotics were recommended early in the crisis, some postal workers voiced concerns that they were not tested and treated as quickly as workers on Capitol Hill who were exposed to anthrax from tainted mail in the offices of senators.

Al Ferranto of the National Association of Letter Carriers also cautioned the policy makers to consider how any vaccine recommendation might affect postal workers, who tend to be older than soldiers, with some having diabetes and other medical problems. He asked health authorities to look at "the big picture," including how a vaccine program might hurt confidence in the postal system.

[Return to Contents](#)

Washington Post  
December 16, 2001  
Pg. 27

## **Pakistan Releases Nuclear Scientists For Ramadan's End**

By Kamran Khan, Special to The Washington Post

KARACHI, Pakistan, Dec. 15 -- Two retired nuclear scientists detained two months ago for allegedly sharing Pakistan's nuclear secrets with Osama bin Laden were released today to spend the Muslim festival of Eid al-Fitr with their families, senior Pakistani officials said.

Intelligence agents arrested Sultan Bashiruddin Mahmood and Abdul Majid in Islamabad in October, soon after they returned from the southern Afghan city of Kandahar. They have since been held for questioning at an undisclosed location.

The scientists initially said they had been holding talks relating to their charitable endeavors in Afghanistan. But last month, the men confessed to having had several meetings with bin Laden and other top al Qaeda leaders during which they provided detailed responses to bin Laden's technical questions about the manufacture of nuclear, biological and chemical weapons, Pakistani officials familiar with the interrogations said recently.

Pakistani officials said neither scientist had been associated with Pakistan's weapons construction program, and they were satisfied the information given to bin Laden did not result in the production of any weapons.

"Through their cooperation with investigators, the scientists won an Eid reunion with their families," said a Pakistani intelligence official familiar with the investigation. "[The] probe against these scientists is by no means over, but we are satisfied that their contact with bin Laden didn't result in any improvement in al Qaeda's firepower."

Senior Pakistani officials said that in the absence of specific charges being filed, they had received hints from the judiciary that higher courts might soon approve motions filed by the scientists' relatives for their release.

"They have promised to return back to us soon after the Eid holidays," said a Pakistani official. Eid is the three-day holiday marking the end of the Muslim holy month of Ramadan.

Pakistani officials have said that the two scientists, along with four associates from their charity also released from a safe house in Islamabad today -- including a retired army general -- would not be allowed to leave the capital until the investigation was completed.

The officials said the United States had been informed about the decision to release the men. U.S. officials have frequently raised concerns about the safety of Pakistan's nuclear program and the reliability of some of its scientists. Pakistan is believed to have the materials to assemble 30 to 40 warheads and has test-fired intermediate-range missiles that potentially could be used to launch the warheads, according to intelligence reports and nuclear experts. Pakistan and neighboring India tested underground nuclear devices in 1998, and the two countries are viewed by many security experts as the world's most worrisome nuclear flash point.

[Return to Contents](#)

Washington Post  
December 18, 2001  
Pg. 24

## **Formal Talks On Nuclear Cuts To Begin Next Month**

### ***Rumsfeld, Russian Counterpart Stress Cooperation Despite U.S. Move to Quit ABM Treaty***

By Vernon Loeb, Washington Post Staff Writer

BRUSSELS, Dec. 17 -- Putting differences over the Anti-Ballistic Missile Treaty behind them, Defense Secretary Donald H. Rumsfeld and Russian Defense Minister Sergei Ivanov announced today that both countries would begin formal talks in January on steep cuts in strategic nuclear weapons.

The two defense leaders, here for NATO talks starting Tuesday, traded warm remarks at a joint news conference and stressed cooperation on a variety of issues after meeting for the first time since President Bush announced his decision to withdraw from the ABM Treaty.

Pressed by reporters on the ABM issue, Ivanov expressed disappointment in Bush's decision, calling it a "mistake" that could have global repercussions. "Russia is not concerned or afraid regarding its military security," he said. "But we are very much concerned how other countries will behave and whether they will comply or not to any international agreement -- thinking logically, if one country doesn't comply, why should we?"

In his opening statement, Ivanov said nothing about the treaty and noted later that it did not come up in the closed-door discussions. During the news conference, he stressed that Moscow remained committed to "reliable and predictable" security relations with Washington. He said his government's highest priority in the talks beginning next month is to nail down commitments both sides have made to slash their 6,000-warhead arsenals by about two-thirds.

"Both levels of reductions and the time frame of those reductions will be discussed, as well as the issues of verification and transparency," he said.

Rumsfeld was equally optimistic. "One way to characterize what's happened in the United States-Russian relationship," he said, "is the way President Bush did -- that we're moving from 'mutual assured destruction' to mutual assured cooperation."

Bush's decision to withdraw from the ABM Treaty six months from now came after months of failed negotiating aimed at fashioning a compromise that would have enabled the Bush administration to pursue its ambitious program for testing and deploying a national missile defense shield, which the treaty prohibits.

Calling the treaty a "relic" of the Cold War, Rumsfeld and other senior administration officials hoped to convince their Russian counterparts that mutual withdrawal from the pact was in the best interests of both nations. But Russian officials made clear they had no intention of abandoning the treaty, the cornerstone of security relations between the two countries for three decades.

The treaty was negotiated by Presidents Richard M. Nixon and Leonid Brezhnev in 1972 to prohibit nationwide defenses against long-range missiles and thereby curb each side's efforts to build more and more missiles to overwhelm those defenses.

Bush administration critics say scrapping the treaty and pursuing national missile defenses could lead to a new arms race. Rumsfeld, during a swing through Central Asia before arriving here, argued that discussions aimed at scrapping the treaty have produced precisely the opposite effect, bringing new U.S.-Russia understanding on the need to reduce weapons.

Indeed, as Bush announced his decision to withdraw from the ABM Treaty last week, Russian President Vladimir Putin proposed that the two powers reduce their strategic nuclear arsenals to between 1,500 and 2,200 warheads. Putin's numbers overlapped with a proposal Bush put forth last month to reduce the U.S. arsenal to between 1,700 and 2,200 warheads.

After talking today for two hours about these cuts and other issues, Ivanov and Rumsfeld promised to continue discussions Tuesday at NATO headquarters here, when defense ministers from NATO's 19 member nations begin two days of formal meetings. Ivanov will represent Russia in separate talks with NATO countries aimed at pursuing ways to further Moscow's participation in alliance affairs.

Rumsfeld went out of his way today to endorse the idea, denying recent news reports that he and other Pentagon officials had tried to scuttle a framework for greater Russian participation called "NATO at 20."

"Some weeks and months ago I sat down with the minister in Moscow and, without prompting, proposed some ways Russia and NATO might cooperate more fully," Rumsfeld said.

He and Ivanov agreed that the U.S.-led campaign in Afghanistan was going well, but that it was far from over, with pockets of Taliban and al Qaeda fighters hidden throughout the country.

[Return to Contents](#)

New York Times  
December 18, 2001

## **Putin Sees Continued Alliance Despite The End Of ABM Pact**

By Michael Wines

MOSCOW, Dec. 17 — In a lengthy interview published today, President Vladimir V. Putin cast the Bush administration's withdrawal from the 1972 Antiballistic Missile Treaty as a difference between friends that should not, if handled properly, crush "the spirit of partnership and even alliance" between the two nations.

The remarks, published in the Financial Times of London today, were a remarkably measured response to an American decision that has inflamed even many of Russia's pro-Western politicians.

Mr. Putin said Russia would not expand its nuclear forces in response to the White House action, as some experts here have suggested it might. Rather than retaliate diplomatically, he said, the Kremlin hopes to convince the United States through negotiations that a successor to the treaty is essential to contain the threat of a global arms race.

In Brussels today, Mr. Putin's defense minister, Sergei B. Ivanov, said that the end of the treaty did not threaten Russia's security, but raised questions about how other nations would now treat their international treaty obligations. There were other muted signs of Russian unhappiness as well.

In Moscow, the deputy foreign ministers of Russia and China met to discuss cooperation on strategic issues, including "the vital significance for the world's peace and security of preserving the existing systems of international arms control," China's official New China News Agency reported today.

Russia and China signed a treaty in July loosely committing the two nations to coordinate their responses to any American withdrawal from the Antiballistic Missile Treaty and to oppose a global system dominated by a single power — that is, the United States.

Many private experts saw the Russia-China treaty then as a signal to the United States by both nations that their views on arms control and other global issues would be ignored at America's peril.

And in a Sunday television interview, Mr. Putin's adviser on strategic issues, Igor Sergeev, the former defense minister, called it "imperative" to establish limits on the United States' proposed missile defense, particularly to ensure that it was not based in space. "In this case," he said, "any restrictions will simply be words. With a departure into space, it will be difficult to devise any restrictive framework."

In a wide-ranging interview, Mr. Putin made the same point, warning that "if the leading nuclear powers embark on this road, we will not be in a position to say no to any other country."

As had other Russian officials, Mr. Putin said he was puzzled by what he called the United States' refusal to bargain over changes in the missile treaty that might have preserved an arms-control regime while still permitting American tests of a limited missile defense.

"We asked to be given specific parameters that stood in the way of U.S. desires to develop defensive systems and implement parameters," he said. "We were fully prepared to discuss those parameters. But nothing specific was given to us. We heard only insistent requests for bilateral withdrawal from the treaty. To this day I fail to understand this insistence, given our position, which was fairly flexible."

Mr. Putin seemed to suggest that the Kremlin was equally puzzled by the United States' reluctance to strike more than an informal agreement on a second major arms-control issue, the decision reached last month to reduce both nations' stocks of nuclear warheads to roughly 2,000 or below.

But even should that fail, a possibility Mr. Putin clearly left wide open, he insisted that Russia would not allow differences over arms control to sidetrack a developing strategic relationship with Washington.

"I hope that the arguments that we will use in our further negotiations with our U.S. partners will be convincing," he said. "But the most important thing that underlies any sort of agreement is the level of mutual trust, mutual confidence."

Asked whether failure to win a binding treaty on reducing nuclear warheads would damage that confidence, he replied: "It will depend on the way we develop our relations across the board. If relations between Russia and the West, Russia and NATO, Russia and the U.S. continue to develop in the spirit of partnership and even of alliance, then no harm will be done."

Mr. Putin warmly praised the efforts of Prime Minister Tony Blair of Britain to craft a role for Russia in devising NATO strategy. With Mr. Bush's support, Mr. Blair has proposed that Russia be given a near-equal seat in NATO deliberations on certain issues, perhaps including antiterrorism strategy.

[Return to Contents](#)

New York Times  
December 18, 2001

## **American Aide Meets Chinese On U.S. Pullout From ABM Pact**

By Elisabeth Rosenthal

BEIJING, Dec. 17 — A senior United States State Department official met with Chinese counterparts here over the last two days in what was described by the Americans as an effort to explain President Bush's recent decision to pull out of the Antibalistic Missile Treaty.

The trip by the assistant secretary of state for arms control, Avis Bohlen, underscores the importance that the Bush administration now places on maintaining good relations with China, which has sided with the United States in its war on terrorism.

China has long opposed the American plan to withdraw from the pact. China's reaction since the official announcement on Thursday has been critical but muted, expressing concerns that such a move could set off a new arms race.

In return, American officials told China that the United States withdrew from the pact in order to develop a missile defense system primarily to defend against states like North Korea. They have said China is not an intended target. China, which has only a small missile arsenal compared with the United States and Russia, has been worried that such a system could in effect neutralize its ability to defend its claims to Taiwan, which it considers Chinese territory.

After the State Department briefing, the Chinese Foreign Ministry issued a statement reiterating its earlier worries, stressing "the importance of safeguarding international military control and the disarmament system and the stability of global strategy in the current circumstances."

But China, which has worked hard in recent months to improve relations with the United States, clearly has not wanted to take the lead as the critic of the treaty decision, leaving that role to Russia. While Ms. Bohlen was here, other Foreign Ministry officials were holding talks on the same subject in Moscow.

"We hope the United States will earnestly take into account the opinion of the majority of the world's nations," the Chinese statement said.



The first six months of the Bush administration were marked by open hostility between Washington and Beijing, which was set off in part by the collision between an American spy plane and a Chinese military jet that was trailing it just off the coast of China.

[Return to Contents](#)

Newsweek  
December 24, 2001  
Pg. 34

## A New Arms Game

### *Bush scraps a treaty, ends an era, and Moscow ... shrugs. What just changed?*

By Christian Caryl

Vladimir Belous should be very disappointed. The former general, a veteran of the Soviet Union's elite nuclear-strike forces, has spent the better part of his retirement working to discredit U.S. plans for missile defense. At the behest of the Kremlin, Belous has treated foreign diplomats in Moscow to countless presentations about its perils. The small but energetic general used to explain in frightening detail why the White House push for a revised Star Wars system would lead to a "new arms race."

But something strange happened when the dreaded moment of truth finally arrived. In one stroke last week, President George W. Bush called an end to a 30-year era of arms-control treaties. Bush made good on a campaign promise and announced that the United States would withdraw from the antiballistic-missile treaty in six months—in order to test missile defense systems that are now prohibited. It was the first time any country had unilaterally abrogated an arms agreement since World War II. Yet Bush came away unscathed politically from what was once a hot-button issue—with the war on terror, "who's going to complain?" asked a former Clinton official—and even Belous was forced to search for a positive spin. "This is the best thing that could have happened," he said. Although he wasn't happy that Washington had withdrawn from the treaty, Belous believes that Russia will now win political points for seeming like a peacemaker.

How do we explain the striking sense of calm that permeated the Russian power elite last week? Russian weakness is a good place to start. There was nothing Moscow could have done to prevent Washington from pulling out of the 1972 treaty. Putin's generals have talked about mounting multiple warheads on existing missiles, perhaps to scare the United States into being more cooperative. But most Russian missiles already are "MIRVed," and Moscow simply doesn't have the money to retrofit its already rusty arsenal. On the other hand, the recent White House proposals for sharp cuts in offensive arms—what one Bush official described hopefully as "a deal in a sense" in exchange for Moscow's passivity on ABM—could save the Kremlin loads of desperately needed cash.

The money could be used by Moscow to gear up for more proximate threats. These include the militant Islamic rebellion in Chechnya and the internal weaknesses of a dilapidated economy. In return for Moscow's mild-mannered response on missile defense, Washington might lead a campaign to provide Russia with debt relief, and could also aid its bid to join the World Trade Organization. It could even invite wider Russian participation in NATO decision making. "Putin is after something bigger [than the ABM treaty]," says a senior U.S. administration official. "He's after a serious strategic relationship with the U.S."

Yet scrapping the treaty creates political problems for Bush elsewhere—especially across the Pacific. China's deterrent of a mere 20 or so ICBMs is potentially threatened by a viable missile defense system. And China, unlike Russia, could mount a missile-building drive that might provoke a new arms race with nuclear-armed India and Pakistan. To forestall just that, Bush called Chinese President Jiang Zemin last week, and the two agreed to schedule high-level talks soon.

The political wrangling, in any case, misses a larger question: does missile defense make sense for the United States? Many analysts think not. By conservative estimates, a limited missile shield will cost untold tens of billions of dollars. Yet the shield is still a theoretical abstraction; the latest test of a booster rocket failed last week. And it's becoming increasingly clear to some analysts, at least, that the big danger to America these days is not missiles, which have a return address—it's suitcase bombs and biological agents. And even while Bush hints at rewarding Russia on the ABM issue, Moscow still refuses to cooperate fully on nonproliferation matters. The danger for Bush is that with his attention—and budgetary dollars—focused on the skies above, the real threat to Americans could arrive by another means.

*With Andrew Nagorski, Roy Gutman and Tamara Lipper in Washington and Jeffrey Bartholet*

Aviation Week & Space Technology  
December 17, 2001

## **Arms Control 'Twilight': Blessing Or Curse?**

### ***As Moscow joins the West's crackdown on terrorism, policymakers foresee a strategic alliance that could annul 40 years of nuclear arms control***

By Paul Mann, Washington

U.S./Russian arms control, enshrined in Cold War liturgy for decades, is said to be entering a treaty-less twilight. Policymakers and analysts differ sharply about whether this development is a birth or a death.

The case for the affirmative is that political relations between Washington and Moscow have never been better, in light of their working alliance against terrorism. This new-found friendship, spawned by the Sept. 11 atrocities and cemented by Presidents George W. Bush and Vladimir V. Putin at a recent meeting in Texas, is deemed likely to ripen into a more expansive Russian embrace of the West, possibly culminating in Russia's membership someday in NATO. That would wipe out the rationale for elaborate American-Russian nuclear disarmament treaties.

Why? Because friendly sovereign states have no need to police each other's strategic weapons. Britain and France have no bilateral agreements governing their long-range nuclear arms, because they pose no threat to one another. Nor does Washington have multilateral arms control pacts with London and Paris concerning strategic missiles and bomber aircraft.

IN OTHER WORDS, the idea that arms races cause political conflicts is exactly backward: political conflicts cause arms races. Accordingly, national security interests are better guides to strategic relations--and to the composition of each nation's military forces--than rigid documents and treaties. A world without arms control enables the great powers to exercise maximum flexibility in the kinds of forces they deploy, a strategic freedom that the Bush Administration believes is essential to affairs of state in a fluid, multipolar world of highly varied military threats. The White House contends that only the U.S./Soviet rivalry after World War II necessitated codified arms reduction. It was intended to prevent reckless and destabilizing weapon buildups beyond the huge nuclear arsenals both sides had acquired.

The counter-argument, that the twilight of arms control is a curse, rests on the notion that the American-Russian disarmament process, set forth in the two Strategic Arms Reduction Treaties (START) that were signed late in the last century, is the keystone of an international structure of curbs on long-range weapons that will crumble if START and the 1972 ban on missile defenses, the Anti-Ballistic Missile (ABM) Treaty, dissolve.

A third pillar of that structure is the Comprehensive Test Ban Treaty banning all nuclear detonations. Although scores of nations wish to salvage it, it has no prospect of reconsideration in the U.S. Senate, effectively consigning it to the same fate as START and ABM. Arms control advocates warn that if the major treaties that provide for hands-on verification and inspection of global weapons deployments turn to dust, all restraints on cheating and nuclear proliferation will collapse. That would increase instability and unpredictability in military relations, while making it easier for terrorists to get access to weapons of mass destruction. The death of arms control would unleash anarchic proliferation.

Arms control is hardly foolproof, advocates acknowledge, but it is demonstrably superior to no policing at all. It is not merely a mechanical exercise in numerical reduction, but an animate framework of technological and human surveillance that makes it easier to detect cheating, and nascent arms buildups. That in turn makes it easier to anticipate military crises and defuse them before they galvanize the outbreak of war.

When Bush and Putin met at the former's ranch in Crawford, Tex., in mid-November, they agreed to undertake mutual but unilateral reductions in long-range nuclear arms. Bush suggested that offensive deployments be held within a range of 1,700-2,200 warheads. Putin was not as explicit, but the Russians have said before that they would like to get down to about 1,500.

THE TWO PRESIDENTS agreed to continue their disagreement about shelving the ABM Treaty, which Russia wants to preserve, suggesting that future talks might lead to a compromise. Toward the end of October, about six weeks after the World Trade Center/Pentagon attacks, Putin had signaled that some sort of ABM compromise might be feasible that "took into account the national interests" of each side. Yet, the Administration intimated last week that U.S. withdrawal from the treaty was imminent.



The rub is that the Russians want detailed, written agreements to ensure that the ultimate outcome is irreversible with regard to both offensive and defensive arsenals. The White House insists no more than an executive understanding is necessary. But U.S. Secretary of State Colin L. Powell and Russian Foreign Minister Igor S. Ivanov suggested last week that some kind of "codification" of offensive reductions might be acceptable, even without an ABM accord.

Given the profound disagreements that prevail about the strategic value of arms control, appraisals of the Crawford meeting diverge sharply. Helmut Sonnenfeldt of the Brookings Institution sees an opening ahead. "I think the Russians are trying to figure out a way to somehow manage to keep the ABM Treaty, while letting us do what we want. I think there is movement on the ABM issue, it's just not very clear at this point . . . whether there's enough movement for an interim arrangement. The U.S. could proceed with [ABM] tests while retaining the treaty" for an interim period, until Washington can persuade Moscow to dispense with the 1972 pact.

"I SUSPECT THERE'S A DEAL HERE," agreed Gordon Adams of George Washington University. "The sense I get from Crawford is that the Russians are at least somewhat prepared to deal, keeping the architecture of the ABM Treaty, but interpreting it flexibly, with a nod and wink at the limits on testing."

The Administration is no longer in the rush to deploy a missile defense system that it was when it took over in January, Adams noted. The Bush team has come around to the view that there is a steep learning curve on defensive technologies. "Now their mantra is, 'Let's test all technologies, and those that don't work fall off the table,'" Adams said. There is not going to be a fast decision on a deployment scheme, "and that fits with the state of technology development."

Richard N. Perle, head of the Administration's Defense Policy Board, said that in his personal opinion, there is room for give on the timing of ABM Treaty abrogation. President Bush believes the treaty no longer serves U.S. interests, or Russian interests either for that matter. "But if it takes a little longer to persuade [the Russians] of that, it's better to persuade them than to withdraw peremptorily," Perle said in an interview. He added: "Whether we wait until next month, or even the rest of next year, is not terribly important; but the President means it when he says that the treaty no longer serves our interests; he intends to get out of it."

Joseph Cirincione of the Carnegie Endowment for International Peace thinks Crawford was a political success for Bush, but an intellectual failure. "The strategic framework is still an empty shell," said Cirincione, a former House Armed Services Committee staffer. "We're in for an extended period of uncertainty on the most dangerous weapons in the world."

Nonetheless, he predicts that eventually Bush will sign a binding agreement, "not to please the Russians, but because it's in U.S. national security interests."

BRUCE BLAIR OF THE CENTER for Defense Information agrees. In his view, the White House has to play ball on arms control with its allies, European and Russian, if the coalition against terrorism is to endure. "When Bush needs so much cooperation from so many countries, he can't afford to alienate them by dismantling 50 years of arms control," said Blair, who is just back from Moscow and interviews with numerous Russian officials. The Russians fear that the new-found partnership against terrorism is apt to be a passing fancy, and they want irreversible guarantees, in a formal agreement, to prevent the reconstitution of much larger arsenals than the 1,700-2,200 deployed warheads that Bush proposed at Crawford, Blair said. The White House wants to retain a reserve arsenal, but the Kremlin wants to eliminate that "reload hedge," as he put it.

Yet other observers say that Russia has no choice but to side with the U.S. against terrorism, a development they consider to be a landmark and permanent change in strategic relations. "It's not like the Russians could just walk away now, after what happened Sept. 11," asserted Edward Luttwak, a longtime strategic thinker. "The Islamist threat is closer to them, and fundamentally more dangerous to them, not only in Russia's near-abroad in Central Asia, but also in republics inside the Russian Federation itself, like Dagestan. For the Russians, this is an issue of survival. So the U.S. has acquired an ally and we are allies for real."

ALLUDING TO PERLE'S judgment that withdrawal from the ABM Treaty can wait for a while, Luttwak added, "It's inconceivable in this context [of the war on terrorism] that the U.S. will act unacceptably to Putin. But that doesn't mean Putin won't be flexible. He's indicated flexibility on some particulars of the ABM Treaty, like tests and research and development, and in the long run the Russians are always going to be as interested in ballistic missile defense as we are, because for them, the third-party threat is there. They already face short-range ballistic missiles from Iran in real time, let alone an MRBM [medium-range ballistic missile]."

What other experts fear, however, is not Russian-Iranian hostility, but Russian-Iranian collusion. Cirincione thinks Bush was politically shrewd in Crawford, scoring points with the Republican right for shunning written agreements, while fostering amiable personal relations with Putin.

But it is also the Republican right that worries about Russian-Iranian connivance, particularly regarding the spread of weapons of mass destruction and Tehran's pursuit of a purportedly civilian nuclear capability.

Crawford looks good until one examines not only Russia's backing of an Iranian nuclear reactor, but also Moscow's own shortcomings in accurately disclosing its nuclear inventories, warns Henry Sokolski, executive director of the Non-Proliferation Policy Education Center. "The U.S. has cajoled and bribed Moscow with billions of dollars in U.S. space and nuclear cooperation for nearly a decade, to get it to stop helping Tehran develop multiple-stage rockets and the means to make nuclear weapons," he admonishes. "Still, Russian assistance to Iran continues." Moscow's reputed complicity with the radical Islamic regime in Tehran jeopardizes congressional support for U.S. Nunn-Lugar funds that help Russia dismantle its decaying nuclear arsenal, Sokolski says. The money is intended to prevent tens of thousands of ex-Soviet nuclear warheads and countless tons of nuclear material from falling into the hands of smugglers and terrorists.

Sokolski is not the only observer who cautions that Crawford offered less than met the eye. Adams, the George Washington University analyst, remarked, "Some people think that what happened there was a tectonic shift. I'm not sure that it was much more than a realignment. There was a different tone, but that doesn't suggest that the entire global architecture shifted. Nations don't do that easily."

OUTSIDE ANALYSTS do concur that plenty of spade work lies ahead if Crawford is to deliver on its apparent promise. That applies to offensive weapons as well as defensive ones, Sonnenfeldt said. With respect to Bush's reduction ceiling of 1,700-2,200 deployed warheads, there remain differences within the Pentagon about what the actual number should be. The final number is important because it's integral to future decisions about strategic doctrine and the makeup of force structure, he noted. As the Cold War dragged on, the U.S. and the former Soviet Union each wound up with tens of thousands of nuclear weapons "because there was a requirement for 100% kill ratios. That meant having three or four warheads per target to get 100% assurance of successful strikes against hardened bunkers and [missile] silos. I think much more work will have to be done on targeting doctrine."

PERLE MADE a similar point. "Certainly there's a lot of room for adjusting from Cold War targeting and a second-strike capability. A lot of the [strategic] doctrine of the Cold War is no longer relevant. The notion that the Russians would launch a strike against us using MIRVed [multiple warhead] missiles is not a strategic reality. There is no set of circumstances in which they could be confident of escaping retribution. I don't think it matters much what the Russians choose to do with their strategic forces."

ABANDONING COLD WAR thinking is also crucial in the next steps in the ABM Treaty talks, says Anthony Cordesman of the Center for Strategic and International Studies. "We inherited an ideological battle pro and con on missile defense from the Cold War. The pragmatic reality is the merit of missile defense as it relates to how threats evolve over time, how much it costs to deploy and how effective it is, and how seriously the risks differ among alternative means of delivery." Is it prudent to assume, for example, that a terrorist biological attack on Disney World is more likely than a North Korean attempt at nuclear blackmail?

It is also essential that missile defense decisions address cost and effectiveness issues in the tradeoffs between buying theater or strategic missile defenses, Cordesman emphasized. "The one problem we all face--the U.S., Russia and all other countries--is to stop thinking about ballistic missile defense as a cult or a religion or an evil disruption of arms control. It has to be evaluated as to the effectiveness of one more military option."

BLAIR RESPONDS, however, that the key to post-Crawford concord is improving American-Russian collaboration on the future of deterrence doctrine and joint assessments of the extent of the missile threat posed by renegade countries and international terrorists. Regarding doctrine, Blair said he returned from Moscow convinced that Russian security officials honestly believe that Washington is seeking unilateral deterrence, and aims to become the world's sole nuclear hegemon.

The Russians consider the U.S. assessment of the rogue missile threat to be grossly overstated. American specialists must sit down with their Russian counterparts and thoroughly explain, country by country, how they have reached their threat assessments, Blair advises. There are big differences in how Washington and Moscow interpret strategic risk. "The Russians factor in a good deal more on intentions, on politically plausible acts. We look much more at [weapons] capabilities. There are fundamentally unreconciled differences in our threat assessments that have to be overcome. It remains to be seen whether the Bush Administration understands how necessary it is for us to work cooperatively with Putin on many of these arms control issues, to improve Putin's credibility [with his own skeptics] in Moscow," Blair said.

[Return to Contents](#)

# **Anthrax Vaccine Urged For Hill Staff**

## ***Health Officials Want Inoculations To Start This Week***

By Shankar Vedantam and Ceci Connolly, Washington Post Staff Writers

Federal health officials yesterday began urging Capitol Hill workers to take an as-yet unlicensed anthrax vaccine as part of a plan sparked by fears that deadly spores may be lurking in the employees' bodies and could erupt once antibiotic treatments end.

Two military anthrax experts met with about 70 staffers to outline the rationale for the unprecedented inoculation proposal, which could involve as many as 3,000 Senate and U.S. Postal Service employees in Washington, New York and New Jersey.

Health officials are anxious to begin the vaccinations as soon as possible because many of the 10,000 Hill staffers and postal workers who had been put on 60 days of antibiotics after the bioterrorism attacks this fall have begun finishing their courses. That means they could be at risk of falling ill soon if anthrax spores are lingering in their lungs and their immune systems have not been primed to respond.

Officials want vaccinations to begin this week after Health and Human Services Secretary Tommy G. Thompson approves the plan.

Health officials said they began briefing the Capitol Hill workers first because Hill officials specifically requested that they do so. They said they would be available to brief all employees who would be affected by the plan. But the plan is already generating controversy and confusion. District health officials are unconvinced the vaccination is necessary, but at the same time, they are concerned that not enough vaccine may be available for everyone at risk. The vaccine itself is controversial because the company that makes it has had a long history of problems and has yet to receive final approval by the Food and Drug Administration.

"There are only 10,000 doses of the latest batch of vaccine -- and that is the lot that the Capitol Hill physician has requested," said Larry Siegel, Washington's deputy health director. "We have made it very clear that if it is released, we want access to the same lot." Siegel contested claims from federal officials that only 3,000 people were at high enough risk to need the vaccine.

"There's no science yet that will allow anybody to make a determination that any of the 3,500 people in Brentwood [postal facility] are at any lower risk than the people in the Daschle suite," he said. "If anybody is going to be offered vaccine, everybody should."

On Capitol Hill, a Senate aide said the 90-minute briefing was calm and informative. The group was told that "extensive studies" of the anthrax vaccine showed no serious side effects, although the three injections can be painful.

Lt. Col. John Grabenstein, head of the anthrax vaccine program at the Army surgeon general's office, said vaccinations of 524,000 military personnel had found only low risks such as sore arms, aches and fevers. Combining vaccine with antibiotics is the "best insurance" against developing anthrax, Grabenstein said.

The Senate staffers considered most at risk are those who worked in the sixth- and fifth-floor offices of Senate Majority Leader Thomas A. Daschle (D-S.D.), which received a letter laden with anthrax spores in October, and the adjoining fifth-floor office of Sen. Russell Feingold (D-Wis.), as well as other officials who visited there after the tainted letter was discovered, said Greg Martin, chief of infectious diseases at the National Naval Medical Center. For congressional staffers who did not come in direct contact with the tainted letter, officials will offer the vaccine but not necessarily recommend it, Martin said yesterday.

The first Capitol Hill staffers exposed to anthrax spores are completing their allotted 60 days of treatment.

Postal workers considered most at risk are those who worked with the four employees who developed inhalational anthrax, those in buildings where tainted letters were opened and those with positive nasal swabs, officials said.

Postal spokeswoman Kristin Krathwohl said no decision about the vaccination plan had been made by the Postal Service or unions.

"It's an area that few of us know anything about," said Barry Burns, chief shop steward in the motor vehicle section of the Brentwood facility. "The only thing we can do is put our trust in [the Centers for Disease Control and Prevention]. We have very little trust of postal management and what the post office was telling us. As of yet, we have no reason to distrust CDC."

For months, health authorities have been publicly advising people exposed to anthrax to take only the two-month course of antibiotics to protect themselves from developing the life-threatening disease.

But at a meeting Saturday, officials disclosed that two weeks before the first letter arrived, senior government physicians on Capitol Hill had met with officials from the FBI, the CIA, the Justice Department and several other agencies to prepare for an anthrax emergency.

"We all agreed" that anthrax vaccinations combined with antibiotics would be the collective approach, said John Eisold, the physician for Capitol Hill.

But when the anthrax scare began Oct. 15 and thousands of workers in the Senate and at postal facilities were declared at risk, there was not enough vaccine available to immunize everyone.

"The ramifications of the actions that I would take on the Hill were far broader than I had originally anticipated," Eisold said.

The government doctors scuttled their plan, which would almost certainly have been criticized for giving vaccines preferentially to lawmakers and powerful people over mail carriers. So instead, only antibiotics were recommended for everybody.

About a month ago, the CDC quietly laid the foundation for a vaccination program by filing a request for an experimental program with the FDA -- a necessary step because the proposed vaccine had not passed all the agency's licensing requirements.

At the time, the CDC said the vaccine was being stockpiled for health officials who would have to respond to future bioterrorist attacks, and possibly for use in people for whom antibiotics did not work. The Defense Department subsequently released some vaccine stocks to the CDC, making it possible to inoculate about 3,000 people.

Over the last few weeks, decades of anthrax research on animals and a recently declassified Canadian study reminded doctors that taking people off antibiotics for 60 days could leave them defenseless afterward against anthrax spores that lay dormant in their lungs. When the medicine is stopped, the spores could germinate, producing disease.

The vaccine has not received final FDA approval because the company that has an exclusive contract to make it for the military, BioPort Corp. of Lansing, Mich., has had a series of problems. As a result, the new inoculation plan is formally being classified as experimental.

The vaccine has been generating controversy for years because of its use by the military to protect soldiers against possible biological weapons. Some soldiers refused to get vaccinated, saying they were concerned about the vaccine's safety. But health officials maintain that the vaccine has been shown to be safe. The holdup with the FDA's final approval has been over BioPort's manufacturing facility, not the vaccine itself, officials said.

*Staff writers Avram Goldstein, John Lancaster and Rick Weiss contributed to this report.*

[Return to Contents](#)

Washington Post  
December 18, 2001  
Pg. 10

## **State Dept. Hit By New Anthrax Scare**

By Steven Mufson, Washington Post Staff Writer

An anthrax scare closed the office suite of Deputy Secretary of State Richard L. Armitage for more than two hours yesterday afternoon when an assistant opened an envelope and white powder puffed out.

A State Department official said hazardous-materials experts who came to clean the offices and take samples of the powder believe the letter was a hoax because the granules were irregular in size. Authorities have been inundated with such hoaxes in the months since anthrax attacks occurred in Florida, New York and Washington.

Samples of the powder were taken to an FBI laboratory for analysis. Results should be available this week.

The official, who asked not be identified, said the envelope opened yesterday had a return address with the name of an individual. It was addressed in block letters similar, though not identical, to those used on letters containing anthrax spores sent to Senate Majority Leader Tom Daschle (D-S.D.) and Sen. Patrick Leahy (D-Vt.).

The envelope was postmarked from Kenedy Texas, on Oct. 29, but it was not clear whether the individual exists, the official said. Unlike the envelopes sent to Daschle and Leahy, the one to Armitage did not contain a letter.

Eliza Koch, a State Department spokeswoman, said she believed the letter had been irradiated at an Ohio facility to remove the risk of anthrax contamination. The letter was discolored, presumably from the irradiation, she said.

Much of the State Department's mail has been delayed and routed through the Ohio facility after traces of anthrax spores were found in the department mail system about two months ago.

"Because it came through the postal system, we assume it was irradiated and therefore poses no immediate health threat," Koch said. About a dozen people work in the deputy secretary's suite of offices.

When Armitage's assistant opened the letter shortly after 3 p.m., powder puffed out onto his face and desk, the State Department official said. Armitage was meeting with a foreign dignitary, who was escorted out a back way, the official said.

Armitage's private office is somewhat removed from the desk where the envelope was opened.

[Return to Contents](#)

Washington Times  
December 18, 2001  
Pg. B1

## **Anthrax U.S.-Made, Officials Say**

By Laura Meckler, Associated Press

The anthrax that killed five persons appears to have been produced in the United States, the White House said yesterday, but investigators still don't know who mailed it. On Capitol Hill, a second attempt to sanitize a contaminated Senate office building failed.

White House Press Secretary Ari Fleischer said the evidence on the anthrax sent to Sens. Tom Daschle, South Dakota Democrat, and Patrick J. Leahy, Vermont Democrat, is increasingly "looking like it was a domestic source." President Bush emphasized that the case remains unsolved.

"We're still looking," he said. "We've all got different feelings about it. We're gathering as much information [as possible]." The president promised that as soon as some conclusions are reached, "we'll share it with the American people."

At the State Department, the FBI was called to examine a white powder found in an envelope addressed to Deputy Secretary of State Richard Armitage. The envelope moved through the regular U.S. mail system and officials assumed that it had been irradiated, said Lynn Cassel, a department spokeswoman.

She said the letter was addressed in "block letters," but she did not know if the envelope or the writing resembled that found on previous, anthrax-tainted letters.

On Capitol Hill, a military physician told members of Mr. Daschle's staff at a briefing that he would recommend they take an anthrax vaccine, which is considered experimental, if Health and Human Services Tommy G. Thompson approves its use. Mr. Thompson was expected to make his decision this week.

Technicians, meanwhile, ran into more problems trying to sanitize a Senate office building contaminated by lingering anthrax spores from the letter sent to Mr. Daschle in mid-October.

Attempts to pump poisonous gas into the Hart Senate Office Building's ventilation system to kill any remaining spores failed early yesterday, said Capitol Police spokesman Lt. Dan Nichols.

He said a mechanical problem kept the gas from reaching the saturation point needed to kill the anthrax. Technicians worked from 9 p.m. Sunday to 3 a.m. Monday before they abandoned the effort.

"The goal was to get 500 parts per million. We did not achieve that goal," Lt. Nichols said. He said he did not know what caused the problem, which did not show up the first time they used the gas on the building.

Lt. Nichols said he was not aware of when another attempt would be made.

The Hart building has remained closed since Oct. 17, two days after an anthrax-filled letter was received in Mr. Daschle's office. The EPA reported Friday that traces of anthrax remained after the initial fumigation.

In New Mexico, officials at the Los Alamos National Laboratory, who have been conducting research in the anthrax investigation, acknowledged that they received a sample of viable, or living, anthrax, despite telling area residents that its research was limited to inactive spores.

Los Alamos, which has been analyzing the genetic content of the anthrax used in the attacks, thought it was receiving dead spores from Northern Arizona University. But after the paperwork was filled out, the university discovered that the spores were alive and able to grow.

An internal Los Alamos report indicated that its lab was not certified to handle live anthrax, prompting concern from a member of Congress, Rep. Edward J. Markey, Massachusetts Democrat. In fact, federal officials said yesterday, the internal report was wrong and Los Alamos is certified to handle the live bacteria.

The Centers for Disease Control and Prevention has confirmed 18 cases of anthrax infection nationwide — 11 cases of inhalation anthrax and seven through the skin — since the anthrax-by-mail attacks began in October. The five persons who died all had inhalation anthrax.

[Return to Contents](#)

Washington Times  
December 17, 2001

## Genetic Anthrax Match Not Seen As Clue To Sender

By John Heilprin, Associated Press

A genetic match between the anthrax spores in the letters mailed to Capitol Hill and those in the Army's stockpile wouldn't necessarily provide clues to who was responsible for the bioterrorist attack, an Army spokesman said. Chuck Dasey, a spokesman at Fort Detrick, Md., said the Army's Medical Research Institute of Infectious Disease got its supply from the Agriculture Department and shared it with five laboratories across the country. The Washington Post reported yesterday that the genetic makeup of the anthrax used in the letters mailed to Senate Majority Leader Tom Daschle and to Sen. Patrick J. Leahy matched those in the Army's stockpile.

"I'm not sure it tells us anything about who the perpetrator is," Mr. Dasey said.

"You can't say it all came from USAMRIID," Mr. Dasey said. "We got it from another lab in the first place and so presumably USAMRIID is not the only lab that got it from the Department of Agriculture."

On Capitol Hill, cleanup efforts at the Hart Senate Office Building were continuing. Officials planned to pump chlorine dioxide gas into portions of the building's ventilation system for nine hours, beginning last night.

Environmental Protection Agency technicians also planned to use the liquid form of chlorine dioxide in Mr. Daschle's office, which had been fumigated with the gas earlier.

The EPA had hoped to begin the operation Friday night, but were delayed because of problems reaching the high humidity level needed to effectively kill the spores, Capitol Police spokesman Lt. Dan Nichols said.

The Hart Building has remained closed since Oct. 17, two days after an anthrax-filled letter was received in Mr. Daschle's office. The EPA reported Friday that traces of anthrax remained after its initial fumigation efforts.

Federal health authorities were also considering whether to recommend that an anthrax vaccine be made available on a voluntary basis for potentially up to 3,000 people who had high levels of exposure to anthrax in the District, Maryland, Florida, New York and New Jersey.

Other options include handing out another 30 days of antibiotics, on top of the basic 60-day dose, or advising people to wait under the watchful eye of a physician.

Health and Human Services Secretary Tommy G. Thompson plans to make a decision in the coming week.

"They're looking at just those who were most highly infected," Health and Human Services spokesman Bill Pierce said yesterday. "Ultimately, it will be up to each individual to choose in consultation with appropriate medical personnel."

The Post also reported yesterday that the FBI was looking at various government programs, including a contractor who worked for the CIA, as a possible source of the anthrax used in the attacks.

CIA spokesman Mark Mansfield confirmed yesterday that the agency had some anthrax it used in its mission "to learn about potential biological warfare threats."

But he said the CIA did not mill any of its samples into powdered form and that none of its supply is missing. "Our work, for the most part, involved the use of simulants, rather than live bacteria," Mr. Mansfield said.

He said the CIA is working closely with the FBI "and other appropriate investigative agencies," but that any comment on details of an FBI investigation would have to come from the FBI.

An FBI spokeswoman declined to comment yesterday on any aspect of the anthrax investigation.

Fort Detrick obtained anthrax from an Agriculture Department laboratory at Ames, Iowa, in 1980, and then shared it with the Army's Dugway Proving Ground in Utah, two research labs in Canada and Britain, an Ohio research institute and the University of New Mexico. The Ames strain is relatively common and is used in numerous American labs.

Researchers have concluded that all the mailed spores were of the Ames strain.

USAMRIID uses the liquid strain in research, not the dry form that was used as a terrorist weapon, Mr. Dasey said. "The point is we don't have the technology to make that fine dry powder which was in the letters," he said.

The CDC has confirmed 18 cases of anthrax infection, 11 cases of inhalation anthrax and seven through the skin since the anthrax-by-mail attacks began in October.

Five persons have died, including two who worked at the Brentwood postal facility in the District. All had the more serious inhalation anthrax.

[Return to Contents](#)



Tuesday December 18 3:19 PM ET

## CDC Urges Study of Smallpox

By ERIN McCLAM, Associated Press Writer

ATLANTA (AP) - The Centers for Disease Control and Prevention ([news](#) - [web sites](#)) urged state health officials around the country Tuesday to carefully study smallpox so doctors do not cause a panic by misidentifying a less dangerous virus.

At a training meeting for 200 state public health officers, the CDC released its most specific guidelines yet for a suspected case of the virus, which in its early stages can be confused with chickenpox or herpes.

"We don't want to be investigating millions of rashes right now," said Dr. William Atkinson of CDC's National Immunization Program.

Smallpox is highly contagious, can travel by air and kills 20 percent to 30 percent of people who are infected.

Terrorism experts fear the virus could fall into the wrong hands and be released intentionally.

The new guidelines define a suspected smallpox case as a fever of at least 101 degrees, followed by a rash with firm, deep-seated bumps on the body, in a patient whose illness cannot otherwise be explained.

Any real smallpox case would trigger a public health emergency, with immediate quarantine of the infected person and quick vaccination of anyone who has been exposed.

Most of the government's information on smallpox is no more recent than the 1970s, the last time human cases were seen.

"The truth is that we don't really know how this will happen, if it will happen," Atkinson said. "Will it be a lone person? Will it be someone on an airplane? Will it be someone with an aerosol? The virus may not act the way we expect it to act."

[http://dailynews.yahoo.com/h/ap/20011218/pl/cdc\\_smallpox\\_1.html](http://dailynews.yahoo.com/h/ap/20011218/pl/cdc_smallpox_1.html)

[Return to Contents](#)

Washington Post  
December 19, 2001  
Pg. 1

## U.S. Offers Anthrax Vaccine To Thousands

### *Preparation Used by Military Is Unlicensed, Controversial*

By Ceci Connolly and Shankar Vedantam, Washington Post Staff Writers

The federal government will begin offering anthrax vaccine as an experimental treatment to thousands of people potentially exposed to the deadly bacteria during a series of attacks this fall, administration officials announced yesterday.

For those wary of taking the controversial, unlicensed vaccine, health officials laid out two alternatives: take an additional 40 days of antibiotics or take no new medicines and wait to see if symptoms arise.

The decision to make the vaccine available as early as today reflects growing unease that antibiotics may not be sufficient protection against a disease that scientists know very little about. Bacteria may survive longer in people's lungs than 60 days and continue to pose a health threat. The vaccine may enable the immune system to fight off any lingering spores.

"The vaccine used in this way would represent a new way of using vaccine than it has been used before," said D.A. Henderson, the government's top bioterror preparedness expert, adding that the risk of anthrax after 60 days of antibiotics was based on slim evidence from animal studies. "This is the best we have to go on."

On Monday, government anthrax experts urged about 75 congressional aides who were in the proximity of an anthrax-laced letter to begin the three-shot regimen immediately. Officials estimate that about 3,000 congressional and postal workers in Washington, New York and New Jersey may continue to be at risk because they were exposed to high levels of the bacteria. Area postal workers will be briefed on their options within a week.

The vaccine long has been the focus of controversy because of the military's mandatory vaccination of troops to protect them against biological weapons. Some soldiers refused to get inoculated because they were worried about

the vaccine's safety. Nevertheless, the vaccine has been given to 524,000 military personnel, and officials said it has been shown to be safe. But it has never been administered for postexposure, therapeutic purposes.

"The decision to use this vaccine is at the discretion of the individual," Health and Human Services Secretary Tommy G. Thompson said, noting he was taking the unprecedented step "out of an abundance of caution."

However, Thompson's advisers were reluctant last night to offer concrete guidance to patients on which option to choose, or to specify criteria that should be used to determine who should receive additional treatment.

"In medicine we're often faced with difficult decisions based on inadequate information; that's where we are here," Henderson said.

He and others said the scientific data are limited to a few animal studies that offered conflicting views on how long anthrax spores can survive in the body. In a few instances, spores lurked in monkeys' lungs for 75 and 98 days.

"There is theoretical reason to believe this might -- might -- provide some benefit," said Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases.

Because the vaccine has not been approved for post-exposure treatment, participants will be asked to sign a consent form accepting a battery of potential risks, such as soreness, swelling, headaches, muscle and joint pain, nausea, fever, chills and malaise. Thompson said the government would release the vaccine's maker, BioPort Corp., from legal liability tied to the program.

Last night, HHS spokesman William Pierce said a CDC institutional review board was finalizing the consent form. Local and postal officials expressed frustration over the lack of information and mixed messages coming from the Bush administration.

"There are a lot of people saying publicly that these spores can exist for up to 100 days and that they are concerned about what that means," said D.C. Health Director Ivan C.A. Walks. "I'm not sure it means anything. No one is sure it means anything.

"If there were folks who were sure of a significant risk, they would be recommending vaccination," Walks added. Postal workers were equally dismayed.

"The Food and Drug Administration has not even approved a protocol for dispensing the vaccine yet," said Postal Service spokeswoman Kristin Krathwohl. "If they're going to start vaccinating tomorrow, it seems to me that they might need a protocol. . . . A lot of things are unanswered at this point."

Concern about the unknown effects will weigh heavily on everyone considering the offer, said Olander Williams, a truck driver and a chief shop steward for the motor vehicle section at the Brentwood Road postal facility. He said he has reservations about the vaccine's safety and is not interested in resuming oral antibiotic therapy, which he quit after a month because of side effects.

"A lot of people think they are experimenting on us and are a little paranoid about the whole ordeal," he said. "The vaccine is out for me. No way with the vaccine."

In recent years, the FDA has halted vaccine production at BioPort's plant in Lansing, Mich., because of improper manufacturing practices.

FDA officials are now racing to finish inspections to issue a license, and they are under intense pressure to issue a favorable verdict, said Rep. Christopher Shays (R-Conn.), who has monitored the company as a member of the military personnel subcommittee of the Armed Services Committee. Shays said yesterday that the company had not addressed fundamental performance questions and that the pressure on the FDA could make its verdict open to question.

"We don't know if it's safe and we don't know if it's effective," he said, suggesting that health officials wait a few more weeks to see if BioPort passes its FDA inspection.

Pentagon officials said yesterday that Defense Secretary Donald H. Rumsfeld had authorized the release of 219,000 doses of the vaccine at Thompson's request on Oct. 24. The Department of Health and Human Services paid the Pentagon \$598,000 for doses.

R. Alta Charo, a professor of law and medical ethics at the University of Wisconsin in Madison, said the vaccination plan was not really experimental, in that its primary purpose was to treat people, not to gain scientific knowledge.

*Staff writer Avram Goldstein contributed to this report.*

[Return to Contents](#)

Time

December 24, 2001

Pg. 15

**Notebook**



## After The ABM Treaty, More Trouble Ahead

President Bush's announcement on Thursday that the U.S. will withdraw from the 1972 Antiballistic Missile Treaty in six months caused surprisingly few ripples. But that may not last. Russian President Vladimir Putin's response was relatively mild, partly because the Administration had smoothed the way beforehand. Secretary of State Colin Powell informed Russian Foreign Minister Igor Ivanov two weeks ago of the impending move. Powell then held a series of meetings designed to soften the blow by focusing attention on another deal that both sides committed to last month: mutual cuts in offensive nuclear weapons. Putin stressed Thursday that he wanted the deal in writing, "a legal seal on the achieved agreements on further radical, irreversible and verifiable cuts."

The U.S. is planning to sign the deal when Bush travels to Moscow in the spring, senior Administration officials say. But the Administration is preparing an important hedge in the agreement: the ceiling proposed on offensive missiles won't be binding. Hard-liners in the Administration want a free hand to rebuild their nuclear stockpile if and when they please. "We don't want to be limited by treaty from going up," says a senior Administration official. The Russians apparently are still under the impression that the signed document will make the nuclear cuts binding. "The Russians may think it will be," says the senior official, "but it won't." No telling whether the Administration can smooth that one over.

-- By Massimo Calabresi

[Return to Contents](#)

Arkansas Democrat-Gazette

December 16, 2001

Pg. B1

## Army Proposes Unit To Destroy Other Weapons

### *Plans call for mobile facilities based at Pine Bluff Arsenal*

By Reid Forgrave, Arkansas Democrat-Gazette

PINE BLUFF -- Despite decades of community debate over the construction of a chemical-weapons incinerator, the U.S. Army is considering building another, smaller facility here to destroy nonstockpile chemical weapons.

Last week, Army officials named four engineering firms to design, build and operate the facility, which would destroy various chemical weapons not classified as stockpiled. The plan also calls for mobile destruction units for weapons that cannot be transported to Pine Bluff.

The potential contract could be worth up to \$ 300 million for a program involving the retrieval and destruction of nonstockpile weapons, either in the fixed facility or with mobile facilities to be housed at Pine Bluff. If the semipermanent destruction facility is built in Pine Bluff, construction, equipment and operations will cost about \$ 100 million, an Army spokesman said.

Stockpiled weapons are ready-to-use chemical weapons. Nonstockpile chemical weapons are recovered items -- mostly older, unexploded weapons, some from the World Wars, some used in training.

But those who have spoken out against the incineration facility at Pine Bluff -- nearly complete and due to begin operation within two years -- are wary of the Army's new proposal.

In October, at a public meeting at the arsenal, some people expressed concern about Arkansas becoming a dumping site for the nation's chemical weapons, said Lt. Col. Christopher Ross, product manager for nonstockpile chemical weapons at the Aberdeen Proving Ground in Maryland.

"We only intend to use the facility for weapons at the Pine Bluff Arsenal," Ross said. "At some point, the state of Arkansas might be asked to accept recovered items [from around the country]. I can't promise it would never be used to bring in weapons from around the country, but that is not its intent."

Some local officials were unaware of the Army's plans to commission a design for the new facility while awaiting approval.

"If they are planning this, they're keeping it very quiet because I haven't heard," said Whitehall Mayor Jitters Morgan.

Morgan said construction of the facility could bolster the area economy, but he wants to know more about the risks.

"We have a lot of things to discuss before we say 'yea' or 'nay' on this plan," Morgan said.

But Craig Williams, director of the Chemical Weapons Working Group, an advocacy and research organization that has long opposed incineration, was skeptical about the latest plan, saying that the chemical-weapons demilitarization program has been plagued by years of mismanagement.

Williams said the weapons-destruction program, first planned to destroy chemical weapons by 1994 at a cost of \$ 1.7 billion, may not be completed until after 2016 at a cost of \$ 24 billion.

Williams' group supports the neutralization, rather than incineration, of weapons, he said. Delays have resulted because incineration doesn't work, he added.

"If what they're doing is getting a contract to design and manufacture nonincineration, portable devices for cleaning up nonstockpile items where they are found, then on its face we would support it," Williams said. "But the devil is always in the details."

Jack Herrmann, a spokesman for Washington Group International Inc., one of the four companies chosen in the contract, said the public wants the weapons destroyed quickly.

"Since Sept. 11, there's a greater sense of urgency to get rid of these weapons and get rid of them quickly," he said. The Army already has commissioned one of the four engineering firms to design the facility -- at a cost of \$ 22 million -- so that if approved by state environmental regulators, construction can begin once the permit is granted. The Army expects approval in 2003 or 2004.

"We basically got our track shoes on now, and when [the Army] says go, we go," said Herrmann of the Boise, Idaho-based Washington Group.

To allow nonstockpile weapons from other locations to be destroyed at the Pine Bluff Arsenal, the state must agree to any Army plans.

The Army is required to offer alternative ways to get rid of the nonstockpile weapons.

The military has been gathering public comments and will publish an environmental impact statement by late 2002.

The environmental impact statement discusses alternatives to building a facility at the Pine Bluff Arsenal.

Besides the proposed destruction facility, the Army is considering building mobile units to take to the sites of nonstockpile recovered weapons, using a technology other than neutralization to destroy the weapons, or just keeping the weapons in storage.

The Army will decide in 2003 after the environmental impact statement is released, Ross said.

The destruction facility at the arsenal would be the quickest way to destroy the weapons, Ross said. Mobile destruction systems would take much longer than a Pine Bluff facility to destroy the weapons.

Herrmann predicted that the final plan will involve both mobile technology and a fixed facility at the Pine Bluff Arsenal.

Ross said the facility, if it is built, will be like a garage, where weapons are pulled into a secure trailer, drilled and then drained of toxins.

Should there be a public outcry about the proposed facility, Ross said, the Army would consider other alternatives. If approved, the Army will begin construction by late 2004 or early 2005.

Nonstockpile chemical weapons are not restricted to the Army's eight chemical weapons depots. Thirty-eight states have nonstockpile chemical weapons.

The Pine Bluff Arsenal's stockpile is the nation's second largest with 12.3 percent of the nation's total chemical-weapons cache. It has about 110,000 M55 rockets with the nerve agents GB and VX, 9,400 land mines, and 3,000 bulk 1-ton containers of mustard gas.

[Return to Contents](#)

Washington Post  
December 19, 2001  
Pg. 25

## **Letter Called Anthrax Hoax**

A powder-filled envelope opened in the State Department office of Deputy Secretary Richard L. Armitage was yet another of many recent anthrax hoaxes, the FBI said yesterday.

The envelope was sent to the U.S. Army lab at Fort Detrick, Md., for analysis after it was opened Monday by an employee in Armitage's office. A spokesman for the FBI's Washington field office said the return address on the envelope belonged to a prison in Texas.

"It's a hoax," he said.

The white powder puffed out onto the face and desk of an assistant to Armitage when he opened the letter shortly after 3 p.m. Monday, triggering the closure of Armitage's office suite for two hours.

Officials said they believed the envelope, postmarked Oct. 29, had been irradiated at an Ohio facility, a precautionary measure that kills anthrax spores.

-- Susan Schmidt

[Return to Contents](#)

Los Angeles Times

December 17, 2001

Pg. 1

## **Anthrax's Dogged Detective**

***Paul Keim's love of DNA research led him to study soybeans, trout, even snails. Now his work is at the center of the effort to find the anthrax terrorist.***

By Rosie Mestel, Times Medical Writer

FLAGSTAFF, Ariz. -- New walls have sprung up around Paul Keim's workplace to safeguard the deadly vials kept within it. He has new keys, an electronic security card--even bought his first pager so he'll always be reachable. The reason is anthrax. The lanky, bespectacled scientist is a world leader in the genetics of *Bacillus anthracis*, the bacterium that killed five, sickened at least a dozen and scared countless more in this fall's rash of terror by mail. Largely due to Keim, scientists can now use DNA profiles to distinguish one anthrax sample from another, a feat once deemed impossible because of the bug's extreme sameness. Whether gleaned from dead yaks in Nepal or bison carcasses in Canada, anthrax DNA varies in only the subtlest of ways. Keim's group has already used these methods to identify the anthrax strains that the Japanese cult Aum Shinrikyo used in 1993 in failed bioterrorism attempts. They've shown that an October anthrax outbreak among cattle in Santa Clara County was probably caused by naturally occurring anthrax and not bioterrorism.

Federal law enforcement officials say Keim has played an important role in analyzing the spores used in this fall's anthrax attacks, giving them one of their best tools to help narrow their investigation. (Keim refuses to confirm or deny any involvement in the case.) A scientist at quiet Northern Arizona University, Keim never anticipated all the attention. Not the new walls, the unending calls, and certainly not the experience of finding himself dubbed a "bioterrorism warrior" by the popular press.

His is a tale of what happens when basic bench science and world events collide--when a researcher, quietly toiling, enters the glare of celebrity after the knowledge he's patiently acquired suddenly becomes a matter of popular demand.

The experience is even odder, Keim says, because anthrax is just one of many life forms he has studied and not one he would have predicted to bring him fame.

Keim's best-known work was in the kinder, gentler genomes of plants: He is credited with helping drag soybean-breeding into the modern molecular era. Once he even testified in a murder trial in which DNA from a tree linked the suspect to the site where a body was found.

And he has studied a menagerie of animals over the years: small snails, trout, prairie dogs and mountain lions.

Today, his is a lab where one worker might spend his summer steeped in anthrax genetics while another passes her days collecting plague-infected fleas from prairie dog burrows and one scours the genome of soybean lines for disease-resistance traits.

The common thread through it all: state-of-the-art DNA analysis that identifies supersubtle differences between different creatures' genomes, much as DNA forensics matches blood at a crime scene to a suspect's.

Keim says he thrives on all this wild variety.

"I like talking science with people--I can sit down with anyone working on anything and within 10 minutes figure out a collaborative project," he says. "I also have a hard time saying no."

Keim, 46, got into anthrax almost by accident. After finishing his PhD in 1981 at the University of Kansas, he went looking for a job--and first interviewed for a temporary position at the University of Utah. Raised in Kansas, he took one look from the plane at the Wasatch Mountains and knew he wanted to live there.

He spent years at Utah working for a renowned biologist, Gordon Lark, who had a taste for scientific variety that helped shape Keim's own. In Lark's lab, people worked on genetics of kangaroo rats and bacteria, soybeans and viruses--sending out research tentacles in whatever direction seemed fruitful or interesting.

"He was a really intense guy who was really creative and constantly thinking outside the box," Keim said of Lark. "I worked on everything you can imagine."

It was great, he says; he was having a scientific blast and not thinking much about career advancement. But he spread himself so thin that he didn't publish much, a drawback when he later sought permanent university employment.

Keim still keeps a big stack of rejection letters. Had he published more at that point, he might have ended up at some plant genetics hotbed instead of less-renowned Northern Arizona University. On the other hand, to Keim's delight, the school is just a stone's throw from the Grand Canyon and a fly-fishing mecca, Lees Ferry.

### **Humble Beginnings at Arizona**

Keim's work at Northern Arizona started small. There was no anthrax back then, just Keim, a technician and some money from a seed company to study soybeans.

But Keim needed a summer job to supplement his teaching salary. He got one with help from a former colleague who was working at Los Alamos National Laboratory in New Mexico. Starting in 1991, Keim would jump in his car each summer and drive 450 miles east to Los Alamos to study innocuous bacteria that degrade organic pollutants. Meanwhile, his friend Paul Jackson was studying something more exciting, Keim knew--something exciting, mysterious and (as it turned out) not innocuous at all.

"He was very secretive about it. It was tantalizing," Keim recalls--and that's how it remained until Keim got a security clearance in 1994. He then learned that Jackson was doing research on organisms that hostile governments might use for biological weapons.

Keim and Jackson began working together, developing ways to distinguish strains of microbes from one another using DNA typing. They had their choice of germs to work with, but opted to start with anthrax--in part because it was considered high priority by the government, in part because the germ's monotonous uniformity made it the toughest nut to crack.

"We thought: Well, if we can do it with anthrax, we can do it with any of them," Keim said.

The team got to work, scouring the DNA of anthrax for places where strains differed even slightly from one another. Keim would send samples of anthrax DNA back to his lab in Flagstaff. Technician Jim Schupp would run experiments on that DNA and send the results, in the form of X-ray films, back to Keim at Los Alamos.

### **More Anthrax Strains Are Found**

In 1995, there was only one known site of variability in the anthrax genome. Using that, all known strains of anthrax could be divided into only three types.

By 1996, Keim, Jackson and their colleagues had found 31 sites that would occasionally differ among strains. But the real breakthrough came in 1999. The anthrax genome was being slowly decoded--and, armed with that information, Keim and Schupp figured out how to home in on the most variable sites.

Today, they've found more than 50 sites in the anthrax genome that vary, and vary often--and over a thousand more candidate sites. They can distinguish hundreds of anthrax samples from one another.

They can distinguish the British Vollum strain from the South African veterinary vaccine Sterne strain. They can distinguish one that caused outbreaks among Canadian wood bison this summer from the now-famous Ames strain, which appears to have first been isolated in 1979 from an Iowa cow. It was Ames, investigators say, that was used in the recent anthrax letter attacks.

That ability opens doors not only to bioterrorism sleuthing but to all kinds of other anthrax knowledge--where the microbe originated, how it later spread, and more. The trick is to track how the genome changed--mutated--as it moved from one place to another.

### **Anthrax Knowledge as Epidemiological Tool**

"It's a major breakthrough--a superb epidemiological tool," says Martin Hugh-Jones, veterinary epidemiologist at Louisiana State University in Baton Rouge and a longtime anthrax researcher who collaborates closely with Keim. "In the old days, all anthrax was just anthrax. We had all these theories about it. We couldn't test them. But now we can see because we can identify each strain. Paul turned everything on its head."

Anthrax, despite its ability to infect people, is overwhelmingly an animal disease--affecting everything from elephants in Africa to cattle in North America. Infection occurs when animals grazing on contaminated vegetation or feed inhale or swallow the microbe's hardy spores.

Keim and Hugh-Jones have traced the path of those spores from the disease's evolution in Africa maybe 10,000 years ago, down the Nile and over to Europe and Asia with livestock and trade ships, then over to the Americas with the Spaniards and their Andalusian horses.

Now the pair are studying anthrax's spread through the Western U.S.--possibly via old cattle trails that Hugh-Jones has painstakingly researched using historical records.

The fruits of his labor hang outside Keim's office: a large map zigzagged with colored lines marked "Santa Fe Trail," "California Trail" and more. Keim's group is DNA-typing anthrax found near the trails to see if they can use DNA changes to trace how the disease spread toward the west in the 19th century.

Before the anthrax-tainted letters started appearing and people started getting sick, the germ *Yersinia pestis*, which causes bubonic plague, was the main push at Keim's lab. There was a large outbreak this summer among small mammals in Arizona, and Keim's group has been analyzing *Yersinia* DNA in hopes of unraveling the origin and spread of the disease.

"I felt, personally, that this would be the project that gave us the most exciting scientific results. Anthrax was definitely playing second fiddle," he said.

The spate of anthrax-laden letters rapidly changed all that.

### **DNA-Typing Work Keeps Lab Busy**

Inside Keim's lab on a recent visit, machines hummed and workers milled about. A row of black machines was busy with the first step of the DNA-typing method Keim excels at: bits of DNA, be they from plant, mammal or microbe, being copied over and over to provide enough material to work with.

Elsewhere, a student opened up a large, refrigerator-like machine that's involved in another key step: figuring out the sizes of those tiny bits of DNA.

Words like "anthrax" and "smallpox" drifted out of a room where a gaggle of students took a break: Two more students, sitting back to back, scanned similar-looking screens filled with rows and columns of numbers.

Talima Pearson was busy analyzing DNA data from endangered birds called western willow flycatchers. Scott Spurgiesz was similarly analyzing strains of tuberculosis.

"Wasting time working on birds when you could be working on TB!" jibed Spurgiesz.

"I'm just waiting for the time when Osama bin Laden decides to weaponize willow flycatchers," replied Pearson.

The lighthearted mood persisted even under increased work pressure and greatly ramped-up security.

The lab's 1,200 live anthrax samples have always been under lock and key, Keim stresses. But a few months back you could walk into the university's glossy new microbiology building, wander upstairs, then stroll down a corridor to Keim's research suite--only then encountering your first locked door.

Not anymore. Even before the anthrax letters, right after Sept. 11, Northern Arizona University's biosafety committee and local officials demanded ramped-up security. Within days, police officers were roaming the floor: One walked right into a lab and demanded to know why he had gotten in so easily. (It was the lab of a colleague who studies harmless salt-loving bacteria, Keim says.)

For a week, an armed guard stood guard outside Keim's office. And soon the new wall and door went up.

"You're inside of two or three levels of security already," Keim says as he escorts a visitor, bounding up the stairs and swiping his electronic key against the locked door. Several more levels remain before anyone can reach the "select agents" room, where anthrax and other noxious bacteria are kept and studied. No one but a select few people can get in there.

"Security's changed," Keim says. "But everything's changed in the last few months, right?"

[Return to Contents](#)

**Wednesday December 19 1:53 PM ET**

## **Anthrax Probe Focusing on Labs**

*By LAURA MECKLER and KAREN GULLO, Associated Press Writers*

WASHINGTON (AP) - The anthrax investigation is focused on fewer than a dozen laboratories that have worked with the deadly bacteria, federal officials said, and investigators are working to identify the genetic fingerprints of anthrax held at each of them.

Investigators are increasingly convinced the anthrax that has killed five people since October came from inside the United States, and they are hoping to find the laboratory that produced it.

There have been no new cases of anthrax infection for weeks, but fallout from the attacks intensified Wednesday as people exposed to the tainted letters struggled to decide if they should be vaccinated in an experimental program.

Federal health officials said Tuesday they would offer anthrax vaccine and an extra 40 days of antibiotic treatment to thousands of Capitol Hill, media and postal workers in case any anthrax still lurks in their lungs. But they stopped short of actually recommending vaccination.

The vaccine itself is not experimental - it's been used safely for decades by veterinarians and others - but no one has ever used it after anthrax exposure, so it's not clear it will help.

A physician-senator advised most Capitol Hill workers Wednesday not to get vaccinated unless they were among about 70 people in close contact with the anthrax-logged letter mailed to Senate Majority Leader Tom Daschle.

“If my son or daughter or family member or me worked in that office and watched that letter being opened I would go ahead and take that vaccine,” said Sen. Bill Frist ([news](#) - [bio](#) - [voting record](#)), R-Tenn. But people less exposed to anthrax shouldn’t take it because “this is an old vaccine. The side effects can be serious.”

U.S. Postal Service employees are even more confused because federal health officials haven’t provided basic information about who is at sufficient risk to consider vaccination and where to get the shots, said vice president Azeezaly Jaffer.

“We will do what the medical community asks us to do; we just need to know what it is,” he said.

In the investigation, the FBI ([news](#) - [web sites](#)) believes there are at least five and as many as a dozen labs that have worked with anthrax from the Ames strain found in letters sent to Sens. Tom Daschle and Patrick Leahy, said a law enforcement official, speaking on condition of anonymity. Specifically, they’ve focused on labs that received samples from the U.S. Army Medical Research Institute of Infectious Disease at Fort Detrick, Md.

It is taking time to investigate each one, the official said Tuesday. That includes complicated genetic fingerprinting of the anthrax each lab holds, as well as interviewing people who work there.

So far, the anthrax at each tested lab has been a perfect genetic match to the anthrax found in the letters, said another federal official, also speaking anonymously. But anthrax has not yet been tested from every lab, he said.

In recent days, attention has focused on the possibility that a U.S. military installation was involved.

That’s partly because many of the labs that received anthrax of the Ames strain got it from Fort Detrick. Also, military officials said last week that Dugway Proving Ground, an Army installation in the Utah desert, has been working with a powdered form of anthrax since 1992 in its biowarfare research program.

Asked about the military’s involvement, Homeland Security Chief Tom Ridge acknowledged on Tuesday the possibility but said it was not the only one.

“There are multiple agencies within government that have for many years, for many reasons had access to this strain of anthrax,” he said. “That connection (to the military) could very well exist. The fact is we have multiple leads.”

At least one leading expert is urging the FBI to focus on government laboratories and contractors. Barbara Hatch Rosenberg, a molecular biologist at the State University of New York at Purchase, has told the FBI the perpetrator probably has connections with the government.

“Many contractors work in government labs and would have access to material,” said Rosenberg, who chairs a biological weapons panel at the Federation of American Scientists.

Among contractors being investigated are those that do classified work for the CIA ([news](#) - [web sites](#)), whose work is aimed at bioterrorism defense.

CIA spokesman Mark Mansfield said the agency is cooperating with the FBI. He said all its work with virulent anthrax was done by a couple of outside contractors.

The scientist who helped the United States refine anthrax and turn it into a weapon said Tuesday that bacteria spores used in the recent attacks could have been processed in a variety of ways, making it more difficult to trace the spores to their source.

“You can process the stuff in so many different ways, I don’t think that it will be the smoking gun,” said William C. Patrick III. Patrick led the Army’s biological weapons program until it ended in 1969 and taught scientists at Dugway how to turn wet clusters of bacteria spores into a dry powder.

Patrick, who holds patents for techniques used to make weapons-grade anthrax, suggested the culprit is not necessarily linked to a large lab. The type of spores sent through the mail could have been processed in a crude laboratory “as long as you are dealing with small quantities of material,” he said.

[http://dailynews.yahoo.com/h/ap/20011219/us/attacks\\_anthrax\\_27.html](http://dailynews.yahoo.com/h/ap/20011219/us/attacks_anthrax_27.html)

[Return to Contents](#)

Wednesday December 19 1:25 PM ET

## Bush Calls Putin on Arms Reduction

WASHINGTON (AP) - President Bush ([news](#) - [web sites](#)) called Russian President Vladimir Putin ([news](#) - [web sites](#)) on Wednesday to discuss cooperation on reducing nuclear arms after U.S. withdrawal from an anti-missile treaty.



Bush called Putin to talk about developing a new arms framework, "including lowered numbers of nuclear weapons and greater transparency of mutual cooperation on defenses, if possible," said White House spokesman Ari Fleischer ([news - web sites](#)).

The two leaders also discussed strengthening U.S.-Russian economic ties, Fleischer said. Otherwise, he said, Bush wanted to "extend holiday best wishes and to affirm the positive course of U.S.-Russian relations."

Bush announced last week that the United States will pull out in six months from the 1972 Anti-Ballistic Missile Treaty so it can test and build a missile defense system to protect against terrorists and rogue nations. U.S. and Russian officials will begin talks next month on making new cuts in their strategic nuclear arms, even though they continue to disagree over the U.S. pullout from the treaty.

Bush has proposed cutting U.S. nuclear warheads by about two-thirds, to between 1,700 and 2,200, from the current 6,000. Russia says it will bring its warheads down to between 1,500 and 2,200.

[http://dailynews.yahoo.com/h/ap/20011219/pl/us\\_russia\\_1.html](http://dailynews.yahoo.com/h/ap/20011219/pl/us_russia_1.html)

[Return to Contents](#)

Wednesday December 19 9:15 AM ET

## Low-Yield Nuclear Device Considered

By H. JOSEF HEBERT, Associated Press Writer

WASHINGTON (AP) - Defense officials are considering the possibility of developing a low-yield nuclear device that would be able to destroy deeply buried stockpiles of chemical or biological weapons.

Such a move would require Congress to lift a 1994 ban on designing new nuclear warheads.

In a report to Congress, the Defense Department argues that conventional weapons, while effective for many underground enemy targets, would be unable to destroy the most deeply protected facilities containing biological or chemical agents.

In recent years there has been a growing unease that terror groups or unfriendly, newly nuclear-capable states may be hiding weapons of mass destruction, including chemical and biological weapons, in deep underground facilities. In the report sent to Congress in October, the Defense Department said a low-yield, less than five-kiloton, nuclear warhead coupled with new technology that allows bombs to penetrate deep underground before exploding could prove effective in destroying biological and chemical agents.

Although not formally engaged in developing a new warhead design, nuclear scientists "have completed initial studies on how existing nuclear weapons can be modified" for use to destroy deeply buried targets containing chemical or biological weapons, the report said. Studies include "synergies of nuclear weapons yield, penetration, accuracy and tactics," it said.

Conventional weapons cannot destroy the most deeply buried chemical and biological holding facilities, the report concludes, but a low-yield nuclear device could do the job. It notes that the current nuclear arsenal was "not designed with this mission in mind."

The report was submitted in response to a congressional directive that the Pentagon ([news - web sites](#)) report what it was doing to develop ways to attack stores of chemical and biological weapons and also contains updates on a number of programs involving conventional weapons.

The report shows the Bush administration views a nuclear strike as "an intrinsic part" of dealing with deeply entombed enemy targets and "is essentially doing all the preparation" for a future full-scale research and development program for a new mini-nuclear warhead, said Martin Butcher, director of security programs at the Physicians for Social Responsibility.

This kind of warhead is "the dirtiest kind of all. It's highly radioactive," said Butcher, whose group has been a leading voice in the nuclear nonproliferation debate. Development of such a bomb would send the wrong signals and would add to the risk of nuclear proliferation, he said.

A low-yield nuclear weapon generally is considered to be no more than five kilotons. By comparison, the two atomic bombs dropped on Japan at the end of World War II were about 15 kilotons each.

The report sent to key committees in Congress by Defense Secretary Donald H. Rumsfeld in October provides a general outline of U.S. capabilities for dealing with what defense officials believe is a growing gap in U.S. military response.

The House International Relations Committee is pressing for renewed U.N. inspections in Iraq on the belief that it has rebuilt its nuclear, biological and chemical weapons programs since President Saddam Hussein ([news - web sites](#))'s government stopped allowing inspections in 1998.

Notes and diagrams found in houses vacated by al-Qaida fighters in Afghanistan ([news - web sites](#)) also point to an effort to create weapons of mass destruction.

The report said enhancements expected to be completed by 2005 to an array of conventional weapons, including laser-guided bombs and cruise missiles, should be able to destroy most underground facilities. But it maintains such weapons cannot penetrate the deepest facilities.

The report acknowledges that any decision to proceed with a nuclear device for attacking underground targets would be considered within the administration's broader plans for the nuclear stockpile and overall nuclear weapons policy. It said a joint nuclear-planning board already has been established to examine the use of nuclear weapons as bunker-busters.

The idea of using low-yield nuclear warheads to attack deeply buried enemy targets has been discussed for years. It was the subject of a classified study concluded in 1997 and has been frequently discussed by nuclear weapons scientists at the Los Alamos and Sandia national laboratories.

The essence of the report sent to Congress was reported Tuesday by The Albuquerque Journal. A copy was distributed by Nuclear Watch of New Mexico, based in Santa Fe, on its Web site.

The report had been requested by Sens. John Warner, R-Va., and Wayne Allard, R-Colo., and was part of this year's defense authorization legislation.

[http://dailynews.yahoo.com/h/ap/20011219/pl/mini\\_nukes\\_4.html](http://dailynews.yahoo.com/h/ap/20011219/pl/mini_nukes_4.html)

[Return to Contents](#)