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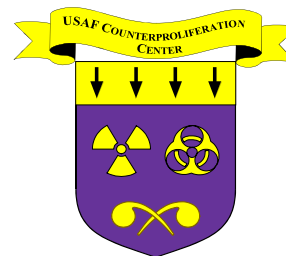
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The next big threat will be biological

We must find a way to prevent any use of these fearsome weapons

Michael Quinlan and Lewis Dunn

Wednesday July 3, 2002

[The Guardian](#)

Scientific knowledge in biology is advancing at an extraordinary rate and across a huge span. The coming century is bound to see an explosion of its possible applications. The potential for good is massive; but it is not exclusively benign. Just as in the last century chemistry and nuclear physics generated new weapons capable of inflicting harm beyond previous imaginings, so can the biological advance.

The September 11 reminder of global vulnerability, coupled with the US anthrax scare, has underlined the need to tackle the threat of biological weapons. Their development, possession and use are banned by the 1972 convention to which the great majority of states are party. However, it contains no effective provision for checking on observance: the Soviet Union and Iraq are known to have cheated, and up to a dozen other states are suspected of having or seeking a biological armoury.

The possession of these weapons is much harder to check on than nuclear ones. Materials open to malign exploitation are more diverse, less distinguishable from those for peaceful use and more easily produced than in the nuclear field; and facilities that could be used to build a destructive capability are less unique, less costly and less conspicuous.

The US administration has walked away from the attempt to shape a compliance protocol for the 1972 convention. Other countries deplore this dismissal of an enterprise on which the international community had laboured for years; but the administration judges that the draft could not offer enough assurance to justify the costs and risks involved. However, the issue cannot rest there, leaving a treaty of no more than exhortatory force as the only international defence against this frightening potential. So what is to be done? The most promising approach lies in moving away from the mindset of most global arms control efforts, which have concentrated on the possession of weapons.

Ultimately, what matters most is whether weapons are used. We should continue to do whatever we can to impede and stigmatise the possession of biological weapons, but we should now focus upon preventing their use.

Deterrence through capacity for fearsome retaliation already gives the US homeland a strong shield against overt state use of such weapons, but that is not the only scenario of concern to the international community, or to the US itself. Deterrence is not provided only by the existence of massive military force - it is enhanced by clarity about what will not be tolerated, by certainty of response (though attempts to predetermine its form are not always wise), by international legitimacy and support for effective response, and by the penalties displayed. The US and its allies could lead action to strengthen worldwide deterrence of biological weapons in all these respects.

What is needed is that the widest possible international constituency (preferably assembled around a security council resolution) should make a commitment to treat any use of weapons prohibited by the 1972 convention as a crime against humanity, beyond excuse; to regard any regime guilty of it, or of sheltering or supporting perpetrators, as having forfeited legitimacy; to pursue any such regime's leaders and any other participants individually as criminals; and to reverse any advantage secured by the crime, and succour its victims.

No state could easily oppose the thrust of such an undertaking. The main risk is that either idealist naivety or ill-disposed manoeuvring might try to load it with extra baggage, for example seeking to extend it to chemical or nuclear weapons (several Middle East states will not forswear chemical weapons while Israel has nuclear ones; and nuclear weapons are too deeply embedded in the current structure of international security to be dealt with like this). Such demands would merely ensure that nothing gets done.

Action on these lines could not eradicate the threat of biological weapons, but it would strengthen deterrence (and reduce the attractions of acquisition). Saddam Hussein and others would have to reckon with a greater likelihood of severe penalty not only for use but also for tolerance or support - hard to keep dependably concealed - of terrorist use. That is a contribution worth making to filling the vacuum in international strategy against biological weapons. The concept of international commitment to act against use of prohibited weapons could be applied elsewhere. It might help to deal with Iraq's possession of weapons debarred by UN resolution - and it would be less fraught with difficulty (over legitimacy, international support, efficacy and aftermath management) than the forcible deposition of Saddam. But that belongs to another discussion.

• Michael Quinlan is a former permanent under-secretary of state at the Ministry of Defence. Lewis Dunn is senior vice-president of the US-based Science Applications International Corporation

<http://www.guardian.co.uk/comment/story/0,3604,748308,00.html>

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From: News and Views | Beyond the City |
Friday, July 05, 2002

EPA Not Ready for a Big Hit Admits flaws on terror

By KENNETH R. BAZINET

Daily News Washington Bureau

The Environmental Protection Administration isn't ready for a radioactive dirty bomb or a chemical or biological terror attack, according to a post-Sept. 11 report obtained by the Daily News.

"[The] EPA is not fully prepared to handle a large-scale [nuclear, biological, chemical or radiological] attack," the agency said in the report, titled "Lessons Learned in the Aftermath of Sept. 11, 2001."

"Agency information, experience and equipment is insufficient to respond with confidence," the report said.

The agency is one of several that would be called upon to determine site safety for recovery workers, as well as any danger to people living near a contaminated area, in the event of a nuclear, biological or chemical attack.

"It should be noted that these attacks did not involve ... weapons of mass destruction, and yet the events of Sept. 11 presented an almost overwhelming challenge to the agency's resources," the report said.

"The potential resource demands of an actual ... incident, in which the agency would play a much more significant role, should be a critical concern for the agency," it concluded.

Among the report's findings:

- It took as long as two weeks to get air quality samples to first responders at the World Trade Center site — even as questions persist about the safety of the air around the smoldering rubble at the World Trade Center.
- The agency was short of critical equipment in its front-line regional offices, which were quickly overwhelmed by the effects of the attacks.
- Local, state and federal authorities often wouldn't acknowledge the agency's role and kept it from doing critical work to measure the safety and livability of areas around the attack sites. At the Pentagon, FBI agents were particularly obstructive to agency technicians, the report said.

The report recommended a series of remedies, including clarifying the EPA's on-site authority in decision-making and communications, response plans reviews and training exercises.

It also recommended improving the agency's data analysis and information-sharing with local authorities, along with improving on-site testing equipment. EPA teams also should have standard credentials, clothing and hardhats that are easily recognizable by other authorities, the report says.

The highly critical self-analysis, dated Feb. 1, is nearly impossible to find in Washington, but as word circulated this week about the existence of the inch-thick document, lawmakers said they had questions for EPA Administrator Christie Whitman.

Sen. Hillary Rodham Clinton (D-N.Y.) said she wants Whitman to appear before the Senate Environment and Public Works Committee to testify about what the agency had done to fix the problems.

"I'm asking that the ... committee immediately receive this report — which until now we haven't seen — and that we hold oversight hearings with EPA to explore these lessons and to ask the hard questions about what has changed since Sept. 11, or Feb. 1, and what else do we need to do to be better prepared," Clinton said.

Some members of the New York congressional delegation were impressed by the agency's frank analysis of how it handled its role after Sept. 11.

"EPA and Administrator Whitman should be commended for at least having the courage to catalogue their mistakes," said Rep. Carolyn Maloney (D-Manhattan). "The real problem is why aren't the other agencies like [the Federal Emergency Management Agency] doing the same thing."

Clinton added, "This is life or death. This is not something people should be cutting corners about or fudging their words over."

The EPA could not be reached for comment.

http://www.nydailynews.com/2002-07-05/News_and_VIEWS/Beyond_the_City/a-156525.asp

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Talks Advance on Iraq Arms Inspections

Associated Press

Friday, July 5, 2002; Page A16

VIENNA, July 4 -- Emerging from four hours of closed talks, U.N. officials and representatives of Iraqi leader Saddam Hussein said today they had made progress toward returning U.N. weapons inspectors to Iraq.

U.N. Secretary General Kofi Annan said he was "satisfied" with the session. But he sidestepped the question of whether a deal was near that would let inspectors back in Iraq for the first time in 3 1/2 years.

Pressed to make a prediction, Annan merely grinned and said "Inshallah," Arabic for "God willing."

Iraqi Foreign Minister Naji Sabri used the same word when asked whether he got what he wanted from the first day of a two-day session at the U.N. offices in Vienna. But he, too, appeared satisfied with the session.

Iraq wants the United Nations to lift sanctions and address U.S. threats to topple Hussein before agreeing to U.N. demands.

Under U.N. Security Council resolutions, sanctions can be lifted only when inspectors certify that Iraq's programs to develop nuclear, chemical and biological weapons have been destroyed, along with long-range missiles that can deliver such arms.

The Security Council -- particularly the United States -- has accused Iraq of trying to rebuild its banned weapons programs and of supporting terrorism.

The Vienna-based U.N. nuclear agency reiterated that it was ready to return to the inspection task at any time.

Jacques Baute, the agency's team leader for Iraq, said inspectors could move into the country within a few days of a decision.

In another sign of progress, U.N. spokesman Fred Eckhard said that Iraq and the United Nations were close to agreement on returning Kuwait's national archives, which were looted during the 1991 Persian Gulf War.

<http://www.washingtonpost.com/wp-dyn/articles/A26342-2002Jul4.html>

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NNSA: Nuclear Weapon Reports Need to Be More Detailed and Comprehensive.

GAO-02-889R, July 3.

<http://www.gao.gov/cgi-bin/getrpt?GAO-02-889R>

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Washington Post

July 5, 2002

Pg. 14

U.S. Gains In Attacking Mobile Arms

Scud Missiles Still a Question In Anti-Iraq Plans

By Vernon Loeb, Washington Post Staff Writer

As the Bush administration considers plans for attacking Iraq, senior defense officials say they have made great strides toward rectifying the single biggest failure of the Persian Gulf War: the inability to find and destroy President Saddam Hussein's mobile Scud missiles.

But experts inside and outside the military question whether new capabilities demonstrated in Afghanistan would be good enough to preempt Iraq's use of chemical or biological warheads, given the damage that could be inflicted on Israel or U.S. forces if even a few Scuds emerged unscathed.

Unlike the Gulf War, when Air Force and Navy pilots flew 1,460 sorties against Iraq's mobile Scud missiles and failed to destroy a single launcher, Navy fighters alone have attacked 2,500 mobile targets in Afghanistan, according to one senior Navy official. A 65 percent "hit rate" against mobile targets, the official said, represents "a significant, significant improvement since Desert Storm."

The ability to hit mobile Scuds will be one of the most important considerations in any plan by the Bush administration to attack Iraq because of its pursuit of chemical, biological and nuclear weapons, analysts inside and outside the Pentagon say.

The first Bush administration devoted considerable effort to hunting mobile Scuds in 1991, largely to prevent an Iraqi missile strike on Israel that would draw the Israelis into the war. But analysts say attacking the mobile missiles now would be even more important because any invasion of Iraq would be aimed at removing Hussein from power, a factor that could make the Iraqi president more likely to use chemical or biological weapons.

"If you make Saddam's head the price, he has no reason to be deterred," said Ivo Daalder, a former National Security Council official now at the Brookings Institution. "All he needs is one chemical or biological warhead to get anywhere in Israel and the likelihood is Israel would strike back. In that sense, the Scud game becomes even more important."

U.S. military capabilities now surpass anything Iraq encountered a decade ago, said Eliot A. Cohen, an expert on defense strategy at Johns Hopkins University, citing vastly improved precision munitions and communications technology, new unmanned aerial reconnaissance vehicles, and Special Forces targeting used to great effect in Afghanistan.

"The Iraqis haven't been able to test-fire a Scud missile since the Gulf War," Cohen said. "We've had 10 years to think very hard about this. I think they would be under some real stress, and it would be very difficult to fire those things with any kind of accuracy."

Even as they describe their own successes in the air war over Afghanistan, Navy and Air Force officials caution that four-wheel-drive vehicles and Taliban troop formations in Afghanistan were easier to bomb than Iraqi mobile Scuds.

"We're working hard not to create a false sense of accomplishment," the senior Navy official said, noting that the "miniaturization of technology" enables America's adversaries to place chemical and biological agents on smaller and smaller weapons.

"As we get better, the problem gets harder," the official said.

The U.S. laser-guided bombs and the targeting devices used to fire them have been improved since the Gulf War. The Pentagon has also introduced a new, satellite-guided smart bomb that, unlike laser-guided munitions, works in all kinds of weather.

In addition, two new unmanned aerial reconnaissance planes, the Predator and Global Hawk, give war planners a sustained view of the battlefield they did not have a decade ago.

A third system designed to help track and destroy mobile targets, the Joint Surveillance Target Attack Radar System (JSTARS), was in its infancy at the start of the Gulf War.

New communications capabilities enable commanders to analyze and relay data from those reconnaissance planes, often in minutes -- fast enough, officials say, to bomb a mobile Scud as it pops out of its hiding place.

A senior Air Force official said that one new communications system accelerated for use in Afghanistan enables F-15E fighters to receive precise targeting information directly from JSTARS aircraft, which provide radar imagery of hundreds of miles of terrain and can identify dozens of moving targets simultaneously.

No system exists to directly feed imagery from the Global Hawk drone, which can loiter over the battlefield for 24 hours, to strike aircraft. But during the war in Afghanistan, Global Hawk imagery was transmitted in real time via satellite to a command center in Saudi Arabia, where analysts reviewed it and relayed target coordinates in minutes to fighters over the battlefield.

These innovations are designed to collapse what Air Force strategists call the "kill chain" by reducing the "sensor-to-shooter" time it takes to find a target with a reconnaissance aircraft and attack it with a fighter or bomber. Shortly after the start of the war in Afghanistan, the Air Force established a Kill Chain Enhancement Task Force that is working to reduce sensor-to-shooter time to less than 10 minutes.

The most important innovation to emerge from the war in Afghanistan, Air Force officials say, has been the extensive use of Special Operations forces on the ground as target designators.

During the Gulf War, the Pentagon only belatedly involved Special Forces in the hunt for mobile Scuds after air efforts failed to prevent Iraq from firing missiles on Israel, Saudi Arabia and other targets. But in Afghanistan, Special Forces units were deployed from the outset, with Air Force combat controllers assigned to every Army Green Beret team.

"Scud hunting -- clearly that has the potential in certain theaters to be a very high-priority mission," the senior Air Force official said. "But that's not all. Mobile targets -- whether it's a Scud or an artillery piece or a tank battalion -- are key challenges. This has been an area of extraordinary emphasis since Desert Storm, but even more so, since September 11th."

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New York Times

July 5, 2002

Japanese Shipment Of Nuclear Fuel Raises Security Fears

By Howard W. French

TAKAHAMA, Japan, July 4 — Chugging past protesters shouting through megaphones, a slow-moving ship set out today from this tiny port town in western Japan carrying more than 550 pounds of nearly weapons-grade plutonium, the first shipment of its kind anywhere in the world since the Sept. 11 terrorist attacks in the United States.

For the Japanese government and the local power company here, the 18,000-mile voyage to return a load of defective fuel to a British supplier, was intended to close a scandal that badly hurt the Japanese nuclear power industry.

But for international environmental groups, Pacific island nations and some members of the United States Congress, the shipment opens a more dangerous chapter, involving the ocean transport under what they call weak security of raw materials that could be used for nuclear arms.

The ship that set out from here today, the Pacific Pintail, which cruises at the leisurely speed of about 13 knots, relies for protection on several deck-mounted 30-millimeter machine guns. The ship will be joined at sea by a similarly equipped companion vessel. Security on board each ship is provided by 13 veterans of the British special services, employed by the United Kingdom Atomic Energy Authority Constabulary.

"These ships are among the safest that travel on the seas, with double hulls, buoyancy tanks, satellite navigation systems and double the crew they need," a spokesman for British Nuclear Fuels Limited, which operates the ship and supplied the faulty fuel to Japan, told Reuters.

Critics of the operation point out, however, that the first shipments of reprocessed fuels from Europe to Japan, in the mid-1980's, were made under official naval escort that was provided by the United States, Britain and France. At a minimum, they say, in the post-Sept. 11 environment, cargos this deadly should have defenses guided by radar, to shield them from attack by small aircraft or fast boats.

"I have written to the State Department and expressed my concerns to the Pentagon," said Robert A. Underwood, Guam's delegate to the House of Representatives. "The State Department sent some people over who are responsible for nuclear safety, and said they have looked into the possibility of the ship leaking.

"Our bigger concern, though, is security, given the state of the world we are in," he said. "This is nuclear weapons grade fuel, and we would like to know, what will happen if there is a threat?"

Environmental activists fear that today's shipment will set a standard for the security of what could be dozens of similar shipments of reprocessed fuels from Britain to Japan, which would create a huge temptation to international terrorist groups. According to Greenpeace, the Japanese government has well over 33 tons of separated plutonium stockpiled in Britain and France, and it is intent on having European companies mix these stocks with uranium for burning in nuclear power plants here.

Japan has repeatedly confirmed its commitment to using reprocessed fuel from Europe for its nuclear industry. The government has made no comment about the current shipment.

The forms a threat might take were already spelled out in a critique of flaws in maritime security involving plutonium shipments, written six years ago by experts from Sandia National Laboratories, in conjunction with the Los Alamos and Lawrence Livermore laboratories, the United States' three premier weapons laboratories. The report warned against risks from the seizure of the plutonium cargo aboard a lightly armed ship, to a devastating attack using high explosives, which would create the equivalent of a huge dirty bomb at sea.

Wary of such a threat, South Korea today reportedly asked Japan not to allow the ships sailing today to enter the narrow strait just off Pusan that separates the two countries.

Officials in many South Pacific countries, through whose waters the plutonium cargo ships are likely to transit, also fear that the vessels could be sabotaged en route.

Kansai Electric, one of Japan's largest producers of nuclear energy and the operator of the reactor here that is returning the faulty plutonium fuel, would not say what route the ship planned to chart to Britain. Its destination is Barrow-in-Furness, the industrial port in northwestern England, where British Nuclear Fuels Limited, or BNFL, as the company is known, will receive the fuel.

Governments in this region are particularly nervous after recent intelligence reports from the United States and Morocco that groups with links to Al Qaeda had discussed plans to use small, high-speed boats to attack Western naval vessels.

These reports warned of sabotage plans centered near the Strait of Gibraltar. A similar attack using a small boat damaged the American destroyer Cole in the port city of Aden, Yemen, in October 2000.

"We are not informed about such things," said Tatsuya Kawabe, a spokesman for Kansai Electric. "All I can say is that security today is equal to the security when this shipment first arrived."

Today's shipment is the result of a major blunder, followed by an attempted cover-up, at BNFL, a troubled state-owned British nuclear fuels reprocessing company. In 1999, using a similar maritime security detail, BNFL shipped a cargo of fuel of mixed uranium and plutonium oxide, known as Mox, to Japan for use in a Kansai Electric reactor here.

The fuel, which is encased in ceramic pellets, must be milled to meet highly exacting standards. But after delivery here, it was discovered that many of the required quality controls had been fraudulently certified. Japan depends almost entirely on BNFL, as well as one other French contractor, to reprocess its nuclear reactor wastes, from which plutonium is derived.

Japan has virtually no oil or uranium reserves, and little coal. Recovering plutonium from spent reactor rods to mix with Japan's scarce uranium is a practice that is universally endorsed within government and power industry circles. The scandal over BNFL's falsely certified fuel, however, enraged citizens groups and helped put the Japanese nuclear power industry on the defensive. Activists opposed to nuclear power have used the issue, along with a spate of recent accidents in Japanese plants, to mobilize public opinion against the import of hybrid nuclear fuels from overseas. Referendums in some areas have prohibited use of the mixed fuel.

The recent uproar over the terrorist risk to nuclear shipments has only increased the pressure on Japan's nuclear industry to reconsider its mixed fuel program.

"As of now, we have no plans for a return shipment from BNFL," said Satoshi Azumi, manager for nuclear fuel engineering at Kansai Electric. "BNFL destroyed the trust between us, and until their reputation is restored and the people can trust them, there are no plans to buy more Mox pellets from them."

However, the Kansai spokesman, Mr. Kawabe, said resuming use of the hybrid fuels, which implies resuming transoceanic plutonium shipments, was only a matter of time.

"Plutonium recycling is a basic part of our energy security," Mr. Kawabe said. "It is inevitable."

Several dozen protesters who gathered noisily here to denounce the mixed fuel program, however, vowed to stop the shipments.

"The Mox program was started with no discussion with the people," said Miwako Ogiso, secretary general of the Council of People of Fukui Prefecture against Nuclear Power. "The shipment of fuel around the globe like this is not at all safe."

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USA Today

July 5, 2002

Pg. 3

N.M. Nuclear Arms Lab May Be Moved

The Department of Energy is moving to close a nuclear weapons facility in New Mexico that some legislators and public interest groups have said is highly vulnerable to a terrorist attack, according to employees at the site and members of Congress who have been briefed on the issue. The lab and all the nuclear-weapons-grade materials at Technical Area-18 at the Los Alamos National Laboratory will be transferred to a test site in Nevada, the sources say.

The facility was the site of the "garden cart" incident in 1997, in which Army Special Forces units tested its security by wheeling in a Home Depot garden cart and stealing more than 200 pounds of nuclear material. In another test in October 2000, mock terrorists gained access to enough nuclear material to cause a sizeable nuclear detonation.

The site has a \$23 million annual budget and houses several nuclear burst reactors, several tons of weapons-grade highly enriched uranium and plutonium and other sensitive nuclear devices. TA-18 is on the floor of a steep canyon and has long been considered by security experts the most vulnerable nuclear weapons facility in the DOE complex.

--Tom Squitieri

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In Iraq, U.S. Faces New Dynamics

Mideast: Analysts see little to deter Hussein from using chemical and biological arms this time.

By John Hendren, Times Staff Writer

WASHINGTON -- Pentagon strategists crafting a plan for a potential invasion of Iraq are contending with a problem they did not face during the 1991 Persian Gulf War: Iraqi President Saddam Hussein has little to lose this time by unleashing weapons of mass destruction.

During Operation Desert Storm, Hussein refrained from using chemical and biological weapons against U.S. troops, apparently reasoning that his regime could survive if he acceded to the American-led coalition's demands and ended an Iraqi incursion into Kuwait.

Today, with Hussein's elimination the central reason cited by the Bush administration for considering an invasion of his country, military analysts say the Iraqi leader has little to deter him from using the very weapons that war planners want to destroy. "We've talked ourselves, in many ways, into a war with Iraq because [its] possession of weapons of mass destruction is unacceptable, when it's almost certain that that very war is going to lead to the use of weapons of mass destruction," said Ivo Daalder, a military analyst at the Brookings Institution.

That reality has forced military planners to emphasize preemptive strikes against suspected chemical and biological weapons production sites and unprecedented protection for American forces.

The plan to invade Iraq, dubbed "Operation Polo Step," has not yet reached Defense Secretary Donald H.

Rumsfeld's desk. Under the plan, special operations troops and airstrikes would destroy chemical and biological weapons sites before the weapons there can be used against an invading American force. The preemptive strikes in the contingency plan, which was drafted by the U.S. Central Command and outlined in the Los Angeles Times on June 23 by columnist William M. Arkin, would likely occur before an invasion by as many as 250,000 troops.

Yet even vigorous strikes are unlikely to eliminate Iraq's suspected arsenal of taboo weapons, particularly mobile production facilities and Scud missile launchers that are hard to track, military analysts say. To protect troops from such weapons, Pentagon officials are said to be stockpiling defensive material, including chemical weapons suits, vaccines and medical evacuation equipment.

The primary objective would be removing Hussein from power, and therein lies the danger, said Loren Thompson, a military analyst with the Lexington Institute think tank in Arlington, Va.

"The way we've gone about preparing for this operation has communicated very effectively to Saddam that he has nothing to lose by doing something crazy," he said.

'Different Kind of War'

That leaves U.S. forces facing a dramatically altered conflict.

"If we go after Iraq, it is a different kind of war in every way you can imagine," said William Taylor, a retired Army colonel and military analyst at the Center for Strategic and International Studies. "Saddam wouldn't go down without using his ace in the hole, which is a Scud missile with chemical or biological weapons on it."

In any war blueprint, Pentagon strategists keep in mind an old military aphorism: No plan survives contact with the enemy. With that in mind, military planners must contemplate several nightmare scenarios.

Under one, special operations assaults and airstrikes leave Hussein with some chemical or biological weapons and enough troops in Baghdad, the capital, to force the U.S. military to fight an urban battle, street by street, while facing clouds of chemical or biological agents.

Under another, the Iraqi leader, who launched Scud missiles toward Tel Aviv in 1991, would use them to deliver chemical or biological agents this time and draw Israel into the conflict. That could undermine the support of predominantly Muslim countries drawn into any U.S.-led coalition. Israel was not drawn into the Gulf War, but it has recently shown an inclination to respond vigorously to attack, and the Bush administration has defended Israel's right to self-defense.

"If he can get a 'dirty' bomb or whatever--some weapon of mass destruction--into Tel Aviv, you're going to have Palestinians jumping in the streets," Daalder said. "And it's going to change the dynamic."

Pentagon officials declined to confirm the existence of the classified plan, but they acknowledged that regional commanders are developing strategies for potential conflicts in their territories.

"It should not come as any surprise that the U.S. Defense Department is continually planning all the time for possible contingencies around the world," said Pentagon spokesman Bryan Whitman. Military analysts caution that the plan has not reached the president and is one of perhaps a dozen proposals related to Iraq under consideration within the Pentagon's Office of Strategic Planning, the Joint Chiefs of Staff and other agencies.

The proposal, detailed in a 150-slide presentation by the Central Command, revealed a moderate concern about the levels of chemical and biological weapons, a source familiar with the plan said, suggesting that Pentagon officials do not believe that Hussein's development of weapons of mass destruction has advanced seriously since the Gulf War. Despite an apparent lack of support for the proposal from members of the 1991 coalition such as Saudi Arabia, the United States has advantages it did not have last time, including more accurate air power and more extensive intelligence. Suspected chemical and biological weapons sites in Iraq have been pinpointed by intelligence officials who have spent the last decade compiling surveillance photos and other data.

Smarter 'Smart' Bombs

And although only one in 10 bombs dropped by American pilots in the Gulf War were guided "smart" bombs, that figure grew to six in 10 last fall in Afghanistan. During the Gulf War, it took hours to get intelligence on the movement of Scud missile launchers. Defense officials say bombers can now strike such targets within 30 minutes. President Bush has repeatedly promised to oust Hussein one way or another. The disclosure, by this and other publications, of war strategies the Pentagon is discussing sometimes originates among those disaffected with the plan, including officials with the Air Force and other services who call it unimaginative and say it fails to take advantage of the air power demonstrated in the war in Afghanistan.

"A preemptive strategy is supposed to be a surprise. This one's going to be in the Encyclopedia Britannica before it's executed," analyst Thompson said.

The criticism also reflects the fact that administration officials disagree over the best strategy to unseat Hussein and curtail production of weapons of mass destruction. Wayne A. Downing, a retired Army general who recently quit his post at the National Security Council, was among those arguing for a less conventional strategy that would rely heavily on Iraqi opposition groups, special operations troops, an unprecedented air campaign and fewer U.S. ground forces.

Criticism of Proposal

Proponents of such a plan have their critics. In Afghanistan, they note, the Central Command opted in December to rely on high-tech surveillance, air raids and Afghan fighters to ferret out Osama bin Laden and members of his Al Qaeda terrorist organization who were believed to be hiding in the mountains of Tora Bora. After failing to locate Bin Laden and finding that many of the guerrillas had escaped, defense officials again targeted the same region of Afghanistan in March, using large numbers of ground troops in a U.S.-led force.

"The way we win wars is by taking territory on the ground," analyst Daalder said. "Osama was in Tora Bora and got out because we didn't put troops on the ground and relied on our neat gizmos ... and didn't do it in the way we would have done it 30, 50 or 100 years ago, with men on the ground. We might have been more effective if we had done that."

According to a U.S. official with knowledge of internal war planning discussions, the debate pits two sides within the Pentagon against each other: the Joint Chiefs of Staff, which is skeptical about a major military operation against Iraq, and civilian hawks in the defense secretary's office, including Deputy Defense Secretary Paul D. Wolfowitz and Undersecretary for Policy Douglas Feith, who are considered pro-Israel and skeptical of Arab critics of a war with Iraq.

Whatever the merits of the competing approaches, the persistent public discussion of plans for invading Iraq makes their actual execution less likely, Thompson said.

"First of all, we've given Saddam ample time to make every preparation possible for our arrival," he said. Secondly, he added, it will "force us to try something different in order to overcome his preparation."

Times staff writer Robin Wright contributed to this report.

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Washington Post
July 6, 2002
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U.N., Iraq Fail To Reach Deal On Inspectors

By The Associated Press

VIENNA, July 6 -- After two days of talks that had raised hopes Iraq might relent, the United Nations said today that it failed to persuade Baghdad to readmit U.N. weapons inspectors.

Diplomats agreed to continue talks in Europe in the coming months, but U.N. Secretary General Kofi Annan said that the Iraqis needed to consult with officials in Baghdad. No date was set for the next round.

Annan and Iraqi Foreign Minister Naji Sabri met privately before the announcement but could not agree on face-saving measures.

In Washington, State Department spokeswoman Jo-Anne Prokopowicz said the administration was not surprised the talks had failed, because Iraqi statements before the meetings foreshadowed the outcome.

"Iraqi representatives continue to raise issues aimed at preventing and delaying a focus on its core obligations," she said. "We see no basis or need for prolonged discussions of Iraq's obligations."

Diplomats had expressed concerns about continuing the talks indefinitely, saying Iraq could be stalling in the face of U.S. threats to topple Iraqi leader Saddam Hussein.

The unsuccessful session came after U.N. and Iraqi technical experts discussed the details of the inspectors' return if an agreement were reached. Sabri said the talks would continue on a technical basis and called the two days of negotiations "constructive."

Before allowing inspectors to return, Iraq has demanded the United Nations lift sanctions imposed on it for invading Kuwait in 1990, triggering the Persian Gulf War.

Under Security Council resolutions, sanctions can be lifted only when inspectors certify that Iraq's nuclear, chemical and biological weapons have been destroyed, along with the missiles that could deliver them. Inspectors left in 1998, just before allied airstrikes to punish Iraq for having blocked the inspectors' work.

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USA Today
July 8, 2002
Pg. 2

Preparations Underway For Radiation Attack

Government, markets fear wide panic

By Mimi Hall, USA Today

The New York Stock Exchange plans to open secret communications centers around the country. Public health officials are adding hundreds of doctors to emergency-response teams. Nuclear safety officials plan to buy more radiation-detection devices.

Faced with the prospect of new terrorist attacks, virtually every segment of American society — from Washington to Wall Street — is taking steps to keep government functioning, money flowing and people calm.

The need for such preparations was highlighted last month by the detention of a U.S. citizen who authorities said was planning to detonate a radioactive "dirty bomb" somewhere in the USA.

At the federal level, "it's the one we're most prepared for, because we have five decades of experience preparing for it," says Randy Larsen, director of the ANSER Institute for Homeland Security. He and other experts say the detonation of a radiological device would not cause mass casualties, even if it did create widespread panic.

Nevertheless, federal officials worry that an attack with radioactive material could cripple the economy and cause enough panic to overwhelm local hospitals with people seeking treatment. Larsen says a radiological strike would have "an enormous psychological impact, even though it shouldn't."

To prepare, some of the nation's key institutions and government departments are taking steps:

*The New York Stock Exchange has built two auxiliary trading floors at secret locations to ensure that trading can continue if the city's financial district is attacked.

The stock exchange plans to open new communications hubs around the country to handle the more than 1 billion daily buy and sell orders between investors and brokers. Two hubs have opened at undisclosed locations in New

Jersey and Westchester County, N.Y. To keep the locations secret, the exchange can move them without brokerage firms' knowledge.

*The Securities Industry Association, the trade association for Wall Street, has set up a command center and a backup site at an undisclosed location. If there is an emergency, the group will contact about 150 executives in charge of business continuity at the top Wall Street firms. Together, they will determine how to respond.

*The Federal Reserve is spending millions on security. The Fed's 12 regional banks, which spent an extra \$6.8 million in 2001 for immediate terror-related costs, plan to spend an extra \$50.3 million this year. The Fed's Board of Governors in Washington added \$13.8 million to its 2003 budget for added security, including 11 extra staff members, greater use of bomb-sniffing dogs and other measures.

*The National Nuclear Security Administration, which would respond to a radiological incident, plans to recruit more scientists to handle decontamination and evacuation. It also will expand the Nuclear Emergency Support Team, a group of experts who work with intelligence officials to find and defuse a radiological or nuclear device before it's detonated.

*The Department of Health and Human Services is recruiting hundreds of doctors to add to the volunteer teams it maintains to respond to a terrorist attack. More than 7,000 doctors now are available to put together MASH-like hospital centers.

Local officials say there's not much they need to do to augment emergency plans already used for everything from floods and earthquakes to school shootings.

However, cities across the country are conducting more frequent emergency drills, complete with decontamination units and hundreds of volunteer victims. Officials are buying radiation-detection devices and collecting architectural blueprints of major private and government buildings. And some states are handing out anti-radiation pills to people who live within 10 miles of nuclear reactors.

The New York City Police Department plans to equip 1,000 police sergeants with high-tech radiation beepers in coming months. And J.P. Morgan Chase bank recently offered its 95,000 employees a personal emergency kit. Its contents: bottled water, a face mask, a light stick and a whistle.

Contributing: Noelle Knox, Christine Dugas, Martin Kasindorf, George Hager and Bob Davis

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Defense Week

July 8, 2002

Pg. 2

Russian Wants To Work With U.S. On Nuclear-Tipped Missile Defenses

By John M. Donnelly

The head of Russia's premier nuclear-weapons laboratory told visiting U.S. lawmakers recently that he is interested in pursuing U.S.-Russian development of nuclear-tipped antimissile interceptors, an idea that has sparked controversy in Washington.

Yevgeny Velikhov, director of the Russian Research Center Kurchatov Institute, broached the idea of U.S.-Russian cooperation in designing new, low-yield nuclear warheads for kill vehicles during a private meeting with a 13-member U.S. congressional delegation this spring, according to a knowledgeable congressional aide.

Velikhov's proposal has not previously been publicized. There is no evidence that it could become reality, just that a key Russian is interested. But there seems to be interest in the nuclear option for missile defense among some influential conservatives in Washington.

There is no unclassified Pentagon program to develop nuclear-tipped interceptors. But William Schneider, head of the Pentagon's Defense Science Board, told The Washington Post in April that Defense Secretary Donald Rumsfeld is "interested in looking at" the concept and that the scientific advisory board plans to study the idea.

Moreover, the report accompanying the House-passed fiscal 2003 defense-authorization bill says it would be "prudent" for the Defense Department to investigate alternatives—including "nuclear-armed interceptors"—to the current developmental antimissile systems, which rely on kinetic force to obliterate enemy reentry vehicles. The Senate responded to the House earlier this month by barring the use of federal funds for nuclear-tipped interceptors. The amendment to the Senate Armed Services Committee's fiscal 2003 defense-authorization bill was co-sponsored by an unlikely and bipartisan pair: Ted Stevens (R-Alaska) and Dianne Feinstein (D-Calif.).

An upcoming House-Senate conference committee may have to resolve the disagreement between the House- and Senate-passed authorization bills.

Cooperation with Russia on such a project would be met with great criticism in the United States and abroad. But it would be an ironic postscript to the Cold War if, hard on the ABM Treaty's demise last month, the two former super-adversaries were to join forces in developing strategic missile defenses—and make them nuclear to boot.

President Bush and Russian President Vladimir Putin have promised to explore antimissile cooperation—from joint exercises to shared early warning. But they have never talked publicly about nuclear interceptors.

The United States deployed a four-megaton nuclear-armed antimissile system in 1971 but later discarded the nuclear concept of operations, reportedly because of the prospect of ionized clouds and electromagnetic pulses, which could blind radars, satellites and other equipment.

Today, critics of the nuclear notion point to these same risks. They also say the research into nuclear options constitutes an admission that hit-to-kill technology will not work.

Schneider told the Post that the nuclear solution obviates the need to discriminate decoys from threat warheads: The kill vehicle would obliterate the whole cluster of objects, he reportedly said.

Russia, for its part, has had a nuclear-armed antimissile system around Moscow since the 1960s.

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Washington Post

July 8, 2002

Pg. 1

Smallpox Vaccine Program Readied

Inoculations May Surpass 500,000 Under U.S. Plan

By Ceci Connolly, Washington Post Staff Writer

Federal health officials say they are finalizing a plan that would vaccinate hundreds of thousands of emergency medical personnel against smallpox this fall and expand to include other health care and rescue workers most at risk if the deadly virus is unleashed in the United States.

"At the end of the day, the numbers could be significantly greater than 500,000," said Jerome Hauer, acting assistant secretary for emergency preparedness at the Department of Health and Human Services. He said vaccinations could begin within eight weeks.

Eventually, as more vaccine becomes available and experts have a chance to study adverse reactions to the inoculation, administration officials expect to make it widely available on a voluntary basis.

What began as a small, conservative approach by the government for protecting against the unlikely event of a smallpox attack is rapidly developing into a broad, aggressive proposal. Demand for the vaccine, new projections on how easily the smallpox virus could be spread in a terrorist attack and the size and scope of the U.S. medical profession have pushed the Bush administration to expand its view.

For now, any vaccination would be voluntary. However, even a single case of smallpox could trigger mass vaccination and quarantine, Hauer warned, because "we would assume any presentation of smallpox at this point in time is likely to be an intentional" attack, rather than a naturally occurring outbreak.

The debate over smallpox vaccination revolves around two unknowns: the likelihood of an outbreak vs. the likelihood of severe, sometimes fatal, complications from the vaccine.

Although smallpox was eradicated worldwide in 1980 and only the United States and Russia are known to hold small caches of the virus, some experts believe that samples of the virus may have gotten into the hands of terrorists or rogue states. Because of its potency and its stealthy nature, it is among the most feared biological weapons today. A smallpox attack could go undetected for days or weeks, the first hint of trouble coming in the form of a mysterious rash. There is no known cure for the disease, and because it is highly contagious it could spread quickly through a community.

Even with the slim chance of an attack, the Bush administration is moving rapidly on several fronts to prepare for one -- stockpiling millions of doses of vaccine, developing a quarantine plan and negotiating with interest groups such as the truckers' association that wants vaccine for its members.

Last month, a panel of scientific experts recommended a limited vaccination plan targeting small teams of health care workers who would be protected in the event of an outbreak. The panel, arguing that the risk of serious side effects outweighed current fears of an outbreak, estimated 20,000 people nationwide would be inoculated as a

preventive measure. Complications include a sore arm, low-grade fever, encephalitis (brain inflammation) and even death.

The group also endorsed traditional "ring vaccinations" of isolated, infected patients and people in close contact with them to contain the outbreak.

Health and Human Services Secretary Tommy G. Thompson, who will decide the policy, is likely to go far beyond the panel's position, said several of his top advisers.

"We're going to have to have a large number of people vaccinated," said D.A. Henderson, chairman of the Council on Public Health Preparedness at HHS. His rough count of emergency department staffs at one-fifth of the nation's 5,000 hospitals puts the number at 250,000.

Firefighters, police officers and doctors and nurses in private practice could quickly be added to the list, said Hauer. Some states have lobbied for their own supply of vaccine -- and some federal officials privately concede they may be legally obligated to provide it.

Most Americans older than 30 were inoculated against smallpox as children, but medical experts doubt the vaccine would still protect them from disease.

Julie L. Gerberding, the new director of the Centers for Disease Control and Prevention, said in an interview last week that in a series of conference calls, medical associations, hospital groups and public health workers were pressing for more widespread vaccination of their workers.

"It's an unfolding process," she said, noting the vaccination program could expand in coming months. Plans for a larger vaccination program were first reported in yesterday's New York Times. In interviews Sunday, officials stressed that Thompson has yet to approve a final plan.

In theory, the idea of vaccinating front-line health care workers seems straightforward. The federal government already has more than 75 million doses of vaccine and by year's end expects to purchase enough for every American.

But as Thompson's aides attempted to craft a plan, they found "it's much more complicated than one might imagine," said Henderson.

Each vial in the U.S. stockpile contains 100 doses of vaccine, which would be diluted five times. That means 500 people would have to be inoculated at once, since vaccines lose their potency once a vial is opened.

Since routine immunization ended in 1972, most medical workers would need training in administering the live vaccine, a process that includes 15 quick stabs in the arm. Immunized health care workers would likely be out of work for 10 days, Hauer said, to prevent the spread of live vaccine to patients.

Thompson's team is also debating whether to require an HIV test for anyone receiving the vaccine, since it could be harmful to people with weakened immune systems.

Several advisers to Homeland Security Director Tom Ridge have been pressing for a way to vaccinate more Americans, said Alan Zelicoff, a physician and biological weapons expert at Sandia National Laboratories in New Mexico.

"They are trying to find an approach that has the highest benefit-to-risk ratio," he said. Starting with medical workers makes sense, he said, because they are most likely to understand the risks of vaccination.

The CDC will monitor everyone who receives the vaccine, Hauer said, to track any adverse reactions.

Experts at the CDC have also developed a quarantine plan based on a hoax that occurred last year. In the scenario, a person infected with smallpox boards a plane with 500 passengers. Upon arrival, passengers would likely be escorted to private rooms for vaccination and quarantine, said Marty Cetron, a CDC investigator who helped develop the quarantine proposal.

But that sort of "ring vaccination" scenario unrealistically assumes health officials would know before the plane landed that it contained a person with smallpox and that the other passengers would peacefully agree to quarantine, argued William Bicknell, a physician at Boston University School of Public Health and former Massachusetts health commissioner.

Given today's mobile society and the likely craftiness of a terrorist armed with a virus, Bicknell advocates vaccinating millions of adults, an approach that could serve as a deterrent. "If you vaccinate a couple million people, it becomes easier to vaccinate the rest" if there is an outbreak, he said.

Still, noted Zelicoff: "If we vaccinate a few million people, we know a few are going to die."

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U.S. Response: Commercial Satellites To Enhance WMD Detection

By Bryan Bender, Global Security Newswire

WASHINGTON — New U.S. plans to substantially increase its reliance on commercial satellites will help to verify arms control treaties and to uncover illegal or other suspect weapons development programs, government officials, industry experts and private analysts told Global Security Newswire this week. The move will make publicly available more timely, precise and affordable pictures of the Earth than ever before, they predicted.

Greater access to high-resolution space imagery would assist international arms inspectors, strengthen diplomatic efforts to pressure would-be proliferators and treaty violators, and otherwise improve the ability of governments, international bodies, independent analysts and nongovernmental organizations to examine WMD-related activities around the globe.

CIA Director George Tenet last month directed the U.S. intelligence community to utilize U.S. commercial space imagery "to the greatest extent possible" and reserve government-owned spy satellites for the most specialized and sensitive of missions. The intelligence chief called on the community to take "all possible steps to remove any remaining institutional obstacles" to using commercial imagery.

The directive is expected to boost the commercial remote sensing industry, which has struggled to find a stable customer base. As a result, it has not realized its potential for advancing global transparency in the decade since increasingly high-resolution space images have become available to the public.

"My goal in establishing this policy is to stimulate, as quickly as possible, and maintain, for the foreseeable future, a robust U.S. commercial space imagery industry," Tenet told the Pentagon's National Imagery and Mapping Agency in the June 7 directive, a copy of which was obtained by GSN.

NIMA Director James Clapper said in an interview with Space News this week that he intends to process this imagery "as quickly as the data collected by U.S. national security satellites."

Greater Availability of Space Imagery

Companies such as Space Imaging and DigitalGlobe today operate satellites that take images capable of detecting objects smaller than one meter square — not as precise as government-owned satellites with resolutions measured in inches, but nevertheless highly revealing. When customers request an image be taken of a particular location, at a cost of thousands of dollars, under most circumstances the image is then placed in the company's archives for sale. Archived images cost substantially less; in the case of Space Imaging's IKONOS satellite, about \$350 each, a recent reduction from \$500, according to company officials.

"Our hope is there will be more imagery in the archive and that will enable them to sell imagery at a lower cost," said John Pike of GlobalSecurity.org, an arms control group frequently uses commercial space imagery to conduct independent analysis of suspected nuclear and missile facilities.

According to Corey Hinderstein, a remote sensing expert at the Institute for Science and International Security, "the purchase of an image out of the archive is a set amount while tasking the satellite is more expensive. If governments are buying more images and they are showing up in the archives then it may be easier for other governments and nongovernmental organizations to buy the images."

"At a minimum, the fact that the government is keeping these firms viable would be useful and beneficial for anyone who would want to use imagery for broader public policy purposes," added John Baker, a space policy analyst at the RAND Corporation.

Increased Global Transparency

Government and private experts envision a variety of benefits to the arms control and disarmament communities.

Commercial imagery could be used more frequently by on-site inspectors such as the U.N. Monitoring, Verification and Inspection Commission, which is now seeking to return to Iraq (see related GSN story, today), or the International Atomic Energy Agency.

In inspecting an alleged suspected weapons of mass destruction facility, a satellite image from the previous few days would be useful to determine any recent activities, such as the removal of equipment. "There is no better way of finding your way around if you have an image of the facility," Pike said.

Moreover, the process of disseminating commercial images does not suffer from the same thorny issues of classification as those taken by a government satellite and then provided to an international body such as UNMOVIC or the IAEA. "This is precisely the kind of imagery they would be interested in using because it doesn't have classification," Pike said.

As a result, a country such as Iraq could no longer accuse the United Nations of complicity with national intelligence agencies for its reliance on their spy photos. "It eliminates an area of contention on both sides," said Hinderstein. "The inspecting agency can get timely and accurate information when and where they need it, but not from national systems."

Increased use of commercial imagery will build upon what a recent RAND report calls a "growing interest of nongovernmental organizations and multinational agencies in taking advantage of these data to address specific international problems." This includes, for example, enabling nongovernmental experts to "use commercial satellite imagery to detect and identify, despite highly restricted external access, suspicious facilities that could be part of a nuclear weapon program" or to "understand what transpired at the nuclear test sites at which India and Pakistan conducted a series of nuclear detonations in 1998."

Pike calls this "looking over other people's shoulders." By looking through the archived images of a commercial imagery company, he said, one can get a sense of what governments are interested in. "A lot of agencies out there in the United States and other governments know where a lot of these [suspect facilities] are located much more than we do," he said. "So one strategy has been to look for places that they have a lot of imagery of. If someone like the U.S. government with a lot of money is interested in a particular site, maybe we should be, too." A recent example of this, he said, is a large amount of imagery taken by the IKONOS satellite of a particular location in Iran. "Very early on, someone bought a lot of Space Imaging photos of secret cities in Russia," he said.

"It will be known if the United States goes out and looks at a site like a South Asian nuclear reactor," added Baker. Mark Brender, executive director of government affairs for Space Imaging, acknowledges that the growing archive can hint at where the government is looking. "You can map people's fears," he said.

Public Diplomacy

Commercial imagery could also be critical to the success of public diplomatic efforts to force action against arms control violations or illegal developments. It can be used for "illustrative purposes and public diplomacy to highlight something at a controversial Iraqi or Iranian location, for example," Baker pointed out.

"Commercial imagery is a way for a country that doesn't want to show its national capability to show images to others," added Hinderstein, noting that commercial imagery was used in negotiations with North Korea to suspend its nuclear program.

Despite the U.S. plan to become the commercial remote sensing industry's biggest customer, experts acknowledge that several unknowns remain that could diminish the trickle-down effect.

The United States could exercise its right to classify certain commercial images under the guise of national security or pay to have a certain image kept out of the archive, restricting access of images of the most sensitive sites by keeping them out of public reach.

With only special and highly expensive exceptions, however, industry officials say the images will eventually be put in the archive. For example, the United States last year temporarily purchased exclusive rights to IKONOS images of Afghanistan and Pakistan. Except for U.S. bases, all of those images, 470,000 square kilometers, are now available for public purchase.

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New York Times
July 9, 2002

Study Favors Different Tack On Smallpox

By William J. Broad

A new study finds large differences in how four different vaccination strategies would fight a smallpox terror attack, with the best allowing 440 deaths and the worst 110,000 deaths.

The study used a mathematical model to compare how a smallpox attack on a large city that infected 1,000 people would progress when countered with diverse vaccination plans meant to halt the spread of the highly contagious disease.

In all cases, mass vaccination of the United States population worked far better than limited, local immunizations, a strategy the federal government has tended to prefer.

"We find that mass vaccination results in both far fewer deaths and much faster epidemic eradication," the authors concluded.

In the best case, the hypothetical epidemic was halted in 115 days and in the worst, 350 days.

The analysis, published this week in the online edition of Proceedings of the National Academy of Sciences, was written by Edward H. Kaplan, a public health specialist at Yale University, and David L. Craft and Lawrence M. Wein, both of the Massachusetts Institute of Technology.

Ever since smallpox was eradicated from human populations decades ago, federal officials have resisted mass vaccination because the vaccine uses a live virus that can cause severe side effects and even kill. In the days of widespread vaccination, roughly one person in a million receiving the vaccine died.

But federal policy is in flux because of fears of bioterrorism. Although today only Russia and the United States are known to have stocks of the virus, experts say clandestine supplies probably exist.

Most people are considered vulnerable to a smallpox attack because immunity is thought to wane over time. The United States stopped routine vaccinations in 1972. Smallpox kills roughly one in three victims who are unvaccinated.

Vaccination can save even infected people: if given within four days of exposure to the virus, the vaccine halts the disease's advance.

The new study, coming amid rising criticism of federal policy in recent months, claims to be the first to make detailed comparisons of the vaccination options. It expands on a presentation Dr. Kaplan gave last month in Washington.

The study found the least effective method to be "ring vaccination," the primary way smallpox was eradicated from human populations. It consists of isolating infected patients and vaccinating people found to be in close contact with them, forming a ring of immunization around any outbreak and a barrier to its spread.

In the hypothetical attack, ring vaccination allowed 367,000 cases of smallpox and 110,000 deaths and took 350 days to extinguish the outbreak.

By contrast, mass vaccinations as soon as authorities became aware of an attack — it takes roughly two weeks for smallpox to incubate and a body to show symptoms — would result in 1,830 cases and 560 deaths within 115 days.

The study found that if the authorities decided belatedly to switch from ring-to-mass vaccination on the 33rd day of the crisis, the effect would still be considerable, 15,570 cases and 4,680 deaths. "The cost of waiting," the authors said, "is very high — 4,120 incremental deaths."

The study found that the vaccination of the United States population before an attack worked best of all to cut fatalities.

If only 40 percent of the population were immunized before any such attack, the same attack followed by wider mass vaccinations would produce 440 deaths. But if followed with ring vaccinations, the result would be 40,000 deaths.

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Powell Urges OK of Russia Arms Pact

Tue Jul 9, 11:47 AM ET

By BARRY SCHWEID, AP Diplomatic Writer

WASHINGTON (AP) - Secretary of State Colin Powell ([news](#) - [web sites](#)) urged the Senate Tuesday to swiftly ratify a new strategic arms reduction agreement with Russia, saying it enhances the national security of both countries.

He said the treaty, signed by Russian President Vladimir Putin ([news](#) - [web sites](#)) and President Bush ([news](#) - [web sites](#)) at their May summit in Moscow, marks a new era in relations between the two former Cold War enemies.

"I strongly recommend that the Senate advise and consent to its ratification at the earliest possible date," Powell said.

The agreement sets out "both countries' commitment to make deep strategic, offensive reductions" in their nuclear arsenals "in a flexible and legally binding way," he said in testimony before the Senate Foreign Relations Committee.

The panel debates treaties before they are sent to the Senate for a vote. By tradition, the secretary of state is the first member of any administration to testify in support of treaties it submits to the Senate.

Powell said the treaty with Russia "facilitates the transition from strategic rivalry to a genuine strategic partnership ... which involves a broad array of cooperative efforts in political, economic and security areas."

The treaty calls for the United States and Russia to slash their long-range nuclear arsenals by two-thirds over the next decade, to between 1,700 and 2,200 deployed warheads each.

The committee chairman, Sen. Joseph R. Biden Jr., D-Del. and a senior Republican, Sen. Dick Lugar of Indiana, called the treaty a good first step but said it fell short on several fronts, especially the lack of a provision requiring the destruction of nuclear warheads

But Powell said the United States and Russia would store the excess warheads and destroy many of them. He said there was no incentive for either side to put the warheads back on missile launchers and bombers.

"We believe the Russians will act in the same way we will," Powell said.

But Lugar said he shared the concerns and fears expressed by critics of the treaty and that "we must work with Russia to make sure that these dangerous weapons don't fall into the wrong hands."

Biden, meanwhile, said the Bush administration should have negotiated reductions in battlefield nuclear weapons at the same time. He said Russia now has 2,000 to 10,000 tactical nuclear weapons.

Powell said the treaty was different from Cold War arms control agreements because it does not call for exact equality in numbers of strategic nuclear warheads or contain any bans on categories of strategic forces.

Such provisions were necessary in previous agreements "when we needed to regulate the interaction of strategic forces of two hostile nations to reduce the structural incentives for beginning a nuclear war," he said. "Now we have nothing to go to war about."

Powell told the senators the treaty before them was "simple and flexible."

The treaty does not contain any verification provisions, he said, because U.S. security and the new strategic relationship with Russia does not require them.

Answering critics who said the treaty does not require the destruction of nuclear warheads, Powell said no previous arms control agreement called for warhead elimination.

He said that contrary to some reports, the Russians did not propose a program for verifiable warhead reduction during the negotiations.

"Given the uncertainties we face, and the fact that we, unlike Russia, do not manufacture new warheads, the United States needs the flexibility to maintain warheads removed from operational deployment to meet unforeseen future contingencies," Powell said.

He said some of these warheads will be used as spares, some will be stored and some will be destroyed.

"Economics, our new strategic relationship with Russia, obsolescence and the overall two-thirds cut in U.S. and Russian inventories mandated by the treaty will undoubtedly result in continued warhead elimination," Powell said.

He said the 10-year period over which the treaty is to be put into effect was necessary because reductions will involve careful planning and execution by both sides.

Powell said the treaty can be altered, extended or canceled at any time and "we feel the timeframe and the deadline are just what they should be."

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