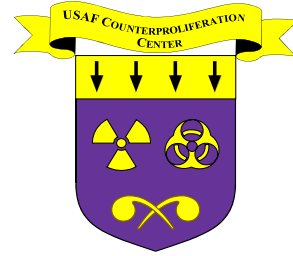


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New Graduate Program at GMU to Focus on Biodefense

By Michele Clock

Washington Post Staff Writer

Sunday, June 22, 2003; Page PW01

During the Cold War, he helped transform anthrax, smallpox and Ebola into deadly weapons for the Soviet Union.

After defecting to the United States, he told his secrets to Congress and the CIA.

Now, he's using his knowledge to train a new generation of experts to defend society from the estimated 80 pathogens emerging and in existence worldwide today -- including some he helped create.

Starting in the fall, Ken Alibek, together with former rival Charles Bailey, former commander of the U.S. Army Medical Research Institute of Infectious Diseases in Fort Detrick, will lead a new graduate program in biodefense at George Mason University's Prince William campus. University officials are touting the program as the first of its kind in the world.

The program will operate out of GMU's newly renamed National Center for Biodefense, which was established in February 2002. At that time, GMU named Alibek and Bailey co-directors of the center, and each began teaching courses and workshops in biodefense. Previously, students would study microbiology, for example, and take a biodefense class or two. George Mason's graduate program is the first of its kind to offer a degree in the subject. It will cost the university an estimated \$1 million to get the program running by fall, said Larry Czarda, vice president of operations for GMU's Prince William campus. School officials said they expect to welcome as many as 85 master's, doctorate and certificate-bound students at that time.

"This is ambitious, but we know how to do this," Alibek said. "We understand this is absolutely essential work because for the first time, we understand the biological weapons threat. We understand it's a very grim threat." GMU President Alan G. Merten said the program fits into the university's long-term goal of boosting its science offerings. University officials said they hope the program will help enhance GMU's reputation as a leader in biosciences and public policy.

The graduate program also gives the university greater access to federal funding, Merten said. Earlier this year, the center received a \$1.4 million grant from the Department of Defense to support its research on non-vaccine-based approaches to fighting pathogens. Officials said the center has received grants from the Defense Advanced Research Projects Agency of the Department of Defense and the National Institutes of Health as well. More is likely on the way, Merten said.

"We're having a lot of good discussions with federal government and the corporate sector," he said.

Since the Sept. 11, 2001, terrorist attacks and the anthrax attacks of the following months, education experts said that many universities across the nation have incorporated biodefense-related material into their curriculums.

Because it is the first university to develop an academic program of this kind, GMU is unique, said David Heyman, a senior fellow and director of science and security initiatives at Washington's Center for Strategic and International Studies. "But . . . a lot of other universities are starting up things like this. You will see more and more of these programs. Part of it is there is an academic need, and part of it is there's money out there."

Although there are other biodefense centers at American universities, most focus on research, not on academics, said Vikas Chandhoke, the center's director of general administration. Most also focus on either the public policy or the medical side of the issue, not both, he said.

GMU students will learn to analyze the threats posed by biological weapons, and each will focus on one of four subspecialties: medical defense, engineering defense and countermeasures, nonproliferation, and counterterrorism and law enforcement.

"It's our idea to [give] these people . . . absolutely in-depth knowledge of this field," Alibek said. "We don't want these people to have tunnel vision," he said.

Alibek and other officials said they believe that ultimately, this crop of experts will make society safer.

"The ultimate objective of any defensive work, especially in the field of biological terrorism, is to save as many possible lives," Alibek said. "That's why this program is focused on preparing a new generation of highly proficient biodefense experts who would be able to research new directions . . . and new methodologies for treatment of various infections. . . . You have no well-prepared people if you don't have well-prepared experts."

<http://www.washingtonpost.com/wp-dyn/articles/A17919-2003Jun20.html>

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Washington Post

June 23, 2003

Pg. 15

U.S. Using U.N. To Thwart Iran's Nuclear Program

By Michael Dobbs, Washington Post Staff Writer

Confronted with a set of unattractive choices for dealing with an escalating nuclear threat from Iran, the Bush administration has adopted a policy of working through the United Nations and other international institutions to mobilize world opinion against the Islamic government in Tehran.

After disparaging the performance of the United Nations and its nuclear watchdog in dealing with Iraq, administration officials have gone out of their way to praise the work of the International Atomic Energy Agency on Iran. A senior State Department official described a report drawn up by the U.N. agency's experts on Iranian nuclear capabilities as "factual" and "devastating," adding that the Iranians have a "lot of explaining to do."

U.S. officials and independent experts have long suspected Iran of conducting a largely clandestine program to produce the fissile material for a nuclear weapon through both plutonium separation and uranium enrichment. But public evidence of the scale and sophistication of the Iranian effort has emerged only over the last few weeks as the result of on-the-ground investigations by U.N. experts and Iranian government responses to allegations by exile groups.

The report submitted to the IAEA listed numerous anomalies in Iranian reporting of the handling of nuclear materials, including a 1991 shipment of natural uranium from China. More important, it demonstrated that Iran is developing a domestic capability for all stages of the nuclear fuel cycle, from the mining of uranium to the production of highly enriched uranium through centrifuge technology.

Exactly when Iran will be able to produce enough fissile material for a nuclear weapon is hotly debated both inside and outside the U.S. government. Israeli Foreign Minister Silvan Shalom told the Russian newspaper Izvestia that Iran would possess a nuclear bomb "by the end of 2005 or early in 2006," a prediction described as a worst-case scenario by independent experts.

U.S. officials are more cautious than the Israelis, saying that the Iranians must resolve a number of complex technical problems before they can build a nuclear weapon. A senior State Department official said the "conservative" estimate of U.S. intelligence agencies is that Iran could have nuclear weapons "toward the end" of the decade. Other officials argue that the Iranians will need significant foreign assistance to meet that target. The Iranian nuclear program began in 1957 under the shah, with significant assistance from the United States, at a time when relations between Washington and Tehran were close. The program was interrupted by the 1979 Islamic revolution, but resumed in the 1990s, with assistance from countries such as Russia, which agreed in 1995 to complete a 1,000-megawatt light water reactor at the Persian Gulf port of Bushehr for the production of electricity. Iranian officials have long said that the nuclear program is for civilian purposes only and that Iran would abide by the 1968 nuclear Non-Proliferation Treaty, which it ratified in 1970. U.S. officials question why an oil-rich country would want to invest so much in nuclear power. They point out that Iran burns off considerably more energy in natural gas than it is ever likely to produce at Bushehr.

Under the terms of Iran's agreement with Russia, Moscow will supply the fuel for the Bushehr reactor, beginning around 2005, and retrieve the spent fuel rods. U.S. experts worry, however, that Iran could break out of the Non-Proliferation Treaty, renounce its international obligations and hang on to the fuel rods. Under that scenario, it could use the fuel rods to separate enough plutonium for more than 50 nuclear weapons.

A more likely route to an Iranian nuclear weapon, according to many experts, is uranium enrichment. In March, Iranian officials took IAEA experts to visit a centrifuge facility at Natanz, 200 miles south of Tehran, whose existence was first disclosed by an Iranian exile group, the Mujaheddin-e Khalq. The Iranians say that the centrifuges are designed to produce fuel for the Bushehr reactor, but Western experts fear that it could also produce enough highly enriched uranium for two or three nuclear bombs.

According to independent experts, the Bush administration's focus on multilateral diplomacy as the preferred method for dealing with Iran reflects the paucity of other options. Administration officials have rejected the idea of negotiating limits to the Iranian nuclear program as part of a grand diplomatic bargain with the country's Islamic government, along the lines of the 1994 agreed framework with North Korea.

The fallback option is preemption along the lines of Israel's 1981 attack on an Iraqi nuclear plant at Osirak. But the political, diplomatic and military obstacles to such an approach are much more formidable than those faced by the Israelis two decades ago, according to U.S. officials and independent experts, and there is no guarantee of success. "By disseminating their nuclear program, the Iranians are making it bomb-proof," said David Albright, president of the Institute for Science and International Security, a Washington-based think tank that tracks proliferation issues. "You would need extremely precise and good intelligence to make sure you got everything. The risk is that you would drive them out of the international structures that they are just beginning to engage in."

In addition to the Bushehr light water reactor and the uranium enrichment plant at Natanz, preemptive strikes would likely be designed to hit critical bottlenecks in the Iranian nuclear program. These include a uranium hexafluoride plant under construction in Isfahan, in central Iran, where natural uranium is transformed into gas suitable for use in centrifuges.

The problem, according to Albright and other experts, is that the Iranians have begun to disperse their nuclear facilities and protect them in underground sites. Last month, the Mujaheddin-e Khalq identified two other pilot gas centrifuge facilities that it said could be used to duplicate some of the operations of the Natanz plant, at Ramandeh and Lashkar-Abad.

The political difficulties associated with preemption are even greater, according to U.S. officials and independent experts. Popular support in Iran, and among exiled Iranians, for a nuclear program extends far beyond the country's ruling Islamic elite. Many Iranians who are opposed to the government believe that Iran has the right to pursue nuclear weapons in order to balance the military power of three other regional nuclear states -- Russia, Pakistan and Israel.

"It is very important for the U.S. not to poison the reservoir of goodwill that exists toward America among the Iranian population," said Michael Eisenstadt, an Iranian expert at the Washington Institute for Near East Policy. "This is likely to be the key to a successful political transition in Iran."

Some experts argue that successive U.S. administrations have paid little attention to the question of Iranian motivations in pursuing nuclear weapons, which are closely tied to Iran's vision of itself as a major Middle East power, and the perceived threat from Israel. Israel has refused to hold negotiations on nuclear issues in the absence of a permanent Middle East peace settlement.

"The [U.S.] obsession has become the Iranian nuclear program and how to get it closed down," said Richard Murphy, a former assistant secretary of state for Near East affairs, now with the Council on Foreign Relations. "I would like to think we could eventually find a way to pick up the Iranian and Syrian proposals for a weapons of mass destruction free zone in the Middle East. Instead, the talk is all 'Syria, shut down your chemical weapons program,' 'Iran, shut down your nuclear program.' "

U.S. officials say it is premature to put Israeli nuclear weapons on the bargaining table as long as Israel is surrounded by hostile Arab states. Meanwhile, they have claimed some success in persuading Russian President Vladimir Putin to insist on more intrusive international inspections of Iran. "The Russians have moved a long way to recognizing our concerns," a senior administration official said last week.

Russian officials, however, have sent conflicting signals about whether they will insist that Iran sign an additional protocol, strengthening its obligations under the Non-Proliferation Treaty as a condition for completing work on Bushehr.

<http://www.washingtonpost.com/wp-dyn/articles/A21327-2003Jun22.html>

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Washington Post

June 23, 2003

Pg. 16

U.S. Focuses On N. Korea's Hidden Arms

Nuclear 'Bunker-Busters' Could Damage Deterrence, Some Say

By Doug Struck, Washington Post Foreign Service

OBSERVATION POST OUELLETTE, South Korea -- The steep hills a few miles off look barren and lifeless as U.S. soldiers peer into North Korea from this forward post on the Korean Demilitarized Zone. But if war ever broke out, hundreds of enemy artillery guns would likely roll out from deep tunnels dug into those hills and fire a hellish fusillade at the South Korean capital, Seoul, a metropolis just 35 miles away.

For five decades, the threat of that barrage -- which North Korea once warned would turn Seoul into a "sea of fire" -- has helped keep a rough peace. Military strategists concluded that armed conflict was unthinkable because both sides would suffer huge devastation.

But some politicians and analysts in South Korea and the United States say that a new nuclear weapon that the Bush administration is taking steps toward developing could upset that equilibrium. The administration persuaded Congress last month to lift a 10-year-old research ban on nuclear "bunker busters" that could knock out the buried North Korean armaments.

"The U.S. has been considering the possibility of a preemptive attack against North Korea" to destroy the communist state's nuclear program, said a joint statement of 18 South Korean lawmakers last month. Steps to study nuclear bunker bombs will "further arouse the hawks of North Korea" and aggravate a dangerous crisis, they said.

"Many people in South Korea are concerned, rightly or wrongly, about a U.S. military strike against North Korea," said Paik Jin Hyun, a professor of international studies at Seoul National University. "They see this decision of Congress as the first step."

Defense Secretary Donald H. Rumsfeld has declared that he has "no plans" to make the nuclear bombs, and the congressional approval simply "will enable us to study it." If a decision to produce the bombs were made, about four years would pass before they would become operational.

Proponents of nuclear bunker-busters say the United States needs weapons far more effective than conventional bunker bombs such as the 2,000-pounders used on April 7 in Iraq in a bid to kill Saddam Hussein. The military also has a broad program to create conventional bombs that are better at this task.

As development of "smart" bombs makes targets on the surface increasingly vulnerable, armies worldwide are hiding more of their weaponry and command centers underground. The Pentagon estimates that more than 70 countries -- including the United States -- bury military facilities, and says at least 1,400 sites are critically sensitive, containing weapons of mass destruction or control centers.

"It's a serious matter that we do not have in the inventory the ability to deal with an underground, deeply buried target," Rumsfeld argued at a Senate appropriations hearing May 14.

North Korea is a prime exhibit, and was named as a potential target for nuclear bunker-busters in the Pentagon's Nuclear Posture Review given to Congress in December 2001.

Ever since the North's capital, Pyongyang, was devastated by U.S. bombardment in the 1950-53 Korean War, the North Koreans have been digging with diligence. Some tunnels would channel invasion troops, military analysts say. The South Koreans have discovered four tunnels under the DMZ and suspect they will discover others -- concrete-reinforced and capable of transporting thousands of troops quickly into the South.

The Pentagon's public war plan for Korea estimates that North Korea has 12,000 artillery pieces, including 500 long-range weapons, many near the DMZ hidden deep in mountain tunnels. They could roll out on rails and fire "several thousand" shells per hour toward Seoul, top Pentagon officers have told Congress.

Unless those guns could be hit while still underground or sealed in their hiding places -- a task beyond the reach of a conventional attack -- the death toll in Seoul could quickly reach 40,000, according to a 1994 Pentagon estimate; other estimates put the likely death toll at 1 million.

"If we can develop a weapon that can tunnel into the ground and destroy the target and release very little radiation, we should not take it off the table just because nuclear has a bad reputation," argues Jack Spencer, a senior defense analyst with the Heritage Foundation in Washington.

No one is sure that is possible. Advocates say that military labs could develop a tactical nuclear weapon that would burrow deep before exploding, minimizing above-ground effects. Opponents doubt that and say that any blast would throw into the air tons of radioactive debris that would be harmful to life for years.

"No one should assume these are just nice little weapons that have been tamed," Sen. Jack Reed (D-R.I.) said in Washington last month. "These are atomic weapons. We've spent 50 years -- wakeless, sleepless years -- trying to find ways to avoid their use." To develop new ones now, he said, is "a tremendous reversal in our strategic policy." Opponents also doubt Rumsfeld's claims to have no plans to make such weapons. They point to a variety of Pentagon statements and planning meetings on the need for the bomb.

"Just a study? Baloney," Sen. Dianne Feinstein (D-Calif.) said when the provision reached the Senate floor. "Does anyone really believe that? This opens the door for America to begin to develop nuclear weapons again, and I for one do not believe we should sit by and see that happen."

Rumsfeld also requested -- and received -- approval to shorten the time to prepare to test a nuclear device from three years to 18 months. The United States has not conducted a nuclear test since 1992, and critics say a resumption of testing would provoke others to do the same.

"It would be likely that Russia and China would seriously consider resuming testing" if the United States tested a nuclear bomb, Daryl G. Kimball, executive director of the Arms Control Association, said in a recent telephone interview from Washington. "And that might have the effect of opening the doors to additional testing by India and Pakistan. The U.S. plan for new types of nuclear weapons is putting us on a slippery slope to a renewal of the arms race."

Rumsfeld dismisses the argument. "The idea that our studying a nuclear deep-earth penetrator is going to contribute to proliferation, I think, ignores the fact that the world is proliferating. It is happening without any studies by us," he said at the May 14 hearing.

Advocates also note that the United States already has deployed battlefield nuclear weapons. Among them is a 1,200-pound bomb called a B61-11, also designed as a bunker-buster. But many experts say it produces too big an explosion to be used effectively against bunkers, and a 1998 test of the device -- unarmed -- in Alaska showed that it did not burrow very far underground.

In Seoul, many fear that any U.S. talk of developing a new, more usable, nuclear weapon will only accelerate North Korea's drive toward building its own nuclear armaments. The government in Pyongyang fears attack by the United States, and has said it must develop such weapons for its defense.

"If I am North Korea, and the other side has said they want to destroy my system and kill me, I have no choice but to arm," said Assemblyman Song Young Gil, a member of South Korea's ruling Millennium Democratic Party. <http://www.washingtonpost.com/wp-dyn/articles/A21214-2003Jun22.html>

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Newsweek
June 30, 2003

Saddam's Secrets

The scientists were supposed to hold the key to Iraq's WMD. They still insist the weapons were destroyed

By John Barry and Michael Isikoff

While Bush aides try to look calm, the search grows increasingly feverish. They predicted they would find Saddam Hussein's arsenal of mass destruction as soon as Iraq's experts could dare to tell the truth. Now the regime is gone, and Saddam's best-known WMD officials are dead or in U.S. custody, shielded from the regime's monstrous reprisals. There's only one problem. What the survivors are saying is not what the White House wants to hear. The detainees say Iraq destroyed all of its banned munitions years ago, and nothing more was produced. The scientists have been threatened, coaxed, offered all kinds of incentives, including safe haven outside Iraq for their families. Nothing changes their stories.

Even inside normal intelligence channels, the scientists' debriefings are restricted information. "They are keeping everything about this extremely tight," says a State Department official who would ordinarily see such reports. President Bush himself gets regular updates on the WMD hunt, says the White House chief of staff, Andy Card, but the topic is not an obsession: "It's not like every day we want an update, play the 'Where's Waldo?' game." Down the ladder, however, officials are working extra shifts to explain why they still haven't found the illegal-weapons program, even though its existence supposedly led to the invasion.

There's no lack of theories. The detainees may think Saddam could come back to punish any who betray him. They may have been out of the loop, or in it a lot deeper than they want to admit. Or they could simply be angling for a better deal. Perhaps the detainees were trained to resist interrogations—"at any rate, interrogations of the intensity we have employed," says one frustrated insider.

The search continues. Last week U.S. forces arrested Saddam's personal secretary, Abid Hammoud al-Tikriti. Intelligence sources believe he was involved in the hiding of WMD, and he may have clues to Saddam's own whereabouts. Meanwhile other top detainees, held in isolation at a facility on the edge of Baghdad International Airport, can expect more questions. During the invasion, U.S. teams raced through suspected WMD sites, scooping up documents that are only now being examined. "Without the documents, the debriefers didn't have the materials they need," says Kenneth Pollack, a former Iraq specialist for the CIA, now at the Brookings Institution. "They need to be able to say, 'You say X, but the document here says Y'." Some documents could be problematic. One U.S. official describes newly found "destruction documents," apparent orders from high-level Iraqi officials in the late '90s to destroy chem- and bioweapons.

Still, the trail seems warm. U.S. forces have found what may be documentary evidence of an ongoing biowar program, a senior Bush official tells NEWSWEEK. Last weekend a U.S. raid in Iraq reportedly netted a trove of nuclear documents. A British-government source talks of intriguing news from a second-tier Iraqi scientist. It all needs to be meticulously verified. "We've had too many false positives," says the Bush official. No one needs further proof that Saddam was a bad man. What matters is to reclaim America's credibility.

Five Accomplices, But No Smoking Gun

For clues to where Saddam Hussein might have hidden his banned weapons, these regime members are some of the first you'd want to question. They've been in U.S. custody for weeks. So where's the evidence?

Amer Mohammed Rashid, Oil Minister -- Senior presidential adviser, husband of 'Dr. Germ'; apprehended April 28
Lt. Gen. Amer al-Saadi, Presidential Science Adviser -- April 12 surrender made him first of the 55 Most Wanted to be captured

Rihab Rashid Taha, Bioweapons Specialist -- Brit-trained plague and anthrax expert, a.k.a. 'Dr. Germ,' ran secret biowar lab in '80s; caught in May

Huda Salih Mahdi Ammash, Senior Baath Official -- U.S.-trained microbiologist, a.k.a. 'Mrs. Anthrax'; surrendered May 5

Humam Abd al-Khaliq Abd al-Ghafar, Higher-Education and Scientific-Research Minister -- Former atomic-energy chief; arrested on April 19

With Mark Hosenball and Tamara Lipper in Washington and Scott Johnson in Baghdad

Washington Post

June 22, 2003

Pg. 20

Blix Downgrades Prewar Assessment Of Iraqi Weapons

By Colum Lynch, Washington Post Staff Writer

UNITED NATIONS -- As he nears the end of his three-year hunt for Iraq's biological and chemical weapons, Hans Blix, the United Nations' chief weapons inspector, says he suspects that Baghdad possessed little more than "debris" from a former, secret weapons program when the United States invaded the country in March.

The Swedish disarmament expert, who has served since March 1, 2000, as executive chairman of the U.N. Monitoring, Verification and Inspection Commission, said the failure to turn up evidence of weapons of mass destruction more than two months after the fall of Iraqi President Saddam Hussein has led him to downgrade his assessment of the threat Hussein's government posed.

Blix, 75, who will step down June 30, said there is too much uncertainty associated with Iraqi weapons programs to conclude there are no hidden arsenals in Iraq. He also said he remains deeply puzzled by the former Iraqi government's efforts to deceive and mislead U.N. inspectors for 12 years after the 1991 Persian Gulf War.

"Why did they conduct themselves as they did throughout the '90s?" Blix said in an interview last week. "Why deny access if you are not hiding something? What I am groping at now is whether pride was at the root of it."

U.S. officials and some former U.N. inspectors said it is naive to believe the former Iraqi government abandoned its quest for chemical, biological and nuclear weapons. President Bush and other senior U.S. officials maintain they are confident that proscribed weapons will be found.

But Blix said assertions by Iraqi officials and defectors that they had destroyed the bulk of their weapons programs might turn out to be true. The claims were long dismissed by U.S. intelligence officials and U.N. weapons experts.

Blix added that Iraq's failure to account for arsenals that existed before the 1991 war "does not mean they exist."

Blix said a series of suspicious discoveries during his inspections of Iraq -- including those of a crude, remotely piloted aircraft; documents on a banned nuclear program in a scientist's home; and 12 chemical warheads at a weapons depot -- were likely remnants of a destroyed stockpile. "They could have been the tip of an iceberg, but they could also have been debris," Blix said. "Now as we look back on it and they don't find anything, well, maybe more likely debris."

Under the cease-fire agreement ending the 1991 war, Iraq was obliged to provide a full account of its banned weapons to U.N. inspectors. It later admitted that it had declared only a portion of the weapons in its arsenal, saving the rest in case they were needed to defend the country against a new attack by U.S. forces, according to Ewen Buchanan, a spokesman for the U.N. weapons agency.

Iraqi officials said that as U.N. inspectors closed in on their hidden caches, uncovering dozens of calutrons, a key component of a uranium enrichment program, they decided to destroy the rest of the secret arsenal. The Iraqis would later claim they had destroyed virtually all of their deadly agents, including VX nerve agent and anthrax, and banned weapons at several sites around the country without U.N. knowledge or supervision.

Iraq's assertions were generally dismissed by U.N. inspectors, who could never confirm the exact amount of weaponry destroyed and continued to uncover new evidence of secret programs that Iraq had never declared.

Blix said he is now lending greater credence to assertions by senior Iraqi officials and a prominent defector, Gen. Hussein Kamel, that Iraq had destroyed its weapons -- and the bulk agents from which to manufacture them -- in the early 1990s but had preserved the program, hoping to restart production once sanctions were lifted and inspectors left the country.

"The destruction of weapons was largely finished in 1994," Blix said. "Thereafter, [U.N. inspectors] destroyed a number of facilities and installations because they had concluded that these had been active in the production of weapons . . . but weapons, no."

Kamel, the former head of Iraq's weapons program who defected in 1994, told U.N. inspectors and U.S. intelligence officials in Amman, Jordan, in August 1995 that he had ordered the destruction of all Iraq's biological and chemical weapons and components of its nuclear weapons program in the early 1990s. But Kamel, a brother-in-law of Hussein who was assassinated when he returned from exile to Iraq in 1996, said Baghdad sought to conceal documents, computer disks, equipment and blueprints that could be used to restart a weapons program.

U.S. military and intelligence officials at the time credited Kamel with providing invaluable insight into Iraq's programs. But neither U.S. nor U.N. officials put much stock in his claims that the weapons had been destroyed. Blix said it would not be "prudent" to reach a judgment on the basis of one defector's account. But he added that Kamel's claims have been echoed by several Iraqi scientists -- including Hussein's former science adviser, Amir Saadi -- who have surrendered to U.S. authorities and, Blix said, have no reason to lie.

"Kamel's statement, I think, was discounted for years," Blix said. "The suspicions were that he had not told the truth."

But, Blix said, "The more time that passes without any finds," the more it is "reasonable to begin to ask oneself if there were or not any weapons."

<http://www.washingtonpost.com/wp-dyn/articles/A19555-2003Jun21.html>

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Washington Post

June 21, 2003

Pg. 15

Uranium At Iraqi Plant Is Secured, Diplomats Say

By Associated Press

VIENNA, June 20 -- Experts from the U.N. atomic agency have accounted for tons of uranium feared looted from Iraq's largest nuclear research facility, diplomats said today.

The natural and low-enriched uranium was secured at the Tuwaitha facility, southeast of Baghdad, the diplomats said on condition of anonymity. Tuwaitha was left unguarded after Iraqi troops fled the area on the eve of the war. U.S. troops did not secure the area until April 7. Meantime, looters from surrounding villages had stripped it of uranium storage barrels they later used to hold drinking water.

The International Atomic Energy Agency sent a team to Iraq earlier this month to secure the uranium at the Tuwaitha facility.

The mission -- whose scope was restricted by the U.S.-led interim administration of Iraq -- was not allowed to give medical exams to Iraqis reported to have been sickened by contact with the materials, said the diplomats.

The IAEA team also was unable to determine whether hundreds of radioactive materials used in research and medicine across the country were secure. Officials fear such material could be used to make crude radioactive devices known as "dirty bombs."

The experts, who began their work at the Tuwaitha research facility June 7, were not able to determine how much damage was done to the plant during the war.

The diplomats, who are familiar with the workings of the IAEA, agreed to discuss the mission only on condition they not be named.

Tuwaitha was thought to contain hundreds of tons of natural uranium and nearly two tons of low-enriched uranium, which could be further processed for arms use.

The diplomats did not detail how much uranium had been looted and where it was found, but it appeared much of it was on or near the site.

U.S. military officials who accompanied the IAEA team said last week that initial assessments indicated most of the uranium that had been stored at the Tuwaitha Nuclear Research Center was accounted for.

Although at least 20 percent of the containers which stored the uranium were taken from the site, it appeared that looters had dumped the uranium before taking the barrels.

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Los Angeles Times

June 21, 2003

2 Suspect Labs Could Have Produced Hydrogen

The U.S. rejects Iraq's explanation for the seized trailers, even though its own Army has such vehicles for filling weather balloons.

By Greg Miller, Times Staff Writer

WASHINGTON — In concluding that two trailers seized in northern Iraq were biological weapons labs, the United States rejected Iraqi claims that the vehicles were designed for making hydrogen for weather balloons.

But although some have described the Iraqi explanation as far-fetched, the U.S. Army has its own fleet of vehicles designed for precisely the same purpose.

They are among the Army's more unusual vehicles: Humvees with a large container and refrigerator-sized generator where a gun or troop transport shell should be.

The AN/TMQ-42 Hydrogen Generator, as it is known, has never been used in combat. With plenty of helium — the preferred gas — to keep the Army's weather balloons aloft, it's unlikely that it ever will.

But the truck escapes obscurity in becoming a footnote to the debate over Iraq's alleged chemical and biological weapons programs.

The CIA and the Pentagon's Defense Intelligence Agency have described the two seized trailers as "the strongest evidence to date that Iraq was hiding a biological warfare program." But some analysts involved in the examination of the vehicles reject that conclusion. And that inspection has failed to find any traces of anthrax, smallpox, tularemia or any other known pathogens.

One veteran intelligence official in Iraq said he is convinced that the seized trailers were indeed designed to produce hydrogen gas to fill weather balloons that were routinely used by Iraqi field artillery batteries.

The intelligence official, who spoke on condition of anonymity, said the trucks did not carry autoclaves or other equipment needed to sterilize laboratory equipment, as would be needed to grow sensitive pathogens used as germ agents.

In addition, he said, the canvas tarps covering the sides of the trucks appeared designed to be pulled away to let excess heat and gas escape during the production of hydrogen. The tarps would allow in far too much road dust and other contamination if the equipment inside were meant to produce biowarfare agents, he said.

"We didn't find what we expected to find," said the official, who was involved in the investigation. "That's very troubling."

Weather balloons are used by artillery units to collect atmospheric measurements — including wind speed and relative humidity — that help calculate the trajectory of rockets and cannon fire.

The London Observer recently reported that the British government sold an artillery weather balloon system to Iraq in the late 1980s.

U.S. artillery units generally fill their balloons with helium, a less combustible — and therefore much safer — gas than hydrogen. But experts said Iraq probably wouldn't have access to helium, a naturally occurring gas that is scarce in most parts of the world. In fact, the vast majority of the world's supply happens to be in Texas.

Faced with that problem, Iraq wouldn't be the first country to turn to hydrogen, which can be manufactured from other substances.

In the 1930s, the United States refused to share its helium supply with Germany for fear that Hitler would use it in military airships. So the Germans used hydrogen instead, including in passenger airships.

The risk of doing so was demonstrated in devastating fashion in 1937 when the airship Hindenburg, after a transatlantic journey, erupted in flames over Lakehurst, N.J.

In their publicly released analysis of the two Iraqi trailers, the CIA and DIA acknowledged that the vehicles could be used to produce hydrogen but dismissed that capability as a convenient cover story.

The CIA noted that Iraq never declared the vehicles to United Nations inspectors, something they would have faced no risk in doing if they were truly for hydrogen production. CIA officials also said the design of the trailers was unnecessarily elaborate and cumbersome for hydrogen production.

"If they wanted to produce hydrogen, they could have produced it more efficiently," said one CIA official, who noted that smaller, safer, portable systems are commercially available.

Even so, the agencies' report noted that Iraqi officials at the Al Kindi research facility in Mosul, as well as Iraqis interviewed at a company that manufactured components for the vehicles, all said the trailers were built to make hydrogen.

The two trailers have been under armed guard at Camp Slayer, a former Iraqi government palace and amusement complex near the Baghdad airport now serving as a logistics and operations base for U.S. intelligence and weapons-hunting teams.

The U.S. hydrogen trucks aren't likely to see action any time soon, either. One is collecting dust at Ft. Sill, Okla., where Army and Marine artillery units are trained. Asked the whereabouts of the other 19 trucks, Army officials could say only that they believe the trucks are mothballed in a depot somewhere.

The Army ordered the trucks thinking they might come in handy if artillery units were deployed somewhere where helium couldn't be delivered.

Some saw other advantages. Although helium is more stable than hydrogen, it is still risky to transport in canisters when bullets are flying. Unlike helium, hydrogen can be manufactured on the spot, with no need to store it or ship it across dangerous terrain.

The Army hired a Baltimore company called Environmental Technologies Group to build the vehicles, and the first unit was equipped in 1998. Environmental Technologies has since been acquired by U.K.-based Smiths Group. Rick Thomas, an executive at the company in Maryland, said the system works by combining methanol and water in a generator that yields carbon dioxide and pure hydrogen gas. The system, he said, performed well and was designed to hold up under rugged Army conditions.

But the use of methanol as an ingredient was the system's undoing, Thomas said. Army safety and environmental experts barred the use of the vehicles because methanol is an environmental contaminant.

Thomas and other executives at the company were quick to say that their truck — unlike Iraq's version — could only be used to produce hydrogen. They declined to disclose the dollar amount of the contract.

Asked whether company officials were disappointed that the trucks have never been used, he said, "That is an understatement."

Times staff writer Bob Drogin in Baghdad contributed to this report.

<http://www.latimes.com/la-fg-hydrogen21jun21.1.3938725.story>

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New York Times
June 22, 2003

Nuclear Ambitions Aren't New For Iran

By Elaine Sciolino

PARIS — Before he was overthrown by an Islamic revolution in 1979, Shah Mohammed Reza Pahlavi of Iran said that his country would have nuclear weapons "without a doubt and sooner than one would think."

In the late 1970's, in fact, Iran and Israel discussed a plan to adapt for Iranian use surface-to-surface missiles that could be fitted with nuclear warheads, according to documents discovered in Tehran after the revolution. The documents described conversations between Israeli and Iranian officials about the plan, which was kept secret from the United States.

So if the monarchy had lasted longer, Iran might have become a nuclear power years ago. As George Tenet, the director of central intelligence, testified to Congress early this year, "No Iranian government, regardless of its ideological leanings, is likely to abandon" programs to develop weapons of mass destruction "that are seen as guaranteeing Iran's security."

This sounds as if the American government does not expect Iran's intention to become a nuclear power to change, no matter who runs the country. But that expectation can only make the United States more concerned about who is in control.

Iran has been blessed and cursed with a strong national identity, bountiful natural resources, an ancient intellectual and cultural tradition, and a strategic location. It shares borders with Iraq, Afghanistan, Pakistan, Turkey and the former Soviet republics of Central Asia, and has a 1,570-mile coastline on the Persian Gulf. It has long seen itself as a regional superpower. So an American campaign to persuade or coerce Iran to abandon nuclear weapons that does not consider its security concerns risks appearing unrealistic and futile.

These days, Iran's Islamic rulers are feeling vulnerable. Last week President Bush said the United States would not tolerate a nuclear Iran. International pressure on Iran to submit to stricter inspections of its nuclear program coincides with protests in several Iranian cities challenging the government's legitimacy.

The current protests were ignited initially by student opposition to a plan to charge tuition at state-run universities. As has happened before, the protests spread to nearly a dozen cities, with students demanding more freedom and economic opportunities.

This time, however, the students have been joined on occasion by older people and even by families who have come out with their children and honked their horns in support. This time, in contrast to the period of the first pro-democracy demonstrations in 1999, the reform efforts led by President Mohammad Khatami no longer have the credibility to convince the students that a more nonconfrontational approach would better achieve their goals. Last Sunday, President Bush praised the protesters, calling their actions "the beginning of people expressing themselves toward a free Iran." But what does a "free Iran" mean, and who would lead it?

The students themselves still have no identifiable leader and no platform beyond their rejection of authoritarian rule. The army and Revolutionary Guards are split, and workers and the bazaar merchants have stayed off the streets.

Reformists within the Parliament continue to demand change, but they lack the power to make it happen.

Who else, then? There is Reza Pahlavi, the son of the late deposed shah. But the younger Pahlavi enjoys more support among royalist exiles in Los Angeles than among the people of Iran.

After all, the Pahlavi "dynasty" was invented by the younger Pahlavi's grandfather, Reza Shah, an army colonel who became king in 1925. Iranians still remember the coup, backed by the Central Intelligence Agency, that reinstated Reza Shah's son nearly half a century ago to assure that Iran would be anti-Communist. Young Iranians express nostalgia for the man ousted in that coup, the nationalistic prime minister Mohammad Mossadegh.

One group certain not to be a factor is the Mujahedeen Khalq. A cult-like movement based in Iraq that seeks to overthrow the Islamic Republic, the Mujahedeen Khalq is on lists of terrorist organizations compiled by the United States and the European Union. (Paradoxically, its political arm, the National Council of Resistance, is allowed to operate in Washington, Paris and London.)

Last week, the French, who had let the group function here without much fuss for more than two decades, cracked down on it. Some 1,300 French policemen attacked the group's operations, arresting more than 150 members and sympathizers and seizing several million dollars.

The crackdown was aimed at neutralizing the group's ability to create a base of operations in Europe, now that the United States has disarmed the group's military in Iraq. The move also probably sent a signal to Iran — intended or not — that even though the European Union, the United States, Russia and the International Atomic Energy Agency are all pushing for Iran to accept tighter monitoring of its nuclear work, France (which is in the European Union) is committed to the stability of the Islamic Republic.

Iranian officials claim that their intentions are peaceful, although some have begun to use the nuclear advances as a bargaining chip. In an interview in *Le Monde* in March, Iran's Atomic Energy Organization chief said that before Iran agrees to demands that it sign an additional inspections protocol, Western countries must drop sanctions on imports of material for developing nuclear energy.

With no evident intention of trying to check or control Iran's nuclear program through negotiation, however, the United States appears to have been left with an approach based only on threats.

<http://www.nytimes.com/2003/06/22/weekinreview/22SCIO.html>

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Washington Post

June 22, 2003

Pg. 18

Iran Promises To Work With Nuclear Agency

TEHRAN -- The head of Iran's atomic energy program said his country was ready to cooperate more actively with the United Nations nuclear watchdog agency to dispel doubts about the Islamic Republic's nuclear ambitions.

"We will definitely try to cooperate more than before with the IAEA and give them the necessary assurances about Iran's activities," Gholamreza Aghazadeh said.

Aghazadeh said Iran was optimistic about reaching an agreement with the International Atomic Energy Agency on an additional protocol, which the U.N. agency has asked Iran to sign to allow more comprehensive inspections without prior notice.

The IAEA reprimanded Iran on Thursday for repeatedly failing to report nuclear material, facilities and activities as required under its safeguards agreement with the agency.

The United States believes Iran is secretly seeking to develop an atomic weapons program. But Iran says it merely wants to diversify its electricity generation sources and has forsworn nuclear arms.

Reuters

<http://www.washingtonpost.com/wp-dyn/articles/A19704-2003Jun21.html>

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New York Times

June 21, 2003

News Analysis

2 Nuclear Weapons Challenges, 2 Different Strategies

By David E. Sanger

WASHINGTON, June 20 — With his hands full in Iraq, President Bush has now given nearly identical warnings to Iran and North Korea — that their efforts to build nuclear weapons will "not be tolerated" by the United States — even while he is pursuing very different strategies to stop them.

While the countries are often discussed in tandem as Mr. Bush's most urgent proliferation threats, they present different challenges. Despite Mr. Bush's declaration that the United States would never abide a nuclear North Korea, American intelligence agencies say they believe the country already possesses two weapons, and for the first time it is boasting about its capacity to produce many more. It has rejected the nuclear treaties it once had signed.

Iran, by contrast, insists its program is for peaceful uses only, and Mr. Bush's problem is that the country is pursuing a strategy of building up a nuclear infrastructure within the letter of international law, but in a way that would make it easy to exit the treaties and quickly build nuclear weapons.

So for now Mr. Bush is pursuing a strategy of squeezing North Korea economically, finding reasons to intercept its exports, and, if he can win the agreement of the North's neighbors, cut off many of its imports.

There is no talk of economic strangulation of Iran. Administration officials say that strategy would be nearly impossible given Iran's oil trade and its extensive relationships with Europe and Russia, and it could give the Iranian government a new way to portray the United States as the enemy of the Iranian people. Instead, Mr. Bush is trying to build a case for highly intrusive international inspections of Iran that will lay bare what the White House calls a clever Iranian strategy to build a weapons capability in plain sight.

The administration insists it does not foresee the use of force in either case. But Mr. Bush has explicitly left that option open in the case of North Korea, and today one of the most hawkish members of the top ranks of the State Department, John Bolton, told the BBC that even in the case of Iran "all options are on the table." In a telephone interview, Condoleezza Rice, the president's national security adviser, said there was little mystery about the administration's approaches to North Korea and Iran.

"The approaches are pretty straightforward and based on the unique facts of each case," said Ms. Rice, who was the chief architect of the president's declaration last year that the United States would act preemptively against any power that threatened the United States, or threatened to put nuclear material into the hands of terrorists.

She described North Korea as the more imminent threat, and called it "a particular case in which you have a long record of the same kind of behavior: They reach an agreement, break it, and then make an effort at blackmail." That is why Mr. Bush, she said, had insisted on bringing all of North Korea's neighbors into negotiations with the country, and into a common strategy to disarm it.

In fact, Mr. Bush has been more successful than even his aides had anticipated in bringing Japan around; it has begun imposing "safety inspections" of North Korean ships, effectively tying them up in port, or offshore, at tremendous cost to a precarious North Korean economy. But China remains reluctant to help cut off North Korea or bring down its government, which it fears could cause chaos and a flood of refugees from North Korea. South Korea is similarly reluctant.

That is a problem, because time is not on Mr. Bush's side. Since North Korea threw out international inspectors on New Year's Eve, it has turned on its nuclear reactors and, it appears, the reprocessing facility that would enable it to convert 8,000 spent nuclear fuel rods into weapons-grade plutonium. It says the reprocessing is under way. If so, Mr. Bush will face a difficult choice: to keep up the strategy of gradual pressure, or consider military action.

Iran, by contrast, is still a few years away from producing enough fuel to build weapons, experts say. "You have some time," said Gary Samore, a top disarmament official in the Clinton administration, now at the International Institute for Strategic Studies in London. "But the Iranians have looked at the mistakes North Korea and Iraq made in attempting clandestine programs, and they are going about this in a far more sophisticated way. They are trying to stay just within the protocols of the Nuclear Nonproliferation Treaty."

Those protocols allow nations to obtain almost anything for a civilian nuclear program, as long as they allow full inspection. The International Atomic Energy Agency concluded this week that Iran attempted to deceive inspectors, which played to the administration's argument that Iran's assertions that it has no interest in a bomb are laughable.

"On Iran, we are just beginning to build an international consensus," Ms. Rice said. "We have long suspected they are trying to hide a military program under cover of a civilian one. I think the I.A.E.A. report has made people take notice, which is positive."

Ms. Rice, like the president, has sometimes questioned the effectiveness of nonproliferation treaties, and Iran may be an example. They fear that Iran's strategy is to build up all the nuclear infrastructure it needs, then, like North Korea, renounce the treaty and start building weapons.

Mr. Bush raised that specter during a meeting three weeks ago with President Vladimir V. Putin of Russia, trying to persuade him to end Russia's \$800 million nuclear reactor aid program to Iran. Mr. Bush said he wanted to ensure "that a nontransparent government run by radical clerics doesn't get their hands on weapons of mass destruction."

It is unclear whether Mr. Putin agrees. He said today he had been assured by Iran's president, Mohammad Khatami, that the country would not develop nuclear weapons.

Mr. Bush's aides fear that both Iran and North Korea will follow the example of Pakistan: They will simply declare themselves nuclear powers, and wait for the world to adjust to that as a new reality. It worked in Pakistan's case:

President Pervez Musharraf, briefly shunned by the West after his country exploded its first nuclear weapons, will be welcomed by Mr. Bush at Camp David on Tuesday as an ally in the war against terrorism.
<http://www.nytimes.com/2003/06/21/international/middleeast/21NUKE.html>

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Boston Globe
June 22, 2003
Pg. E2

Q & A

US Representative Edward J. Markey On Nuclear Safety

By Ross Kerber, Globe Staff

Since the 1980s, US Representative Edward J. Markey, Democrat of Malden, has been a critic of the nuclear power industry's safety record. But Congress has not enacted key parts of Markey's nuclear-security agenda, including widespread distribution of potassium-iodide antiradiation pills known as "KI," or an end to nuclear power technology-sharing agreements with North Korea.

Federal policy on both questions has shifted since the Sept. 11, 2001, attacks, however. Lately, as a member of the House Select Committee on Homeland Security, Markey has also promoted stricter regulation of radioactive material that could be used to manufacture "dirty bombs" to spread radiation in populated areas.

Markey spoke with Globe business reporter Ross Kerber about a range of nuclear-security issues.

Q. On the issues surrounding KI, North Korea, and dirty bombs, do you feel like you are now saying "I told you so"?

A. Not in so many words, but I think that I have much more support for my position on each of these issues today than I had when I originally introduced them as subjects into the public.

Q. You've caused a lot of grief for the Nuclear Regulatory Commission, and the industry. [Commission member] Ed McGaffigan says your office singlehandedly creates for them the most amount of work they have to do of anyone on the Hill. Are you too focused on them?

A. I'm often contacted by NRC employees who have been trying to move the ball on a specific issue. Then they're tasked to it because of an official letter that comes from my office. They now have to put together a coherent answer to the questions which they themselves have raised internally.

Q. You saw the administration coming in as a friend of the nuclear industry, putting nuclear reactors into the national energy plan.... How has that affected their response to nuclear issues in the context of homeland security?

A. Well, before 9/11, the level of security at nuclear power plants across America, those still in operation ... none of them were prepared for an attack that would have involved a number of terrorists. Since that time, despite my vigorous urging, they have been unwilling to begin a new movement [to review] the design basis of nuclear plants in the US. On that issue I have actually been able to obtain the support of the Republicans [in Congress].

Q. Why haven't [administration officials] come to see it your way?

A. I think they have succumbed to the pressure applied by the nuclear industry, that the additional financial burdens that would be imposed upon the nuclear industry would be too burdensome. I'm afraid that public safety has been sacrificed to the bottom-line financial considerations of the nuclear power industry. Now that's an old story but one that now is particularly on point, given the threats which we know Al Qaeda has made toward nuclear power plants if only they could find the capacity to successfully execute them.

Q. Are you comfortable with [commercial power reactors] continuing to operate right now?

A. I'm not calling for their shutdown at this time, but I am calling for a dramatic upgrade in the level of protection built around those facilities.

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New York Times
June 23, 2003

Senator Questions Security At Nuclear Arms Laboratories

By Matthew L. Wald

WASHINGTON, June 22 — The Department of Energy has reneged on a promise to investigate security problems cited by two investigators at its Sandia National Laboratories says a senator, who also says Sandia's management punished the investigators.

The senator, Charles E. Grassley, Republican of Iowa, sent a sharply worded letter to the secretary of energy, Spencer Abraham, on Friday, citing a long string of reports of fraud and security problems at the laboratories in Albuquerque.

"You need to address these and other security matters at the nuclear weapons labs," Mr. Grassley wrote. His staff gave The New York Times a copy of the letter.

"The labs are in harm's way," Mr. Grassley wrote. "There is plenty of loud thunder. Lightning will surely follow. The labs are in danger of getting zapped."

A spokesman for the National Nuclear Security Administration, a part of the Energy Department, said that "security at our weapons labs is the highest priorities of N.N.S.A. and the secretary of energy."

The spokesman, Anson Franklin, added, "We have multiple and redundant means at each facility to ensure that our secrets and materials are not at risk."

The security administration was established in 2000 after lapses at a nearby laboratory, Los Alamos.

Mr. Grassley's letter gives only a few details of the security problems reported at Sandia, including the loss of keys "to every lock at the lab right up to the glass doors to the reactor." As chairman of the Senate Finance Committee, Mr. Grassley has no responsibility to oversee the Energy Department, but he has a history of championing government employees who say they faced retaliation for charges of incompetence or fraud.

The two investigators who raised questions about security at Sandia, Pat O'Neill and Mark Ludwig, say they were transferred from an office building to a rodent-infested trailer, reassigned to noninvestigative work, and had their annual raises reduced, Mr. Grassley said.

The laboratory commissioned a former United States attorney, Norman Bay, to investigate the problems. Mr. Grassley quoted from a summary of that report, which he received from the Energy Department. (He said he had obtained the whole report with difficulty but agreed to keep it secret.) The letter from Mr. Grassley said the report covered investigations of 5 of 100 security problems identified by Mr. O'Neill and Mr. Ludwig. The summary identified six other problems that it said "did not merit heightened scrutiny." One of these, Mr. Grassley's letter said, was the theft of a Verizon van that had been parked at Sandia.

"The van was stolen from inside a classified area and crashed undetected through perimeter fences at 5 a.m. in what is described as a 'high risk' exit maneuver," the letter said. "It was discovered a day and a half later in a local department store parking lot."

The letter said that the authors of the Bay Report had ignored "very pertinent" facts, that a computer handling classified information disappeared at the time the van was stolen, that the security forces turned off some equipment needed to verify alarms and that although a set of master keys had disappeared three years earlier, the locks were never changed.

"These security failures add up to a red warning flag," Mr. Grassley wrote. "Does anyone at your department see the red flag? Management continues to turn a blind eye to serious breaches of security."

Asked if the Bay Report had been insufficient, Mr. Franklin, the spokesman for the National Nuclear Security Administration, said: "We have multiple investigations under way looking at issues that have been raised at Sandia lab and other labs. N.N.S.A. has looked at it, the inspector general of the Energy Department, and the Office of Oversight and Inspections. There are numerous reviews and audits out there to ensure we have the best security that there is available."

Mr. Franklin added, however, that the department might announce some changes in security soon.

<http://www.nytimes.com/2003/06/23/politics/23SAND.html>

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Birmingham (AL) News

June 21, 2003

Rogers Confident In Anniston Detection System

By Mary Orndorff, News Washington correspondent

WASHINGTON -- A move in Congress to improve the agent detection equipment at chemical weapons stockpile sites around the country has gained the support of both Alabama senators, but Rep. Mike Rogers, R-Anniston, opposes the idea.

A segment of the 2004 defense bill recommends the U.S. Army update the technology from "inefficient and outdated" to "newer and advanced" at all sites, including Anniston.

To make sure the provision remains in the bill during final negotiations, a Kentucky senator over the last few weeks sought the support of the Senate and House members with stockpiles in their home states or districts. Sen. Jim Bunning has said it would help protect the safety of the workers, the public and the environment.

While spokesmen for Sens. Richard Shelby and Jeff Sessions said they were signing on, Rogers declined because he doesn't believe the current monitoring equipment is weak.

"Congressman Rogers believes that there is no problem with further research looking at different technologies for this or any other system, but he is uncomfortable with insinuating that the present system is inadequate or unsafe for the workforce," said Rogers' chief of staff, Rob Jesmer.

The amendment, which expresses the "sense of the Senate," is supported by a watchdog organization in Kentucky that opposes the incinerator method of destroying the obsolete weapons. The Chemical Weapons Working Group cited several years' worth of recommendations from the National Research Council that newer technology could reduce the response time to an alarm from 15 to 20 minutes to less than 10 seconds.

At issue are the Automated Chemical Agent Monitoring Systems, or ACAMS, which are monitors inside the incinerator facility that sound an alarm if any agent is detected in the open air.

The system is shut down, workers take precautions, and the air sample is taken to the lab and analyzed to determine if there is a danger, said Anniston incinerator spokesman Mike Abrams. He said the process could take 15 to 20 minutes, but the amount of agent required to sound the alarm is only one-fifth of the amount that could be considered dangerous to people in the area.

"The equipment we have is more than satisfactory for the mission we have," he said.

Speaking on behalf of only the Anniston facility, Abrams said officials oppose any move to change systems, especially because the incinerator is nearing a starting date.

"It would set us back an incredible amount of time we otherwise could be using to effectively reducing the present risk ... of continued storage of the weapons. The best way to serve the community is to operate this facility now and not be delayed for any reason," he said.

As an alternative, Craig Williams of the Chemical Weapons Working Group points to a system that uses a beam of infrared light to monitor air quality.

An Army Web site says the Open-Path Fourier Transform Infrared Spectrometer can detect pollutants being emitted without the operator having to enter the "hot zone" and can assess the air almost immediately, without a manual analysis.

Bunning's letter to his colleagues notes that the assistant secretary of the Army supports his amendment.

http://www.al.com/news/birminghamnews/index.ssf?/xml/story.ssf/html_standard.xml?/base/news/1056187007233000.xml

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Boston Globe

June 21, 2003

Pg. 1

Terror Risk Seen Highest At US Ports

Tankers in Boston may be vulnerable

By Bryan Bender, Globe Correspondent

WASHINGTON -- Twenty-one months into the war on terrorism, the nation's 361 commercial ports, through which 90 percent of US trade is conducted, have emerged as the economic targets that security specialists consider the most vulnerable to terrorist acts.

The Central Intelligence Agency recently concluded that the United States is more likely to be attacked with a weapon of mass destruction smuggled into the country aboard a ship than one delivered by a ballistic missile, according to an intelligence official who has seen the classified report. As demonstrated by the Sept. 11 attacks on the World Trade Center, terrorists see the dual benefit of killing Americans and wreaking economic havoc by striking commercial targets, the specialists say.

A recent simulation done for the Pentagon found that even a minor attack in a US port could shut down maritime commerce nationwide for a month. And a lengthy security analysis completed last year by the consulting firm TRW Inc. concluded that the Port of Boston is potentially one of the biggest terrorist targets because it is one of the four main entry points for liquid natural gas tankers.

According to Port Security Strategies, a consulting firm, about \$750 billion in goods flow through US seaports each year. A temporary shutdown could cut off everything from heating oil in winter to spare parts for major industries.

"It is probably the biggest target of opportunity that a terrorist group or a rogue nation has right now against the United States," said Justin Hamilton, legislative director for Representative Christopher Bell, a Texas Democrat who chairs the House Port Security Caucus.

Mayor Thomas M. Menino and other officials have expressed fears that liquid natural gas tankers entering the Port of Boston could be attacked or turned into a weapon of mass destruction. The TRW report, ordered by the Coast Guard after the Sept. 11 attacks, also cited the diversity of shipping traffic in the city's port, including liquid natural gas tankers arriving at Distrigas in Everett, other tankers carrying Canadian oil into Chelsea, and cruise liners, according to an official who has read the report.

But while airport security has received billions in federal dollars since the attacks, the maritime lifeline of the economy has been a virtual afterthought in the nation's capital, leaving most of the burden on state, local, and private officials, according to lawmakers from both major parties, port officials, and security specialists.

The White House has sought no money in its budget requests, even though the Coast Guard estimates that nearly \$1 billion will be needed next year and a total of \$4.4 billion over the next decade for security upgrades and capital improvements to ports. The several hundred million dollars authorized for shoring up US ports since the attacks has been added by Congress; only about \$100 million has been spent.

The Department of Homeland Security maintains that much has been done. According to Dennis Murphy, a department spokesman and former port director in Norfolk, Va., customs officials have launched initiatives to monitor manifests, crews, and passengers in 20 overseas ports before ships steam toward US shores.

"We are scrutinizing more cargo more thoroughly," said Murphy. All cargo deemed high risk is manually searched, he said, and new technologies are being acquired to detect any tampering in transit.

But Murphy said there were practical limits to how much cargo could be searched. "If we examined 10 percent, we would bring the economy to its knees," he said. "There is no silver bullet. You can only do so much so fast."

Hamilton says these efforts are only first steps, noting, for example, that pages of ship manifests could be doctored. That possibility leaves an enormous challenge to ports of entry.

Without much federal aid, port authorities have tried to fund additional steps on their own.

"You'll hear from every major port that there are many security upgrades based on individual port assessments that they have been doing on their own," said Representative Frank A. LoBiondo, Republican of New Jersey and sponsor of the Maritime Transportation Security Act. "The reality is we need many more dollars."

The Port of Boston is a case in point. Last week it received its first federal grant, \$1.1 million, for security improvements. But the Massachusetts Port Authority requested \$9 million for such upgrades as stronger security measures on the port's perimeters, based on TRW's findings.

"Part of our application was based on the results of those assessments," said Joe Lawless, director of port security for Massport.

"We received only a portion of what we were asking for," added port director Mike Leone. "There has been limited federal dollars, far less than for other modes of transportation."

Officials in Boston have stepped up harbor patrols, improved coordination, and begun to transfer checked baggage of airline passengers taking cruise ships directly from Logan Airport.

"We've been very fortunate because after 9-11 the community came together, the government and the private sector," said Captain Brian Salerno, the senior Coast Guard officer in Boston. "We have been able to put together several committees and work groups to increase security."

The Coast Guard ships escort the liquid natural gas tankers into the harbor, and guard members periodically ride the ships to Boston from their origin in Trinidad, checking procedures and searching for possible stowaways.

The private sector has also played a critical role. According to Julie Vitek, communications director for Distrigas, the company recently leased two state-of-the-art tug boats with improved firefighting capability to escort gas tankers. The first began operating in March and the second arrived this month. "Post-Sept. 11 we developed a more extensive security process," she said.

But port security specialists say the recent grants are nowhere near enough for local officials to meet potential security threats.

A few million dollars will not do much to help a port such as Houston, which is 50 miles long and dotted with oil refineries, according to Stephen Flynn, a homeland security specialist at the Council on Foreign Relations. In Long Beach, Calif., which handles an estimated 43 percent of the country's maritime commerce, "there are still no sworn police operating in the port," he said.

"We're not going to solve everything at the local level," said Salerno, the Coast Guard commander in Boston. Flynn, a retired Coast Guard captain, blames the White House and Congress.

"A government that is wringing its hands over 1 or 2 million-dollar grants is still a nation that hasn't come to grips with the fact that the threat has changed," he said. "I was more forgiving in the first 18 months, but when you pass an act and you make sure there is no money to execute it, that goes beyond being slow to not taking this seriously."

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London Sunday Times
June 22, 2003

For Sale: 'Dirty Bomb' Material

By Michael Sheridan, Bangkok

An international hunt is under way for up to 130lb of radioactive material — suitable for use in a terrorist “dirty bomb” — that brokers are trying to sell to the highest bidder in southeast Asia.

Police and intelligence officials from Thailand and several western powers are helping to track down the caesium-137, which is said to be stored in neighbouring Laos.

The search follows the arrest in Bangkok on June 13 of a Thai headmaster, Narong Penanam, 44, who tried to sell 62lb of the material for £150,000 to undercover Thai police working with American agents. Western officials and nuclear experts were shocked at the amount seized.

The caesium, stored in metal casing, is said to have come from the former Soviet republic of Latvia. It formed part of a cache of 194lb smuggled out of the collapsing Soviet empire to Laos, whose communist rulers were cold war allies of the Kremlin.

A Thai intelligence informant has reportedly said that the remaining 130lb are at a military camp 16 miles from the Lao capital, Vientiane. Diplomats said “strong representations” were being made to the Lao government.

Landlocked, poor and secretive, Laos is a nexus for drug trafficking. Its rulers are not suspected of sympathy for terrorism but have a reputation for corruption. “This is criminal opportunism, not a sinister plot,” said a western diplomat. “They may not grasp how dangerous it is.”

Thai police and western sources said there was no evidence to link Narong to Islamic militants or terrorism. “He is only a broker looking for a commission,” said Lieutenant-General Chaj Kuladilok of the police investigation division.

Suspicions are growing among western officials that corrupt military officers in Thailand and Laos have been connected with several efforts to sell the caesium. Chanak Charoenruk, an air marshal in the Royal Thai Air Force who died in 2001, took a sample of the caesium to the country’s atomic energy agency for testing three years ago. “My husband was asked by an intermediary to check this substance and he took it for testing,” said his widow, Prapai Charoenruk. “He told me there was a total of (194lb), it had come from the Russian nuclear programme and it had decayed considerably.”

Caesium-137 could be used with conventional explosives to produce a “dirty bomb”, a threat MI5 has warned of.

Additional reporting: Anchalee Romruen

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Washington Post
June 21, 2003
Pg. 20

Putin Says Iran Is Ready To Accept Nuclear Controls

By Susan B. Glasser, Washington Post Foreign Service

MOSCOW, June 20 -- Russian President Vladimir Putin said today he has received new personal assurances from Iran that it does not aspire to build a nuclear weapon and is prepared to accept strict international controls over its nuclear program.

Putin told reporters at a Kremlin news conference that he had spoken with Iranian President Mohammad Khatami by telephone this week and had been told "the Iranian leadership is ready to fully join all protocols" and comply with International Atomic Energy Agency demands regarding its nuclear program.

His remarks come as Russia is under pressure from the United States to terminate an \$800 million contract to build a nuclear reactor in Iran. Iran says the facility will be used only to generate electricity, but the United States contends it could help in nuclear weapons programs.

At an IAEA meeting in Vienna Thursday, the U.N. watchdog agency pressed Iran to sign a new protocol that would allow for expanded, brief-notice inspections of nuclear facilities. Putin's remarks suggest Iran may agree to it. Putin did not address Russia's contract to build the nuclear plant, other than to dismiss calls for suspension of the project, which he called part of an effort to use "the nuclear card in unfair competition in the Iranian market." For much of the rest of his annual meeting with reporters, a nearly three-hour affair, Putin held forth on domestic politics at a time when his government, led by Prime Minister Mikhail Kasyanov, has come under increased criticism for failing to improve the general standard of living in Russia despite several years of economic growth. Kasyanov this week survived a parliamentary no-confidence vote, but by a margin narrower than many analysts had predicted. Many people here view the stepped-up pressure on Putin's government as the opening salvo in the campaign for parliamentary elections in December. Putin faces reelection next year. Today, Putin pronounced his prime minister's work "not bad," even as he allowed that "neither am I satisfied with everything" being done by the government. He also aggressively touted economic accomplishments during his three years in office, saying, "Never has there been in the history of our country such a renewal, such reconstruction and modernization."

On the economy, he cited substantial economic growth in the first five months of this year.

Those comments stood in contrast to the negative tone Putin took last month in his annual address to the nation, when he offered a blunt assessment of a country stuck in poverty, choked by bureaucracy and unable to compete in world markets. At the time, he called Russia's economic foundation "still shaky and very weak." But today, Putin used no such language, repeatedly citing this or that "good sign" in the economy and fending off reporters from impoverished Russian regions who asked what could be done to improve conditions at a time when average incomes outside Moscow hover around \$100 a month.

Yet he also struck a contrite note. "I feel ashamed for poverty," he said. "The quality of life is very low. There are very low incomes. Citizens of Russia have a right to, and should, live better."

In all, Putin fielded nearly 50 questions from reporters -- an unusual give-and-take for a president who generally limits his contact with the news media to brief and tightly scripted appearances in the Kremlin. Repeatedly today, Putin said he opposed steps he had been rumored to be considering, such as extending the presidential term of office from four to five years or changing Russia to a parliamentary, rather than a presidential-style, democracy.

He also said he opposed moving the capital from Moscow to his native St. Petersburg, the former imperial capital, though he did not rule out shifting some central government functions away from Moscow.

Putin began the session with an oblique warning to wealthy Russian business leaders to refrain from meddling in the upcoming elections. A recent report from a pro-Kremlin research group predicted that some corporate leaders would finance Putin's opposition in hopes of ensuring that the Kremlin did not amass too much power.

<http://www.washingtonpost.com/wp-dyn/articles/A17524-2003Jun20.html>

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Christian Science Monitor

June 24, 2003

Sharp Divisions Over North Korea

US advocates halting work on reactors, while allies want to keep them as bargaining chips.

By Robert Marquand, Staff writer of The Christian Science Monitor

TOKYO – As North Korea ever more openly declares itself a nuclear state deserving of respect if not fear, the US and its allies in the region are further isolating the so-called "Hermit Kingdom."

With Pyongyang officially claiming nuclear capability, 23 Asian nations took an unprecedented step last week by calling on the North to rejoin the nonproliferation treaty. Meanwhile, the US is shopping a statement of denunciation at the UN. And Monday, a ferry service between Japan and North Korea, a lone source of cash and suspected smuggling of missile parts, was canceled again.

Despite these moves, sharp divisions remain beneath the agreeable unified surfaces, experts say. On nitty-gritty details about the nature of the North Korean regime - questions bearing strongly on next steps - there is still substantial debate among the allies, and within the US camp.

The North remains a hard-to-decipher "black box." The country's military capabilities, its impoverished conditions, the political dynamics of the regime, and the diplomatic "game" being played by "Dear Leader" Kim Jong Il are all crucial strategic issues lacking consensus.

"One of the main problems we have is that there is no agreement on how to analyze or evaluate the North at this moment," argues Ronald Montaperto of the Asia Pacific Center for Security Studies in Honolulu. "There is no common understanding on the real situation inside the North."

Divisive reactors

Take, for example, the ongoing construction of light-water reactors in the North, a holdover from the scuttled 1994 Agreed Framework. Under the deal, the US and its allies agreed to build two nuclear reactors in North Korea in exchange for a freeze on the nation's nuclear weapons program. Despite Pyongyang's withdrawal from the Nuclear Non-Proliferation Treaty and eviction of UN inspectors from its Yongbyon facility, construction continues. This August sees a deadline to deliver components.

South Korea, and to a lesser extent Japan, feel the reactors provide a card to play with the North. However, at a recent meeting of Japan, South Korea, and the US, the Americans felt that it would be a "silly exercise" to deliver components "in the midst of a nuclear crisis," says a source close to the meetings.

Ongoing disagreement over how willing Mr. Kim is to dismantle and abandon the North's 20-year-old nuclear program also continues; state intelligence agencies remain divided over how far the North has gone in reprocessing its plutonium.

Still, US leaders seem confident that the shaky regional coalition will hold long enough to bring Pyongyang to the bargaining table. Japan, South Korea, China, Russia, and other parties now agree the North must be approached through a common strategy that resists Kim's efforts to divide.

The US is tacitly embarking on what one US military expert calls an "undeclared policy of sanctions" against the North - tracking ships, getting Japan to inspect ports and ships and to close down sources of illicit drugs and dual use technology, and slowly squeezing the North's flow of cash.

Monday, in retaliation, North Korea canceled the Mangyongbong-92, the only passenger ferry between Japan and the North. A spokesman for a North Korean citizens group in Japan said the political pressure from Japan "in fact, amounts to sanctions." North Korea regularly states it considers sanctions an act of war, though has not spelled out specifics.

China's role

China remains the wild card in this coalition. Hawks and moderates in the White House differ over the kind of role China is playing - with hard-liners willing to go along with the moderates' position that China will actively dissuade Kim, on the assumption that China will finally disappoint and not deliver.

"China has dealt itself into the game now in a vital way," says Ralph Cossa, director of the Pacific Forum CSIS in Hawaii. "They had been willing to say early on that the US was overreacting to the North.

"Now, with the North saying it is reprocessing, the Chinese can't just sit back and ride this out. There is a substantial constituency in [Washington] D.C. hoping that China will come through. There is also a strong camp that hopes China will fail."

Other substantive questions remain unresolved. For example, there are tactical arguments over the nature of the Kim regime. Some US officials are convinced that Kim is fully in charge of the North, and calls all the shots.

Others in South Korea and Japan say that, not unlike Saddam Hussein's Baath party, which represented a substantial power base that Mr. Hussein had to at least consider when taking decisions, Kim is not free to do whatever he pleases and must take steps with his generals and other party officials in mind.

Since three-way talks in April that included the US and China, North Korea has not made a move toward another round. The US seems content to wait for the North, though sources say that Japan, South Korea, and even allies like Australia are urging the US to keep the process moving.

Meanwhile, the North claims it is reprocessing plutonium fuel rods, and last week stated it needs nuclear weapons to defer the cost of an expensive conventional military, a claim most experts scoff at.

<http://www.csmonitor.com/2003/0624/p07s01-woap.html>

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San Francisco Chronicle

June 23, 2003

Pg. 1

The Next Generation Of Bombmakers

Torch being passed to younger scientists

By James Sterngold, Chronicle Staff Writer

Bruce Goodwin admits he often meets with puzzled stares when he tells young people he designs nuclear bombs for a living and tries to recruit promising scientists, as though he had emerged from an outdated science fiction fantasy. "People will say to us, 'My God, you still work on nuclear weapons?' " said Goodwin, the head of the weapons program at the Lawrence Livermore National Laboratory in the East Bay. "I would say, 'Yes, we do.' But it is still a surprise.

"It has become more difficult over the past 10 years to attract the right people."

The Cold War may be over and the once-anxious nuclear standoff with the Soviet Union a hazy memory.

But the Bush administration and congressional Republicans recently succeeded in repealing the decade-old ban on research into new types of low-yield nuclear weapons, and they are pushing ahead on the development of a bunker-busting warhead -- giving momentum to a quiet renaissance for the complex of facilities where warheads are designed, built and maintained.

As billions of dollars are being spent rebuilding production capabilities, a new generation of weapons designers -- most of them newly minted Ph.D.s or post-doctoral researchers -- are being recruited and trained by Lawrence Livermore and its sister lab, the Los Alamos National Laboratory in New Mexico, both managed by the University of California.

Because of the extensive academic training required, these scientists are often in their 30s and even 40s -- a couple of decades younger than the Cold War weaponeers. But they face dramatically different circumstances, with the threats to the United States less clear and the kind of nuclear arsenal it needs a matter of intense debate.

Live testing has been banned for a decade, so most weapons work is done using computer simulations. The scientists say their work has become more theoretical than hands-on. They come in contact only rarely with actual weapons or the missiles and bombers that deliver them to targets. Those who do say the experience can be sobering, if not jarring.

"It's their size," said Charles Nakhleh, 36, a brash, combative physicist at Los Alamos. "It's pretty amazing, because they're not that big. You realize these are practical, engineered objects. They have tolerances. We don't get that otherwise."

LABS NOW UNDER A CLOUD

Another big change from the past is that the labs themselves -- once secretive, highly respected and generally considered beyond reproach -- are now under a cloud because of continuing management problems that have tarnished their image.

Energy Secretary Spencer Abraham recently told UC that if it wants to continue running Los Alamos when its contract expires in two years, the university will have to enter a competition. There are concerns Abraham may do the same with Livermore.

At least for now, the controversies do not seem to be affecting these young designers, whose ranks include many women and minorities -- another contrast with the older, mostly white male scientists.

During interviews at both labs, a dozen young designers discussed what drew them into the field and how they view their work in a world in which it is no longer clear who might be the target of a nuclear attack or what role these uniquely destructive weapons would play when U.S. policy is to prevent new members in the world's nuclear club. The designers all seemed motivated in equal parts by patriotism and the thrill of knotty scientific challenges.

Goodwin said that, since the Sept. 11 attacks, there has been a stronger sense of mission among designers.

Yet the word "fascinating" popped up constantly.

"To me it's really a fascinating realm of physics," said John Scott, 31, a Los Alamos designer who recently entered the lab's intensive training program, called the Theoretical Institute for Thermonuclear and Nuclear Studies, or Titans. "They're never going to go away. We might as well capitalize on the positive aspects."

Most of the lab scientists sought to deflect questions about whether they had concerns regarding producing such destructive weapons, saying they had no control over arms policy.

"I was born into a world with tens of thousands of nuclear weapons," said Robert Canaan, 37, a nuclear engineer from the University of Texas, who is now at Livermore. "I'd rather that people who know what they're doing are designing them and maintaining them."

Most of the young designers objected to the notion that nuclear arms are different from other kinds of weapons, a reality that was central to America's Cold War strategy and diplomacy for decades.

"Sometimes I think it's a little irrational to say there are good ways to destroy things and bad ways to destroy things," said Omar Hurricane, 35, a Livermore physicist. "It's sort of arbitrary."

Some resisted the notion that they are designing weapons at all.

SEE WEAPONS AS DETERRENTS

"I don't look at issues of design as involving weapons of mass destruction," said Mary Jane Lindquist, 43, an expert in applied mathematics at Livermore. "I look at them as deterrents. I don't really look at it as if I'm designing something with the object of killing people. The whole point is that they don't get used."

Alan Wan, 45, a Livermore physicist, echoed that view, arguing that the weapons made this country safer. "My job is to make our deterrent so credible that no one will challenge us," he said. "I'm very proud of what I do."

Most of the young researchers said they had grappled quietly, and on their own, with any moral qualms they might have had about working on nuclear weapons -- the labs had never encouraged an airing of the subject, they said. For many, their concerns centered on their families and educating their children. Several said they had chosen work at a weapons lab because it was a well-paid job that fit in with a spouse's move.

Raymond Jeanloz, a physics professor at UC Berkeley and a member of a high-level university panel that oversees the scientific work at the labs, called weapons design an attractive career choice.

The labs often permit more interdisciplinary work than do universities, where research tends to be more compartmentalized, and the young designers have a sense they are contributing to the nation's security, Jeanloz said. He added that lab scientists tend to be better paid -- with salaries starting at \$80,000 or so -- than young academics on university faculties, and they are given more responsibility sooner.

The scientists who join the programs undergo lengthy apprenticeships, either the Titans program at Los Alamos or a mentoring system at Livermore.

While much of what they do is highly theoretical, Michael Bernardin, who runs Los Alamos' Titans program, noted that there are some practical exercises.

One assignment, he said, is "to compute what kind of explosive yield would take out Los Angeles."

SCANT KNOWLEDGE OF HISTORY

Though computers have given the new generation a better understanding than their elders of the abstruse physics of thermonuclear explosions, their knowledge of Cold War history, current policy debates and the human impact of nuclear warfare seemed scant, at best.

Few said they followed the recent battle in Congress on whether the decade-old ban on developing low-yield nuclear warheads should be repealed.

"I'm not a news buff," said Livermore's Lindquist. "I'm really bad that way.

I have so much to do and I have so many deadlines. There are only so many hours in the day."

None of them had accurate knowledge of the toll taken by history's lone instance of nuclear warfare, which ended World War II.

The first several generations of weapons designers generally found the bombings in 1945 of Hiroshima and Nagasaki, Japan, an emotional experience that influenced their subsequent work, along with seeing the power of the weapons in later tests. But those bombings are little discussed now.

The only designer who was close to knowing the number of deaths was Canaan, who said he believed something on the order of 100,000 had been killed by each blast -- a significant understatement, according to experts. But, when asked, he noted, "I haven't especially studied those two tests."

He was not alone. Neither lab includes study of the bombings -- the sole opportunity to understand the political, military and human impact of nuclear warfare -- in its training program.

NO STUDY OF HIROSHIMA

"Students are exposed to the great destructive effects of the nuclear explosion" through test data, Bernardin said, but the bombings in Japan "are not part of what we study, really."

Juliana Hsu, 40, a weapons physicist at Livermore, said she did not know how many died in the bombings, except that the attacks forced Japan's surrender and ended the war.

According to John Dower, a history professor at MIT and a respected scholar of the U.S. war with Japan, the bombing of Hiroshima killed about 140,000 people in 1945, and 70,000 to 75,000 died within the first few months of the strike on Nagasaki. Other experts generally agree that the toll rose considerably by 1950 because of radiation poisoning and other bomb-related injuries, to as many as 200,000 in Hiroshima and 140,000 in Nagasaki.

But most of the young designers stressed that America's nuclear arsenal had prevented another war of the magnitude of World War II.

Nakhleh, the Los Alamos physicist, said he worked for a time in arms control and retains an interest in the area, but he does not advocate getting rid of nuclear weapons.

"I would submit that the advent of nuclear weapons has made warfare on that old scale obsolete," he said. "I would argue you can't get away from nuclear weapons."

<http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2003/06/23/MN172412.DTL>

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