

The CBW Chronicle

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A periodic newsletter about international and domestic events related to the control and elimination of chemical and biological weapons

Weapons Inspections Resume in Iraq

On 5 February 2003, US Secretary of State Colin Powell presented the United Nations (UN) Security Council with specific evidence meant to garner international support for military action against Iraq. Touching on Iraq's biological, chemical, missile and nuclear weapons programs, as well as on its links to terrorism and history of human rights violations, Powell provided intelligence gathered from satellite photos, intercepted communications, and human sources.

The majority of the intelligence detailed Iraqi efforts to deceive inspectors and conceal weapons of mass destruction. Intercepted communications included a discussion between Iraqi officials on the "evacuation" of incriminating materials from sensitive sites; satellite photos of facilities thought to house chemical and biological weapons – those at Taji, al Fatah, al Musayyib and Amiriyah – show efforts to sanitize sites before the inspectors arrived.

Powell also described intelligence and defector accounts of mobile biological weapons production labs, which are housed in approximately 18 trailer trucks and move constantly throughout Iraq. According to Powell, these labs, and others hidden in railroad cars, can quickly produce large amounts of biological agent but are next to impossible to locate. Powell also asserted that Saddam Hussein not only possesses weapons of mass destruction, but that he is prepared to use them. Some human intelligence sources relate that Saddam has already authorized field commanders to use chemical weapons in case of war; others indicate that he has been testing biological and chemical weapons on death-row prisoners.

In November 2002, UN inspectors returned to Iraq for the first time since 1998. Resumption of the search for weapons of mass destruction was authorized by UN Security Council resolution 1441, which required Iraq to submit a "full, final, and complete declaration" of its weapons programs

to the UN Monitoring, Verification and Inspection Commission (UNMOVIC) in early December. According to UNMOVIC Chairman Hans Blix, the 12,000 page, 12 CD-ROM document failed to answer many outstanding questions about its weapons activities and included little information beyond what Iraq had submitted prior to 1998.

Previous UN inspections in the 1990s uncovered information on Iraq's chemical and biological weapons programs, but Iraq's non-compliance during that time raised issues that remain unresolved today. Evaluating the current status of Iraq's weapons programs remains challenging. Although resolution 1441 provides access to areas that Iraq had previously kept off-limits, including presidential palaces and private residences, UN inspectors have not made any public statements that they have discovered revived weapons activity.

The most significant find to date has been a dozen 122mm chemical warheads – which were empty but in good condition - found in a bunker at the Ukhaider Ammunition Storage Area south of Baghdad. The Iraqis claimed that the warheads had simply been "forgotten," and on 20 January 2003, they produced four additional chemical warheads that they stated had been discovered in unopened boxes in a storage area.

On 27 January, Blix and International Atomic Energy Agency Director Mohamed ElBaradei presented a progress report to the Security Council. Although both indicated that the Iraqis were cooperating to greater extent than in

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President Announces Plan to Vaccinate Military, Emergency Response Personnel

On 13 December, President George Bush announced plans to begin a smallpox inoculation campaign. The vaccine is required for military personnel and offered to those medical professionals and emergency workers in order that both groups of people could continue to operate in the event of a smallpox outbreak. Projections indicate that once sufficient quantities of new smallpox vaccine will be produced by 2004, the vaccine will be made available to all American citizens on a voluntary basis. Currently, the administration is not recommending inoculation of the general population.

Variola major, or smallpox, caused the deaths of millions from the time of the Egyptian pharaohs until the last, naturally occurring case in Somalia in October 1977. Development of a vaccine led to a successful global campaign to eradicate the disease, after which countries ceased vaccination of their citizens, as the United States did in 1972. By 1983, only two World Health Organization Collaborating Centers still housed stores of the virus—one in the Soviet Union, the other in the United States.

The Bush Administration, concerned that the virus could be in the hands of “rogue” countries such as Iraq and North Korea, pointed also to the 2001 anthrax letter attacks to buttress the argument that a bio-terrorist attack could occur in the United States. As the majority of citizens under the age of thirty have never received vaccinations and older generations have waning resistance, an attack could prove devastating to the American population. In previous outbreaks, approximately 30 percent of those infected died from the disease, while those that survived suffered from extensive scarring and health complications. Modern medical capabilities might result in a reduction in these effects, however, the scale of the impact is difficult to measure in the absence of actual experience.

Inoculations using the current stocks of the vaccine are being carefully monitored because vaccine developed from live vaccinia virus can be dangerous and potentially fatal. In most people, this vaccine causes only a mild infection and subsequent immunity. However, previous experience has shown that fifteen out of every million vaccinated will develop life-threatening reaction and one or two will die. Complicating this is the change in the demographics of the American population since vaccine was last administered on this scale.

Since the 1960s, the number of people with compromised immune systems, due to diseases such as cancer and AIDS, has grown significantly. Elevated incidence rate of atopic dermatitis—a skin disorder that can trigger a fatal reaction to the virus—is also a concern. Individuals who either suffer from these conditions or live with others who do should not be inoculated. The site of the injection continues to leak vac-

States, Localities Weigh Vaccination Decision

State and local entities responsible for handling smallpox vaccinations are raising questions about funding and liability issues related to the measures called for in the new plan.

Although vaccinations of emergency personnel will be given only to those who ask for them, requests could run into the millions. Since the federal government is providing no additional money to fund related activities, many localities are struggling to find funding for:

- ?? educating potential vaccinees;
- ?? training those administering shots;
- ?? covering time off for employees receiving shots;
- ?? establishing vaccination clinics; and
- ?? coordinating follow up visits.

While close to \$1 billion in bioterrorism preparedness grants was distributed throughout the country in 2002, most of the money has been committed to other needs such as purchasing new equipment and training personnel.

Some healthcare providers are bowing out of the vaccination program altogether. Centura, which runs 10 hospitals in Colorado and operates the state’s largest trauma center, announced in January 2003 that its employees will not be participating in the state’s vaccination effort. Officers at the company cited concerns about the safety of their employees and patients, as well as the liability risks if some should suffer severe adverse reactions as the key factors in their decision. A few other hospitals across the country have also opted out of the vaccination efforts. ❧

cinia for several weeks following the vaccination and can potentially infect others. A recent article in the *Journal of American Medicine* pointed out that during the 1960s, for every 100,000 vaccinations, there were two to six cases of the virus spreading to unvaccinated individuals through close contact.

Future batches of smallpox vaccine may reduce the risk of side effects. Present vaccine stocks were produced by infecting the legs of calves, which produced pus that was dried and used for the vaccine. Contrastingly, vaccines in development will be produced in cell cultures. Likewise, some companies are attempting to produce a vaccine based on *killed* virus, rather than the live vaccinia, which would therefore not cause any active infection. Until such vaccines go through trials and receive FDA approval, however, the current stockpile will be administered to the military, health care and other emergency workers, and to the general population in the case of an outbreak.

Under the president's new plan, local health departments are responsible for vaccinating the equivalent of approximately one hundred health workers per hospital capable of handling smallpox patients. Potential recipients would include: emergency department staff; intensive care unit staff; general medical unit staff; selected medical, pediatric, obstetric, and family practitioners; sub-specialists (e.g. epidemiologists, sur-

geons); dermatologists; infection control professionals; respiratory therapists; radiology technicians; security personnel; and some housekeeping staff. Additionally, all personnel administering the vaccines should be inoculated, so as to prevent incidental exposure. Provided this first round of vaccinations is successful, the next group of people to be vaccinated would include firefighters, police and paramedics—potentially bringing the total of vaccinees outside the military up to 10.5 million people.

In order for inoculated individuals to prevent infecting others, the vaccination site should be well covered with both gauze and a semi-permeable dressing to provide a barrier to the vaccinia virus. The dressing should not be removed until the scab separates. Vaccinees should also be questioned regarding household members who may have any compromising conditions and are thus at risk for infection through close contact.

The United States also hopes to take some cues from the vaccination process taking place in Israel. Since September, close to 10,000 Israeli first responders have been inoculated with few apparent complications. Britain is preparing for a mass inoculation in the event of an attack and will follow a strategy similar to that of the United States by vaccinating health care workers first. *z*

FDA Orders Anthrax Vaccine Stocks Recalled

Late in 2002, safety concerns drove the Food and Drug Administration (FDA) to order the bulk of the US anthrax vaccine stockpile removed from use. Military personnel, the only population currently receiving anthrax inoculation, will receive only vaccine lots produced since February 2002. Sole production of the vaccine originated with Merck in 1970 and shifted to the Michigan Biological Products Institute in 1990. Changes in the manufacturing process during that shift may be responsible for an increase in the number of adverse reactions among vaccine recipients.

In 1998, BioPort, Inc. purchased the Michigan production plant and its existing vaccines, which were subsequently used to inoculate US military personnel. Concerns about vaccine quality gained credibility when, citing repeated safety violations and unauthorized changes in manufacturing equipment, the FDA denied BioPort's bid to produce new batches of the vaccine. Four years and millions of dollars later, Bioport finally obtained FDA certification of its facilities

and procedures in 2002.

Meanwhile, an upsurge in complaints from vaccine recipients prompted a 2001 FDA warning that the vaccine could be responsible for a variety of long-term adverse effects. One survey by the General Accounting Office noted an 85 percent local reaction rate and 24 percent systemic reaction rate, compared with the original studies identifying a 30 percent local and 0.2 percent systemic reaction rate. Adverse effects are not the only problem with the vaccine: full protection from anthrax requires a painstaking regimen of six injections over 18 months, followed by annual booster shots.

In hopes of finding a safer and more efficient approach to protecting against anthrax, the US government has begun a search for a "new generation" vaccine. Departing from the previous method of manufacture, the new vaccine would utilize modern recombinant technology to produce a purified version of the vaccine from genetically engineered bacteria. This new

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process should decrease contaminants that could contribute to side effects and create vaccines that will be effective in 3 shots or less.

Three companies announced in October their intention to begin human testing on vaccines manufactured using this technique. DynPort Vaccine Co., LLC initiated Phase I safety testing late last year. In this trial, small amounts of the DynPort vaccine, developed for the Department of Defense through the Joint Vaccine Acquisition Program, were injected into 70 volunteers at the Walter Reed Army Medical Institute. Should these injections prove safe, more extensive secondary tests will be initiated. DynPort hopes to obtain final FDA approval for its vaccine by 2010.

California's VaxGen and UK-based Avecia have been awarded a similar contract from the National Institutes of Health to evaluate a vaccine originally developed by the US Army Medical Research Institute for Infectious Diseases. Federal officials expect the vaccine to pass FDA Phase I safety tests this year, at which point \$13.6 million will be awarded for con-

tinuation with Phase II trials.

Vaccines are important not only for prophylactic measures against anthrax, but also for post-exposure treatment. Although antibiotics can be an effective remedy to the disease, anthrax spores can persist in the body for quite some time, so an extended course of medication is required. Long-term antibiotics use, however, can cause dangerous side effects: adverse reactions prompted most people taking Ciprofloxacin after the 2001 anthrax attacks to terminate treatment prematurely. The Advisory Committee on Immunization Practices states that vaccination in conjunction with antibiotics shortens the recommended course of antibiotic treatment from 60 to 30 days. In addition, while antibiotics may be ineffective against some strains of anthrax (particularly those that the former Soviet Union genetically engineered), vaccines produce antibodies that attack a crucial anthrax protein with less regard to strain background or genetic manipulation.◊

Department of Homeland Security Established

Months of contention over the structure of a new department seeking to unite US response and preventative capabilities against terrorist attacks ended in late November with the passage of the Homeland Security Act of 2002. President George Bush signed the bill into law on 25 November. In addition to addressing the security of US borders, transportation systems and critical infrastructure, the new Department of Homeland Security aims to provide unified oversight of activities related to chemical, biological, radiological and nuclear attacks.

The new department is divided into four directorates. Those with primary responsibilities relating to unconventional terrorist attacks are the Directorate of Emergency Preparedness and Response and the Directorate of Science and Technology.

The goal of the Directorate of Emergency Preparedness is to coordinate and unify US emergency response capabilities. To accomplish this mission, the directorate encompasses the Federal Emergency Management Agency (FEMA), the National Pharmaceutical Stockpile, the National Disaster Medical System, and the Metropolitan Medical Response System, formerly overseen by the Department of Health and Human Services. FEMA is tasked with the primary leadership role within this directorate.

FEMA's chief responsibility is to coordinate all mitigation, planning, response and recovery efforts by reducing long-term risk to people and property, training members of the emergency management profession, conducting emergency operations, and rebuilding communities following an emergency.

Other efforts to increase preparedness include the consolidation of existing federal emergency response plans into one unified, national strategy; the development of interoperable communications that allow response personnel to communicate with one another; and the close coordination of federal, state, and local first responders in all issues, including the development of a comprehensive national incident management system.

The Directorate of Science and Technology is designed to oversee research, testing, development, and procurement issues with regard to weapons of mass destruction countermeasures. Entities transferred to the Directorate include the Plum Island Animal Disease Center, Lawrence Livermore National Laboratory's advanced scientific computing program, and the Defense Department's newly created National Bio-Weapons Defense Analysis Center. New programs will be established within the Directorate. The federal Homeland Security Insti-

tute will perform vulnerability assessments and evaluate security measures and the Center for Homeland Security will lead a university-based system for enhancing homeland security. Under a system similar to the current Defense Advanced Research Projects Agency, the new Homeland Security Advanced Research Projects Agency will support the development, testing and deployment of advanced homeland security-related technologies.

Although the primary responsibility of the Directorate of Science and Technology is to research, develop, and test countermeasures to weapons of mass destruction, it also has a variety of other crucial tasks. The directorate will oversee exercises and drills for all levels of unconventional attack response teams, sponsor non-governmental research and development into vaccines, treatments, and diagnostics for exposure to

chemical and biological agents, and strengthen national surveillance systems that can identify biological attacks more quickly.

Congress has confirmed former Governor and Office of Homeland Security Director Tom Ridge as secretary of homeland security. President Bush nominated Drug Enforcement Agency Administrator Asa Hutchinson as undersecretary for border and transportation security, but has yet to fill the remaining undersecretary slots. In total, the Department will comprise approximately 170,000 employees.

President Bush requested \$33 billion and \$36 billion for the Department in 2003 and 2004, respectively. Experts predict that it could take at least a year to organize the Department, and likely several additional years before it can operate smoothly and efficiently. ❧❧

GAO, DOD Question Military Preparedness for Chemical and Biological Warfare

Evidence presented in a 1 October 2002 congressional hearing before the House Subcommittee on National Security, Veterans Affairs and International Relations, indicates the US military may not be properly prepared in the event of a chemical or biological attack. These charges are worrisome given US assertions that Iraq still harbors such weapons and Bush Administration threats to use military force to disarm Saddam Hussein. Testimony from Defense Department Inspector General Joseph Schmitz and Raymond Decker of the General Accounting Office (GAO) suggests that chemical and biological warfare protective equipment may be insufficient to safeguard soldiers, and training programs and medical response exercises have received low priority in some branches of the service.

The Defense Department discovered in 2000 that a now-bankrupt contractor, Isatrex, had sold them 800,000 defective chemical and biological protective suits. Although a November 2001 statement from the Defense Logistics Agency reported an extensive effort to remove the defective suits from the system, it has been unable to account for approximately 250,000 suits. While the agency asserted that most of the suits have likely been discarded or consumed in training exercises, Decker believes some could still be issued to military personnel, possibly some who are currently in or headed for the Persian Gulf theater.

Inventory difficulties have caused different issues concerning the newer JSLIST (Joint Service Lightweight Integrated Suit Technology) protective gear. Consisting of overgarments, boots and gloves, the suits are designed to protect against chemical or biological threats while avoiding being excessively heavy, warm or bulky. According to a GAO report, the military, mistakenly believing there was an excess of the JSLIST suits, sold many of them for \$3 on eBay. Ironically, officials were simultaneously paying the contractor up to \$200 for the same suits.

How did the Defense Department lose track of 250,000 defective pieces of equipment and sell critical gear for only a fraction of its value? Critics blame a faulty inventory system that makes reliable equipment tracking virtually impossible: the Pentagon does not know how many pieces of equipment it has, nor can it precisely locate that equipment. The inventory system has caused disproportionate distributions of gear among the services; even if full sets of equipment are available, there is no guarantee that soldiers can be issued appropriate sizes. The essential role each piece of equipment plays in overall protection means that a deficiency in just one piece could cause grave injury in a chemical or biological attack.

In addition to equipment and inventory problems, the GAO found chemical and biological warfare train-

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ing to be inadequate in some branches of the military. Realistic field exercises are almost nonexistent in Joint training programs, and medical services remain poorly prepared to respond to a chemical or biological attack. Even the recent Millennium Challenge 2002 war games, in which 13,500 troops from all four services participated in the largest combat simulation in US history, barely employed chemical and biological warfare scenarios.

The GAO and Inspector General have made sev-

eral recommendations, including establishment of an automated inventory system across all services and more extensive chemical and biological warfare training for medical personnel and soldiers. The Defense Department appears willing to meet the recommendations and, according to Decker, it "has recently proposed organization and other changes designed to address these shortcomings." However, the Pentagon has not stipulated a time frame for implementing these improvements.☞

Report Says Chemical Weapon Incineration Safer than Storage

A December 2002 National Academy of Sciences report asserts that incineration of chemical weapons poses a lesser risk to Americans living near weapons depots than the continued storage of aging munitions. The report supports the Army's launch of operations at new destruction facilities designed to use the incineration technology and offers recommendations to increase safety during the incineration process. Throughout the US destruction program the National Academy has served as a watchdog over various aspects of the program, helping to ensure the safety of its operations.

Begun originally as an effort to eliminate these dangerous armaments in part due to safety reasons related to aging, chemical weapons destruction is now also part of US compliance with the Chemical Weapons Convention. The US stockpile originally consisted of approximately 31,500 tons of nerve and blister agent stored at nine different locations. As of December 2002, more than 25 percent of the total stockpile had been destroyed. The facility at Johnston Atoll in the Pacific Ocean finished its destruction efforts at the end of 2000. The Deseret Chemical Depot in Tooele, Utah is the only other destruction facility currently active. Used at both Johnston Atoll and Toole, incineration is the destruction technique that will be employed at three other locations—Anniston, Alabama; Umatilla, Oregon; and Pine Bluff, Arkansas.

The National Academy of Sciences report analyzed the incidence of chemical leaks during incineration versus during storage. To quantify the hazard, the report noted the volume of agent released. While only 40 significant leaks have been noted during 12 years of incineration operations at the two active facilities, several

hundred have been catalogued at storage locations. Analysts found that while incineration-related leaks released small amounts of agent into the environment, storage leaks were far more serious. The gravest event involved 78 gallons of leaked mustard, a blister agent that can persist in the ground for up to 10 years.

Critics like Craig Williams of the Chemical Weapons Working Group charge the study glosses over serious incidents at existing incinerators and ignores the possibility of attaining greater safety utilizing alternative destruction methods such as chemical neutralization, which will be used at Newport, Indiana; Pueblo, Colorado; and Aberdeen, Maryland. The decision regarding the destruction method to be employed at the remaining facility in Lexington, Kentucky has yet to be finalized. However, the final environmental impact statement for the facility released by the Department of Defense indicates that neutralization is the preferred choice.

The report does not give complete and unconditional support for the incineration process. Calling for improved safety, the committee that conducted the underlying research emphasized the need for use of better monitoring equipment and creation of a culture where safety is put above deadlines. Committee Chairman Charles E. Kolb says the incineration should go on as quickly as possible, "with continued strict observation of safety precautions." ☞

For more coverage of chemical and biological weapons policy issues, find us on the Internet at www.stimson.org/cbw.

Russian Use of Incapacitant Gas Raises Treaty Compliance Questions

The conclusion of the October 2002 siege of a Moscow theater by Chechen guerillas left 129 hostages dead and a multitude of unanswered questions. Forty-one rebels, including several female suicide bombers with explosives strapped to their bodies, took control of the theater during a performance of the popular play “Nord-Ost.” The rebels sought to force the withdrawal of Russian troops from Chechnya.

Seeking to disable the Chechen rebels before they executed hostages or detonated the explosives lining the theater, Russian authorities pumped aerosolized chemical incapacitants through the building’s ventilation system. Soldiers subsequently entered through the roof, lobby, and underground communications tunnels. Once inside, they shot the comatose guerrillas and began evacuating unconscious hostages.

Though the Russian tactics effectively ended the 57-hour siege, soldiers were unable to rescue all of the 800 hostages from the effects of the incapacitant. Opioid overdoses induced circulatory and respiratory failure in many, and others suffocated on their own vomit during transit to hospitals. Medical doctors were given little advance warning or information of the pending rescue attempt. Nor were they provided sufficient quantities of antidote to treat the number of people known to be inside the theater. Even when health workers were instructed to administer naloxone, a highly effective antidote to opioid overdose, it was

too late for many hostages: quick administration is vital, but it took over 95 minutes just to empty the theater.

The agent dispersed in the theater was not immediately disclosed by Russian authorities, but after several days of intense international pressure, health minister Yuri Shevchenko identified it as fentanyl, an aerosol derivative of an opioid narcotic commonly used in medical anesthesiology and as a veterinary sedative. Fentanyl is 100 times more powerful than morphine and rendered recipients unconscious within 90 seconds.

Whether Russian authorities anticipated the high levels of agent-related casualties is unclear. Shevchenko insisted that hunger, stress, and other medical conditions played an important role and that, “by themselves, these compounds cannot provoke a fatal outcome.” Since fentanyl can certainly be fatal in high doses, his assertion led medical experts to speculate that the derivative used was actually carfentanyl, which is more potent than fentanyl but is safe at much higher doses. Supporting this hypothesis, some hostages tested negative for fentanyl exposure. Carfentanyl will not show up in such tests.

Halothane was also detected during some medical examinations, and some experts believe that it may have been mixed with the fentanyl derivative to extend sedative effects. Mixing halothane with a fentanyl derivative may decrease safety. However, since a positive test for halothane could result from other medical procedures that the hostages may have received, doctors are hesitant to conclude that it was used in the theater. ❧

Cat-and-Mouse Inspections Heighten Suspicion

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previous inspections, Blix presented several areas of continuing concern.

Citing the discovery of 3000 pages of nuclear-related documents in the home of Iraqi scientist Faleh Hassan Al Basri, Blix charged that Iraq is likely concealing documentation of its programs. He contended that Iraq has neither been forthcoming about identifying scientists, nor has it encouraged scientists to engage in private interviews. Of primary concern are items that Iraq is believed to possess but has not accounted for, such as large quantities of VX nerve agent precursors, 6500 chemical bombs, 8500 liters of an-

thrax, and 650 kilograms of bacterial growth media.

Blix’s report served as confirmation of White House beliefs that Iraq has not and will not cooperate with inspectors. While Colin Powell’s presentation provided evidence to support military action, several members of the Security Council advocated allowing inspections more time to be effective. Powell made it clear, however, that the US would not hesitate much longer. “Leaving Saddam Hussein in possession of weapons of mass destruction for a few more months or years is not an option,” he said. “Not in a post-September 11th world.” ❧

DoD Releases New Information on 1960s Chemical and Biological Testing

Information recently released by the Defense Department sheds new light on a 1960s era program designed to identify US ships' vulnerabilities to chemical and biological attacks and to develop appropriate countermeasures. As part of a larger undertaking called Project 112, which encompassed land-based testing as well, the sea-based initiative, Project SHAD (Shipboard Hazard and Defense) utilized not only a variety of chemical and biological weapon simulants, but live agents as well.

According to the Pentagon, officials originally planned 150 tests but only conducted 46. Sixty-two tests have been confirmed cancelled, and the remaining 48 are believed to have been called off as well. The Defense Department released detailed information sheets on 42 of the 46 completed tests. Details on the last four tests are expected to be available in the next year.

Project SHAD test locations included the Hawaiian Islands, Maryland, Florida, Utah, Alaska, Canada, Puerto Rico, the United Kingdom and the Panama Canal region. Pentagon officials claim that all testing was done in remote locations far removed from civilian populations.

Although the Pentagon had previously acknowledged conducting experiments utilizing simulants to mimic the effects of real chemical or biological weapons, in 2002, officials admitted to using actual weapons. One test in Panama dispersed tear gas on unmasked volunteers; another released uninfected mosquitoes over an island in the Pacific to examine biting habits, trapping methods, and logistical problems with mosquito delivery methods. Tear gas and mosquitos constitute the most minor infractions, as the government also acknowledges use of chemical agents such as sarin, VX, tabun, and soman, and live biological agents including those that cause tularemia and Q fever.

Experiments using biological simulants primarily utilized the anthrax relative *Bacillus subtilis* var niger, often referred to as *Bacillus globigii* (BG). Though BG was thought harmless at the time, it has since proven to cause health problems in those with compromised immune systems. Furthermore, repeated exposure to chemical tracers such as zinc cadmium sulfide could be toxic to bones, kidneys, or lungs. Long-term effects of several other compounds used in the tests may include

respiratory conditions and cancer.

"The purpose of these operational tests was to test equipment, procedures, military tactics, et cetera, and to learn more about biological and chemical weapons. The tests were not conducted to evaluate the effects of dangerous agents on people," said William Winkenwerder, Jr., the Assistant Secretary of Defense for Health Affairs at a 9 October Defense Department briefing.

In an effort to inform veterans of their potential exposure to hazardous materials, the Department of Veterans Affairs has sent letters to 1,400 of the over 7,000 veterans involved in the SHAD and land-based tests. Of those informed, 53 have filed health claims. According to Winkenwerder, however, "illnesses which these individuals have presented have been fairly unremarkable and very consistent with individuals of the same age."

In this claim, Winkenwerder was referencing a 5 August report to the Senate Veterans' Affairs Committee that cited a preliminary study of 299 SHAD participants. Though the results demonstrated that SHAD participants suffered the same number and types of disabilities as the total service-connected population, he acknowledged that more extensive data is needed.

Towards that end, the Department of Veterans Affairs has awarded a \$3 million contract to the National Academy of Sciences' Institute of Medicine to perform a three-year study on the health of Project SHAD participants. This study will seek to contact each of these individuals for comparison to veterans with similar military histories but without the exposure to chemical and/or biological substances.

Even if the study reveals no increased incidence of adverse health in SHAD participants, many veterans remain disgruntled about their involvement in the tests. Particularly disturbing to them is the knowledge that they were required to participate without full knowledge of the nature of the tests. Winkenwerder noted that "because [the testing was] operational in nature and not a medical human subjects type of research, I would presume that it was not voluntary, that people were part of units that were doing this kind of work and were expected to do that kind of work."

In part because of the involuntary nature of the tests, 21 veterans have filed a class action lawsuit in

conjunction with the Vietnam Veterans of America (VVA). Rick Weidman, Director of Government Relations for VVA, stated, "SHAD veterans were unwitting participants in these tests. DoD continues to withhold the evidence needed by these veterans to meet the burden of proof that VA requires for care and compensation. It is unconscionable for DoD to treat SHAD veter-

ans this way. Every day that DoD delays the release of the truth is another day that SHAD veterans are denied proper health care and benefits." According to lawsuit estimates, the class action suit would cover any veterans who file SHAD-related disability claims, and could represent over 5,000 servicemen.☞☞

Biological, Chemical Treaty Conferences Achieve Varied Results

Biological Weapons Treaty Reconvenes After Year-long Recess

The Fifth Review Conference of the Biological and Toxin Weapons Convention (BWC) reconvened on 11 November 2002 in Geneva with the goal of concluding the work begun nearly a year before. In December 2001, the conference recessed for a year after the US representatives called for the disbanding of the group tasked with developing a compliance protocol for the treaty. Member states decided against this alternative, opting instead to approve a limited proposal, presented by Chairman Tibor Toth, that calls for a meeting in each of the next three years.

Each year, a two-week expert group meeting focusing on technical issues will be followed by a week-long meeting of States Parties to review the experts' work and make decisions. The annual meetings will then culminate at the Sixth Review Conference to be held in 2006.

The BWC, which entered into force in 1975, currently has 146 member states and 17 states that have signed, but not ratified the convention. The BWC forbids the production, stockpiling, acquisition, and transfer of biological weapons. Unlike the Chemical Weapons Convention, however, there are no provisions within the treaty to monitor compliance. In 1994, a Special Conference of States Parties established the Ad Hoc Group to strengthen the treaty's verification mechanisms by developing a legally binding means to gauge compliance with treaty commitments.

At a session of the Ad Hoc Group in July 2001, the United States rejected the group's draft compliance protocol, which called for member states to declare certain dual-purpose and research, testing, and production facilities and allow for on-site visits to clarify ambiguities surrounding those declarations, as well as challenge

inspections of purported illegal activity. US officials refused to accept the plan, arguing that this approach would not produce reliable monitoring results and would also have negative impacts on the pharmaceutical industry and US national security. No consensus could be reached at the Fifth Review Conference. In the final hours, the US proposed that the Ad Hoc Group be disbanded; a suggestion that resulted in widespread dissension amongst the BWC members. Chairman Toth suspended the conference until the following year to allow tensions to cool.

The program of work until the next review conference will be to address, albeit briefly, several major issues. In 2003, the three-week session will focus on creating domestic penal legislation for individuals who break the BWC's prohibitions, as well as means of creating and enforcing stricter regulations for handling dangerous pathogens and toxins. The following year, the topics will be methods of investigating purported bio-weapon use and/or suspicious disease occurrences and heightening international human, animal, and plant disease surveillance. Finally, in 2005, members will discuss a code of conduct for scientists. The Sixth Review Conference, for which a date is not yet set, will consider the work produced from all of these meetings and debate further action.

While all parties accepted the proposal, several nations expressed disappointment at not having substantially strengthened the Convention, while conceding that the limited meeting schedule was preferable to ceasing all activity in this area until 2006. The Fifth Review Conference officially closed on Friday, November 15, 2002.☞

Coverage of the Chemical Weapons Convention continued on page 10.

BWC

Chemical Weapons Treaty Makes Headway on Budget Issues

The Seventh Session of the Conference of the States Parties to the Chemical Weapons Convention (CWC) was held in The Hague on 7-11 October 2002. Progress was made in strengthening the financial situation of the treaty's implementation body, the Organization for the Prohibition of Chemical Weapons (OPCW). In addition, member states also addressed policy decisions regarding the destruction of weapons stockpiles and the conversion of former weapons facilities.

For the first time in four years, members enlarged the OPCW's budget to \$67 million, an increase of approximately ten percent. This step, along with decisions to allow use of the budgetary surplus from 2001 and money from its working capital fund, will significantly improve the organization's financial position. Furthermore, the US government improved the inspectorate's financial footing with an additional \$2 million contribution in 2002, beyond its annual dues.

In addition to making budget decisions, member states granted Russia more time to meet its treaty obligations to destroy one percent and later 20 percent of its stockpile. An extension was also granted to an unidentified member state to meet its deadline for destruction of 20 percent. Russia also received detailed re-

quirements for reporting the status of its destruction program. Additionally, the Conference agreed to adopt a Russian request to convert nine former chemical weapons productions facilities to peaceful purposes, rather than destroy them. In conversion, certain items of equipment useful only for weapons manufacture are destroyed, but the rest of a facility will be modified to make legitimate consumer products.

CWC

In response to a growing concern about the ability of the OPCW to meet both the physical and financial demands on its inspectors, member states made two other requests. Specifically, they asked that the director general prepare proposals for more extensive use of monitoring equipment at chemical weapons storage and destruction sites. The members also pressed for the "optimization" of verification activities during inspections, e.g. the intensity of inspections and the inspection team sizes. The request stems from the fact that the majority of inspectors' time is spent at destruction facilities, an amount that will only increase with the number of destructions, thus depleting the funds available for other inspection activities.

Twenty-one new members were elected to the Executive Council to serve two year terms commencing in May 2003. The First Review Conference of the Chemical Weapons Convention is scheduled to be held in The Hague from 28 April to 9 May 2003. *z*

About the Newsletter, the Stimson Center, and its CBW Programming

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The Henry L. Stimson Center was founded in 1989 as a non-profit, nonpartisan institution devoted to public policy research. The Stimson Center concentrates on particularly difficult national and international security issues where policy, technology, and politics intersect.

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Chem-Bio Blurbs: Recent developments in the field

British Police Find Ricin, Arrest Seven

7 January 2003: Police in London arrested seven men after discovering traces of ricin in their apartment. In addition to minute amounts of the toxin, police found the castor beans from which it is derived and other materials used to manufacture it. The police are now attempting to discover where the ricin that was possibly manufactured in the apartment has been moved. ❧

Attempted Theft at Former Soviet Bioweapons Facility

5 November 2002: According to the director of a former Soviet bioweapons facility in Kazakhstan, a man entered the plant and attempted to steal several test tubes of biological agents. Guards detained the man but questions remain on how he got past the initial physical security, which had recently been improved with the help of US financial aid. Kazakhstan has renounced weapons of mass destruction and the facility was one that it inherited from the former Soviet Union after its collapse. ❧ ❧

Accidental Sarin "Theft" Prompts Attention to Inventory Keeping

26 August 2002: A lab worker at the Umatilla Chemical Depot, in Oregon, accidentally went home with a vial of diluted sarin in his pocket. The worker, who had a headache and went home early, did not remember the vial in his pocket. The missing vial was noticed at the 5PM shift change but the worker was already returning with the sarin. Army officials claim that there was no public health threat but attempts would be made to improve stock tracking. ❧ ❧

Member of Aum Shinrikyo Sentenced to Death

11 October 2002: A leading member of Aum Shinrikyo, the cult that carried out the Sarin Gas attack on Tokyo Subways in 1995, was sentenced to death this October in Japan. Seiichi Endo was convicted for his work in the production of the Sarin that killed 12 and sent thousands to Tokyo hospitals. Endo, 42, was the 'health minister' of Aum and the leader of its biological weapons program. He is the tenth cultist to be sentenced to death. The leader of the cult, Shoko Asahara, is still on trial for allegedly masterminding the plot. ❧ ❧

Chemical Terrorism Concerns in United Kingdom

18 November 2002: According to the British press, three men were arrested in London for their plans to release a poisonous gas on the London Tube. The men were detained under the new Terrorism Act of 2002. While it refuses to confirm any specific threat, the UK government plans to release a series of posters in early 2003 advising the public what to do in case of a chemical weapons attack. The posters harken back to the Cold War era "Protect and Survive Posters" advising citizens on what to do in case of a nuclear attack. ❧ ❧

Editor's Note

Sometimes the most important steps forward seem to be greeted with the least fanfare.

According to a series of focus groups assembled for the Nuclear Threat Initiative by Greenberg, Quinlan, Rosner Research, Inc., and Public Opinion Strategies, the American people are scared stiff by the prospect of chemical and biological terrorism. They rank these attacks second only to Osama Bin Laden in a hierarchy of perceived threats. (Iraq and Saddam Hussein rank fifth.) So why, in January 2003, when Senator Richard Lugar (R-IN) and his Cooperative Threat Reduction (CTR) program scored a \$450 million victory to keep chemical weapons out of the wrong hands, did it receive so little attention?

Carried through Congress in 1991 by Senator Lugar and Senator Sam Nunn (D-GA), the CTR program seeks to assist countries of the former Soviet Union in destroying their nuclear, chemical and biological weapons and help to improve safeguards to keep these weapons from getting into the wrong hands.

Now Russia, as a signatory to the Chemical Weapons Convention, has committed to destroying its stockpile of chemical weapons. The cost is estimated to be at least \$5 billion—likely more if the US experience is any indicator. (See “Oversight of US Chemical Demilitarization Efforts Consolidated,” *CBW Chronicle*, August 2002.) Russia has also long acknowledged, however, that it will require monetary assistance to build and operate its demilitarization facilities.

Under the CTR program, Congress legislated financial support for these efforts. But there was a catch. Before funds could be distributed, Congress required that the president certify Russia's activities in the area of arms control. The certifications ranged from general CTR stipulations requiring active participation in treaties, to restrictions specific to chemical demilitarization, such as ensuring that the complete Russian stockpile had been declared.

Little argument exists that the easiest way to mount a chemical attack would be to obtain al-

ready weaponized agent from the stockpiles of a state. In his State of the Union address, President Bush raised the possibility that Iraq might give weapons of mass destruction to Al Qaeda, for example. Yet while US intelligence may be unsure of the types and quantities of weapons in Iraq's arsenal at this point, we do have a fairly clear picture of the contents of Russia's 44,000 ton stockpile currently stored at seven sites in different regions of that country.

Funds for the Nunn-Lugar cooperative threat reduction (CTR) program in Russia were released on 15 January when President Bush waived restrictions placed on distribution of CTR funds by Public Laws 102-511 and 103-160. Included in the monies released was \$184 million for the construction of a nerve gas destruction facility at Shchuchye, Russia, where agents like soman, sarin and VX are stored. If President Bush does not certify Russia in 2003, he will need to waive the certifications again in September in order to keep money flowing to this effort.

Obviously, transparency and confidence building are key aspects of any arms control endeavor. But attempting to push compliance issues by withholding funds for chemical weapons destruction assumes that Russia is the only country with a vested interest in getting this process underway. If the United States fears that its enemies seek weapons of mass destruction, then ridding the world of these weapons—wherever they may currently reside—is in its interest as well.

Senator Lugar, the new chairman of the Senate Foreign Relations committee, has steadfastly advocated this worthy program in the face of criticism and sometimes lukewarm support from Republican and Democratic administrations alike. The scorecard on his website, however, chronicles an impressive list of CTR accomplishments—the destruction of warheads and missile silos, bombers and submarines (lugar.senate.gov/nunnlugar_score.html). If US policymakers soberly rethink this issue and keep their priorities straight, this scorecard could soon reflect the same type of progress in the area of chemical demilitarization. ✍