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Duma Puts CWC on Fall Legislative Agenda

Russian President Boris Yeltsin submitted the Chemical Weapons Convention (CWC) to the Duma for consideration in March 1997. The Duma issued a statement in April that it needed to postpone ratification of the CWC, pointing to Russia's lack of funds for its chemical weapons destruction program and therefore Russia's inability to meet the treaty's ten-year destruction deadline. Russia can request that this deadline be extended by up to five years. Although the Duma did not act on the CWC this spring, it did finally pass a federal law to govern Russia's destruction program. Yeltsin signed the law "On the Destruction of Chemical Weapons" on May 2, 1997.

On June 24, 1997, the Duma issued a resolution establishing a special Duma committee to facilitate Duma ratification of the CWC. The Committee to Prepare for Ratification of the Chemical Weapons Convention is chaired by Vladimir Lukin, who also chairs the Duma's Foreign Relations Committee. This special committee is drafting the law or resolution of ratification for the Duma's consideration and Duma speaker Gennady Seleznyov is slated to chair the committee's final meeting on October 7th. Thereafter, the Duma Committee on International Affairs, as well as Duma committees on defense, ecology, and geopolitics, will discuss the CWC. The entire Duma is expected to debate and vote on the CWC some time between October 17-24. After the Duma vote, the Federation Council, the

upper chamber of Russia's Parliament, is expected to consider the CWC before November 20th.

The Russian chemical weapons destruction program is still in its infancy. Russia's chemical arsenal, declared to be 40,000 metric tons, is the world's largest. Similar to the approach taken in America, Russia will build a destruction facility at each of the seven locations where this stockpile is stored. In a July 1997 interview with Ekho Moskvyy radio, Stanislov Petrov, commander of the Russian Radiation, Chemical, and Biological Protection Troops, stated that six of these communities have given permission for the construction of destruction facilities.

To date, Russia has depended largely on

IN THIS ISSUE

Duma Puts CWC on Fall Legislative Agenda.....	1
Technical Secretariat Quietly Shuts Down Chemical Weapons Programs.....	2
America Accused of Violating the Biological and Toxin Weapons Convention.....	4
Japan to Destroy WWII-Era Chemical Weapons Abandoned in China.....	6
Domestic Preparedness Heightened to Cope with Terrorist Threat.....	8
BWC Verification Protocol Negotiations Sluggish.....	9
US Chemical Weapons Destruction Program Passes Milestones.....	10
Editor's Note.....	11

outside assistance to get its destruction program underway. In May, the European Union announced that it would provide financial assistance equivalent to 10-15 million ECU—roughly \$9 to \$13 million—in 1997-98 to boost Russia's chemical weapons destruction program. Germany and other individual European countries have also provided and pledged assistance, but the aid that has been furnished to date is still far short of the amount needed. Russian officials estimate that it will cost over \$5 billion to destroy their arsenal. Much of the European assistance has gone toward achieving destruction of the mustard and lewisite stocks located at Gorny and Kambarka. American assistance has concentrated on identifying and testing destruction technologies for Russia's nerve agents, which comprise just over eighty percent of Russia's total stockpile.

The United States has provided just over \$135 million toward Russia's destruction program under the aegis of the Cooperative Threat Reduction Program. The goal of the Cooperative Threat Reduction Program is to help prevent weapons proliferation by facilitating the safe storage, transportation, and destruction of weapons of mass destruction in the former Soviet states. With U.S. funds, American and Russian scientists evaluated Russia's proposed chemical weapons destruction technology—neutralization followed by bituminization—and assessed it to be highly effective in a March 1996 Joint Evaluation Technical Report. Since then, the United States and Russia have begun a collaborative “scale up” of this destruction technology, aiming to start bench-scale in late 1997. Short-term goals for the continuing refinement of the neutralization technology are to specify the size of the reactor vessels, the heat parameters for the process, the reactor operating conditions, the cost effectiveness, and the environmental standards.

The most substantial amount of U.S. assistance is for the construction of a pilot chemical weapons destruction facility, for which Congress approved \$78.5 million in the 1996 budget. The

Russian Ministry of Defense suggested that the first destruction facility be built at Shchuchye, where an estimated two million artillery, rocket, and missile warheads are stored. The exact location near the storage depot where the pilot facility will be built may be determined early next year.

Given economic difficulties and across-the-board cuts in defense programs, Moscow has not managed to put a significant amount of money toward its own destruction program. For example, the Duma allocated 145 billion rubles, or one percent of the amount requested by the Yeltsin government, to fund chemical weapons destruction in 1996. However, only 5.5 percent of that allocation—only 8 billion rubles—were transferred to Russia's federal destruction program. This level of funding is adequate only for the Russian Army to maintain the stockpiles and try to prevent breakdowns or accidents, but it is clearly insufficient for Russia to mount a meaningful destruction program. Western governments are reluctant to provide more assistance to Russia's destruction until Moscow ratifies the CWC.

As the Duma weighs the CWC this fall, the international community, which is eager to see Russia join and comply with the CWC, will be watching closely. With such high economic, security, and political stakes, the Duma's debate of the CWC may prove just as heated and difficult to call as the U.S. Senate's debate this past Spring.

Technical Secretariat Quietly Shuts Down Chemical Weapons Programs

With relatively little fanfare, the Chemical Weapons Convention entered into force on April 29, 1997, ushering in a new age of multilateral arms control. To date, 100 countries have ratified the CWC; another 67 have signed but not ratified it. A new international inspectorate, the Technical Secretariat, has begun to process data declarations from participating countries and send inspectors around the globe to confirm the accuracy of those declarations. The Technical

Secretariat, located in The Hague, has already shut down chemical weapons programs in seven countries in preparation for overseeing the destruction of chemical arsenals and dedicated weapons production facilities. Before the CWC was activated, there were only two admitted chemical weapons possessors—the United States and Russia.

The CWC, which prohibits the development, production, transfer, use, and stockpiling of chemical weapons, requires participating states to accept unprecedented levels of monitoring at both government and private sector facilities. The Technical Secretariat is required to maintain the confidentiality of the data it handles, but some states have given the director, Ambassador José Maurício Bustani of Brazil, permission to characterize the general nature of their declarations. Seven countries declared existing or former chemical weapons production facilities, including China, France, Japan, the United Kingdom, and the United States. According to a June 26, 1997, press release from the Indian government, India has also declared having chemical weapons production facilities.

Three countries have declared holding a chemical weapons stockpile. The United States, long acknowledged to be a chemical weapons possessor, declassified information about its huge stockpile on January 22, 1996. New Delhi's June announcement also stated that India had declared a chemical arsenal, but contained no detail about the size and types of agents involved. The third stockpile possessor has not yet allowed any statement from the Technical Secretariat or provided any public information about its status. Seven countries have informed the Technical Secretariat that chemical weapons were abandoned on their territory, namely China, Belgium, France, Germany, Italy, Japan, and the United Kingdom.

Deploying just over 110 inspectors, the Technical Secretariat has focused initially on chemical weapons production and storage facilities. A few inspections have also been conducted at sites that manufacture a small quantity of highly toxic Schedule 1 chemicals for permitted defen-

On-Line CWC Update

For an update on which countries have joined the CWC and what they have declared, see "What's New" under the Chemical and Biological Weapons Nonproliferation Project segment of the Stimson Center's webpage at:
www.stimson.org

sive, medical, pharmaceutical, or other peaceful purposes. From June to September, the Technical Secretariat completed over 75 inspections. The inspectors sealed and closed former production facilities and counted and tagged chemical munitions. Both arsenals and production facilities must be destroyed before the end of April 2007. The Technical Secretariat has initiated ongoing monitoring at the chemical weapons destruction facilities at Tooele, Utah, and Johnston Atoll in the Pacific Ocean.

One of the main problems complicating the implementation of the CWC is that numerous countries, including the United States, have submitted incomplete data declarations. The U.S. declaration is incomplete because Congress has not passed the CWC's implementing legislation, which will prompt the U.S. industry to provide data on the production, consumption, import, and export of chemicals controlled by the treaty. The U.S. chemical industry strongly supports ratification of the CWC and passage of the treaty's implementing legislation. Elsewhere in the world, many governments that have little or no experience with data declarations and inspections are struggling to assemble a national authority to serve as the focal point for these activities. The Technical Secretariat has been offering technical assistance to countries to facilitate the establishment of national authorities and the submission of data declaration.

The First Session of the Conference of the States Parties was held in The Hague in May, directly after the CWC entered into force. At that time, 80 countries had ratified the treaty and there-

Table 1: Executive Council of the CWC

One Year Membership*		Two Year Membership	
Algeria	Norway	Argentina	Italy
Australia	Oman	Brazil	India
Bangladesh	Peru	Cameroon	Japan
Belarus	Philippines	Chile	Mexico
Bulgaria	Romania	China	Poland
Ecuador	South Africa	Cote d'Ivoire	Saudia Arabia
Kenya	Spain	Ethiopia	South Korea
Malta	Sri Lanka	France	Tunisia
Morocco	Suriname	Germany	Zimbabwe
Netherlands	Uruguay	United Kingdom	United States

*From 1998 forward, all Executive Council appointments will be for two years.

fore had voting rights. The Conference selected Bustani to be the director-general of the Technical Secretariat and approved guidelines for verification and inspection procedures, as well as transitional verification arrangements, and confidentiality policies, among other issues. The Conference also elected representatives to the 41 member Executive Council, which oversees the day-to-day operations of the CWC and has met four times to weigh issues associated with the initial operations of the Technical Secretariat. An organizational chart of the Technical Secretariat can be found on the next page.

One of the problems the Executive Council has confronted is getting member states to pay their assessments. Bustani almost had to halt inspections because some countries, including the United States and Japan, did not make payments until late in the summer. States that were appointed to the Executive Council are listed in Table 1. The second Conference of the States Parties will be held from December 1-5, 1997, in The Hague.

America Accused of Violating the Biological and Toxin Weapons Convention

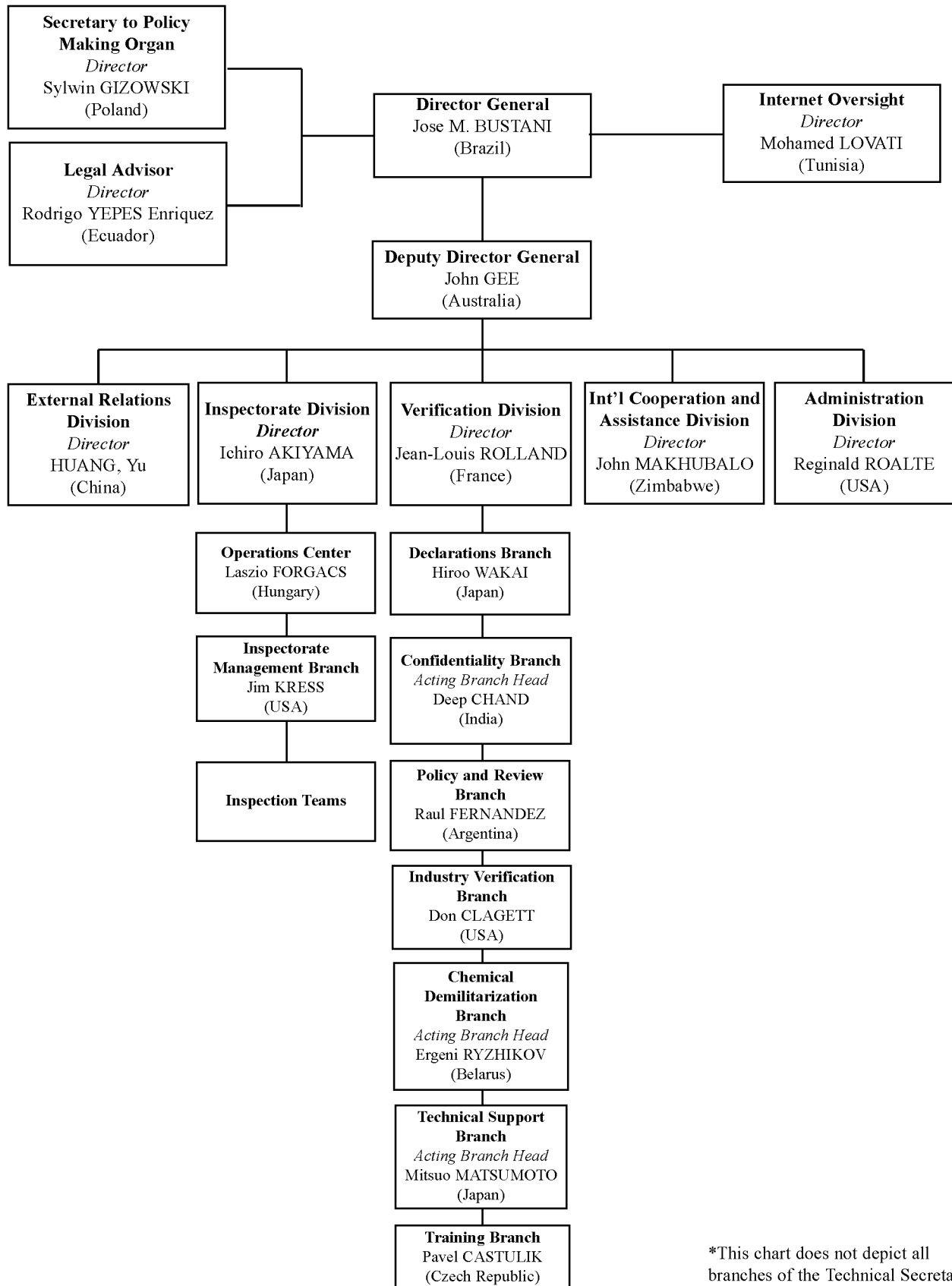
On August 25, 1997, Cuba lodged an official complaint that the United States has violated

the 1972 Biological and Toxins Weapons Convention (BWC). Cuban officials allege that the United States sprayed an insect known as *Thrips palmi* over western Cuba, causing a widespread infestation of this crop-killing pest. This hearing marked the inaugural exercise of procedures established in 1991 by the BWC's 140 member states to investigate allegations of biological weapons use.

Cuba's accusation stems from an incident last October, when the pilot of a Cuban airliner ascending toward 9,000 feet observed a small plane registered to the U.S. Department of State flying at a low altitude of 10,000 feet over the Lenin State Horticulture Farm, in the western Cuban province of Mantanzas. The Cuban pilot witnessed a light gray mist coming from the U.S. aircraft. Two months later the potato crop on the farm suffered from a serious outbreak of *Thrips palmi*, a pest that originated in Asia and is now commonly found thriving in the subtropical climate of the Caribbean. Cuban officials have reported that the *Thrips palmi* infestation has spread to corn, bean, pumpkin, and cucumber crops throughout western Cuba.

The U.S. State Department reports that an American plane did overfly Cuba on October 21, 1996. They explain that this crop duster had per-

Figure 1: The Technical Secretariat: The CWC's International Inspectorate*



*This chart does not depict all branches of the Technical Secretariat.

mission to fly over Cuba en route to Bogota, Columbia, where the plane was to be used to eradicate illegal drug crops. The U.S. pilot of this crop duster says that what the Cuban airline pilot saw as a gray mist was smoke intended to alert the airliner of the presence of the smaller aircraft.

During the August consultative meeting in Geneva, Cuba countered the U.S. claim that the crop duster emitted a smoke signal to alert the airliner, arguing that standard aviation practice requires pilots to seek guidance from air traffic control authorities. In response, the U.S. government issued a nine-page report detailing the plane's records as well as scientific data surrounding *Thrips palmi* and its migration patterns. Maintenance records for the crop duster indicate that before the flight to Columbia mechanics removed the spray configuration from the plane's external spray device. Also, mechanics converted the hopper tank, which usually carries a herbicide for crop dusting, into an auxiliary fuel tank for the long flight. According to the U.S. pilot, as the two planes approached one another's airspace the air traffic controller did issue an alert. Because the U.S. pilot did not hear the pilot of the Cuban airliner acknowledge the warning, he first "wagged" the wings of the crop duster and then employed the smoke signal as a last-resort method to warn the Cuban airliner of his location.

After two days of hearings in Geneva, attended by 75 members and 3 signatory nations to the BWC, a decision was made to conduct a month-long, detailed investigation before resolving the matter. Hearings resumed in September. By September 27th, nine countries submitted papers containing their comments on the issues associated with Cuba's allegations against the United States. By the end of the year, a steering committee of the BWC state parties is expected to issue a final report on the matter.

Scientific experts doubt that this extended investigation will enable a final decision to be made in favor of one country since the wind can easily carry and spread the *Thrips palmi* insect,

which has been present in the Caribbean region since at least 1985. That year, *Thrips palmi* began plaguing eggplant crops on the island of Martinique, and later began to migrate to other islands in the Caribbean, to the United States, and to South America. Islands infested with *Thrips palmi* include the Bahamas, Haiti, and the Dominican Republic, which are within 400 kilometers of Cuba. The Cuban government acknowledged the widespread presence of *Thrips palmi* in the Caribbean in a December 1994 Spanish-language pamphlet that warns Cubans of the insect's potential to damage crops and instructs them on how to detect the pest. The Instituto de Investigaciones de Sanidad Vegetal in Havana prepared this eight page publication, entitled *Guia para El Diagnostico Entomologico: Thrips palmi Karny*.

The BWC, which was negotiated in the height of the Cold War when nations were unable to agree on terms for inspection procedures, has no formal verification provisions. Negotiations are underway to craft a verification protocol for the BWC.

Japan to Destroy WWII - Era Chemical Weapons Abandoned in China

When the Chemical Weapons Convention (CWC) entered into force, Japanese Foreign Minister Yukihiko Ikeda stated that Japan intended to fulfill its obligations to destroy the chemical weapons the Imperial Army left in China. Only two countries are known to have violated the 1925 Geneva Protocol's prohibition against chemical weapons use during World War II. Italy used poison gas against Ethiopia, then known as Abyssinia; the Japanese Imperial Army wielded chemical weapons during its invasion and occupation of China. Japan, according to China, abandoned two million chemical weapons on Chinese territory. In May 1996, following eight joint survey expeditions, Japanese Ministry of Foreign Affairs official Shigekazu Sato estimated that

about 700,000 munitions were left in China's Jilin province alone.

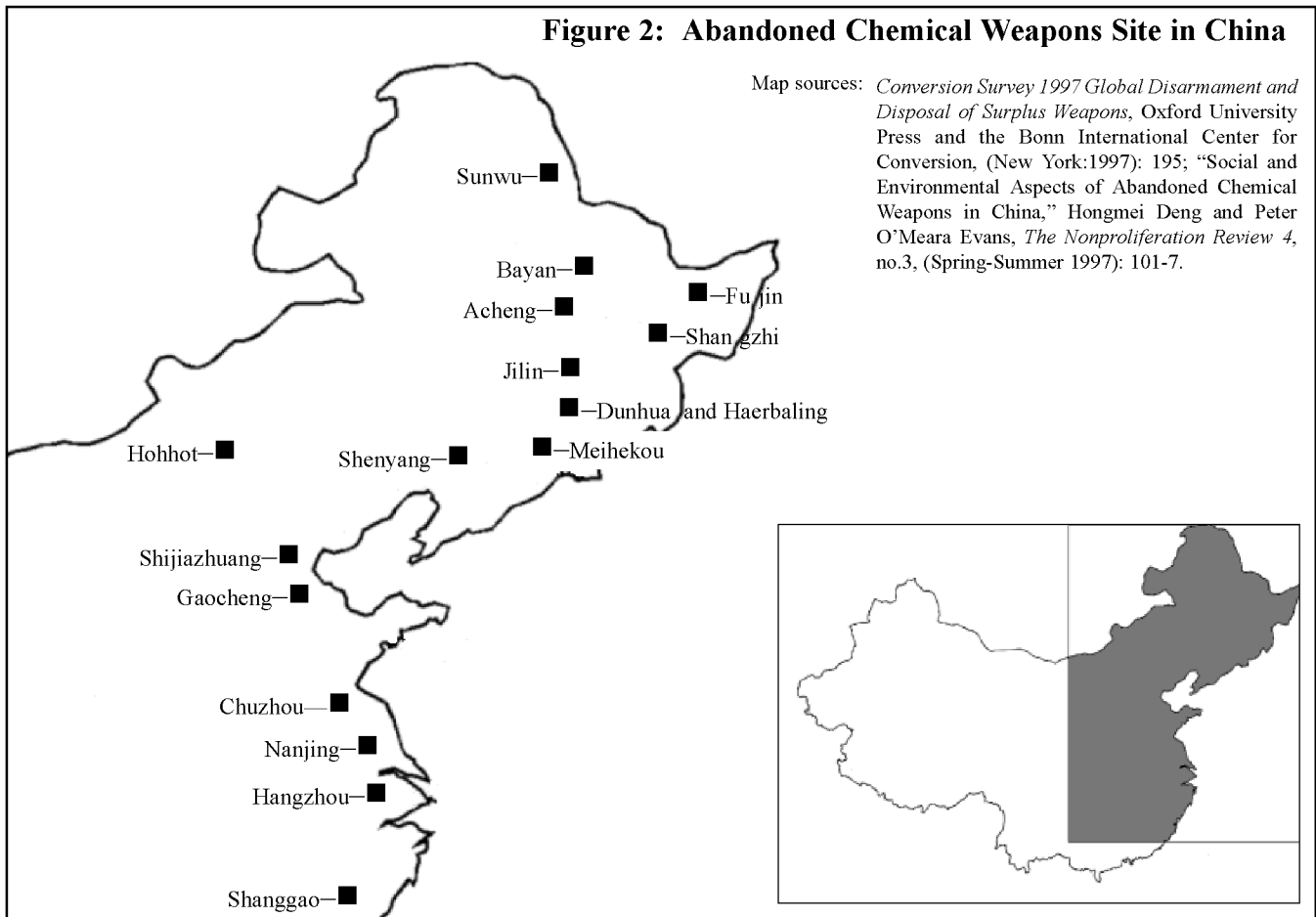
Under the auspices of the CWC, of which China and Japan are both members, Japan is obligated to begin destroying these abandoned weapons by the treaty's first anniversary, April 29, 1998. The CWC sets a ten-year time line for the destruction of chemical weapons, a deadline that may prove difficult to meet since many of the abandoned munitions are in remote areas and degraded condition. The bulk of the abandoned weapons contain mustard, lewisite, and/or phosgene, which are blister and choking agents. They have been buried or otherwise exposed to the elements for decades, so many of the weapons are severely corroded and some may be leaking. Destroying these munitions safely will be an arduous task.

Japan and China must find mutually acceptable plans to recover and destroy the abandoned weapons. Although China proposed that

the weapons be transported back to Japan for destruction, the Japanese government prefers to destroy them in China, with full regard to the safety of Chinese citizens and protection of the environment.

Most of the abandoned chemical weapons are located in Haerbaling, Dunhua, in the north-east province of Jilin. A small, pilot destruction facility will be built at this site, near two huge pits that were dug in the 1950's as a central storage location for abandoned weapons found in other parts of China. A Japanese-Chinese working group charged with finalizing technical details for the disposal process held its first meetings in this past April and July. To address China's concerns about the safety of destruction operations, Japan will conduct a thorough assessment of the environmental impact on neighboring areas before constructing a larger destruction facility. Thus, decisions about the construction of a full-scale

Figure 2: Abandoned Chemical Weapons Site in China



facility, whether in China or Japan, are pending.

In early September, Japan's Prime Minister Ryutaro Hashimoto announced the formation of a special cabinet task force on the problems associated with destroying Japan's abandoned chemical weapons. Deputy Chief Cabinet Secretary Teijiro Furukawa will chair the task force, which will include bureau chiefs from the foreign ministry and the defense. Japan may situate a laboratory analysis center at Shenyang, Liaoning province, to provide technical support to help properly identify the contents of munitions and otherwise facilitate disposal efforts. Shenyang is one of at least 13 sites identified in China where abandoned chemical weapons have been found.

Although calculating the overall expense of this destruction program is difficult at this early stage, some have estimated that it will cost Japan over \$1 billion to destroy these abandoned weapons.

Domestic Preparedness Heightened to Cope with Terrorist Threat

After the cult Aum Shinrikyo released the nerve gas sarin during the subway rush hour in Tokyo in March 1995, U.S. policy makers began seeking ways to address the possibility that acts of unconventional terrorism involving weapons of mass destruction might occur on American soil. Senator Richard Lugar (R-Indiana) warns that residues of sodium cyanide found after the 1991 World Trade Center bombing indicate that an attempt was already made to use poison gas during a terrorist attack in one of America's busiest cities. The fact that the destruction wrought by the attempted use of these materials was not more massive owes more to luck than to prevention, deterrence, or consequence management, he observes. Lugar, Sam Nunn (D-Georgia), and Pete Domenici (R-New Mexico) responded to this evolving terrorist threat by adding a domestic preparedness component to the Cooperative Threat Reduction Program in 1996.

The objective of the preparedness program is to step up U.S. defenses on a local scale, particularly in towns and cities, against terrorist incidents where chemical, biological, or nuclear weapons are used. Over the next several years, the nation's 120 largest metropolitan areas will receive training and assistance to help identify and mitigate the consequences of terrorist use of weapons of mass destruction. This program is being inaugurated in 27 cities across the country, which are listed in Table 2. A team of federal emergency response specialists is forming partnerships with local front-line response personnel to apprise them of the expertise and resources needed to cope with a chemical, biological, or radiological terrorist event.

The Federal Emergency Management Agency (FEMA) heads an interagency team that has begun to evaluate the strengths and weaknesses of existing emergency response capabilities in these cities. These initial visits are the basis for setting up training programs tailored to fill in gaps in knowledge, skills, or equipment. Federal authorities intend for the training to enhance the preparedness of local firemen, policemen, emergency management teams, and medical personnel to respond to a crisis brought about by the release of chemical or biological agents or the detonation of a nuclear device. For example, local personnel will be instructed how to conduct triage for victims of such an attack, how to decontaminate and transport victims safely to primary and secondary care facilities without spreading agents, and how to avoid becoming a victim of an attack when operating in areas contaminated by a chemical, biological, or nuclear weapon. The program calls for evaluation visits to be completed in the first 27 cities this fall and training programs to be established in eight cities by mid-December 1997.

In June 1995, following the Oklahoma City bombing, President Bill Clinton issued Presidential Decision Directive 39 to improve the federal government's ability to respond to threat of unconventional terrorism. In the event of such a terrorist attack, the Federal Bureau of Investigation will lead crisis management efforts

and FEMA will be in charge of consequence management. The federal emergency response and training effort are drawing upon the assets of various federal agencies for the domestic preparedness program:

Having long been responsible for training U.S.

- troops to survive and cope with battlefield threats, the Department of Defense has unique expertise in chemical, biological, and nuclear defense training. Defense Department experts will lead tabletop and hands-on training exercises for cadres of local trainers, who will in turn instruct first responders about the technical information and tools needs to respond to a nuclear, chemical or biological terrorist act. The Pentagon has set up a help line (800/424-8802) and a hot line will be operational by the end of 1997.
- If an unconventional terrorist event were to occur, the Department of Health and Human Services could call into action its disaster medical assistance teams or its recently established Metropolitan Medical Strike Teams.

The Centers for Disease Control and Prevention and the Food and Drug Administration would also help respond to a bioterrorist attack.

- FEMA is creating a new database, the Rapid Response Information System, listing all available federal resources that can be called in to respond to an emergency involving weapons of mass destruction. This database will be on-line by the end of the year.

Domestic preparedness funds are also being devoted to strengthen the ability of U.S. and international border officials to detect and interdict the transit of weapons and materials of mass destruction.

In fiscal year 1998, Congress allocated \$48.5 million for the domestic preparedness program under the umbrella of the Cooperative Threat Reduction Program, which has concentrated primarily on securing and accelerating the destruction of former Soviet nuclear, chemical, and biological weapons. A \$10 million supplement was also authorized for the National Guard's participation in the domestic preparedness program.

Table 2: Cities Selected to Receive Initial Preparedness Training

Anchorage	Los Angeles*
Atlanta	Memphis
Baltimore*	Milwaukee
Boston*	Miami
Chicago*	New York*
Columbus	Philadelphia
Dallas	Phoenix*
Denver	San Antonio*
Detroit*	San Diego
Honolulu	San Francisco
Houston	San Jose
Indianapolis*	Seattle
Jacksonville	Washington D.C.
Kansas City	

*The federal interagency team has already visited these cities. Training is to begin before the end of the year, contingent upon the schedules of the local participants and trainees.

BWC Verification Protocol Negotiations Sluggish

The eighth round of negotiations to hammer out a verification protocol for the 1972 Biological and Toxin Weapons Convention (BWC), which has no verification measures, was held in Geneva on September 15th through October 3rd. During the July round of negotiations, Ambassador Tibor Tóth of Hungary, who chairs the talks, tabled a "rolling text" or rough draft of the protocol. Despite passing this milestone, the pace of the negotiations has been rather sluggish, in part because the United States has not formally articulated a negotiating position. This negotiation is occurring under the aegis of the Ad Hoc Group of States Parties to the Biological Weapons Convention, with over 50 countries participating.

Tóth's rolling text basically merged proposals that had previously been drafted by friends of the chair in the general areas of compliance, confidence-building and transparency, definitions, and scientific and technological exchanges for peaceful purposes. Virtually the entire 178-pages of the initial rolling text—even some parts of the table of contents—is in brackets, which denote concepts and language upon which the drafters have yet to agree. Gaps in this rolling text were filled in the September round of talks, but progress is slow.

Although President Bill Clinton staked out 1998 as the deadline for concluding a BWC protocol, observers believe that a final protocol will not be ready for a couple of more years. The stalemate that exists within the executive branch over the U.S. negotiating position has resulted in the U.S. delegation being sent to Geneva without detailed instructions. The U.S. pharmaceutical and biotech industries, led mainly by the Pharmaceutical Research and Manufacturers of America, are keeping a cautious eye on the Geneva talks and the federal government's efforts to craft a negotiating position.

The BWC was negotiated at the height of the Cold War, when verification measures such as on-site inspections were not included in arms control accords. Although BWC member states formally recognized, as early as 1991, the need to fortify the treaty with some sort of verification arrangements, many states advocated delaying formal talks until the Chemical Weapons Convention (CWC) negotiations closed. The CWC, which entered into force on April 29, 1997, contains extensive verification provisions that some believe should serve as the model for a BWC protocol. The wait-and-see attitude persists with some countries, who want to observe how the CWC's declarations and inspections work in practice before adopting similar measures in the BWC's verification regime.

As an interim step, an ad hoc group of governmental experts, known as the VEREX, was assembled in 1991 to examine possible verification mechanisms from a scientific and technical

viewpoint. Among the most significant conclusions of the VEREX group were the suggestions that declaration and on-site inspections of biological related activities were feasible attributes for a prospective BWC verification protocol. In September 1994, a Special Conference of the BWC states parties established what is today known as the Ad Hoc Group, which is charged with drafting a legally binding protocol to strengthen the BWC's effectiveness. The Ad Hoc Group will resume negotiations early in 1998.

U.S. Chemical Weapons Destruction Program Passes Milestones

At the instruction of Congress in 1985, the U.S. Army initiated a program to destroy the U.S. chemical weapons arsenal. The Army has long been criticized for selecting an unpopular destruction technology—incineration—and running a program that is profoundly over cost and over schedule. However, at six of the eight sites in the continental United States where chemical weapons are stored, the destruction program is finally beginning to pass some meaningful milestones. Not only did the Tooele incinerator open in 1996, the local authorities and the Army are moving toward construction of incinerations at three other chemical weapons depots. In addition, research results to date indicate that neutralization may prove feasible for use at another two storage sites, leaving only two locations where significant decisions have not been made about how the destruction program will proceed.

Among the most notable developments is the opening of the "baseline" incineration facility at Tooele, Utah, where over forty-two percent of the U.S. stockpile is housed in fortified bunkers. The Tooele facility is still in its test phase, destroying agent and munitions to prove the plant's ability to meet national and local performance regulations before full operational permits are issued. For example, the first major test for the Tooele facility was to destroy 11,592 M55 rockets

filled with the nerve agent sarin. To date, Tooele has halted operations on a few occasions to investigate the causes of small releases of chemical agent within the confines of the plant and to institute operating procedures to prevent a reoccurrence. None of these incidents have posed a threat to worker or public safety. For example, monitors inside the plant detected low levels of sarin in two unoccupied observation corridors on January 26, 1997. The plant, which is operated by the contractor EG&G, has multiple levels of containment and no agent escaped the facility. Overall, initial operations at Tooele are proceeding much as anticipated, with federal and state authorities closely watching the plant's trial burns. For these reasons, more than half a dozen court challenges to halt the operation of the Tooele incinerator have been denied.

The Army awarded two contracts this year to Raytheon to construct, equip, test, operate, and close destruction facilities. The contracts for Umatilla, Oregon, and Pine Bluff, Arkansas, were announced on February 19th and July 25th, respectively. These two contracts are valued at over \$1 billion. Ground-breaking at Umatilla, where over eleven percent of the U.S. stockpile is stored, occurred on May 1, 1997. Construction will not begin at Pine Bluff until Arkansas authorities issue additional permits. On June 19, 1997, authorities in Alabama issued a hazardous waste permit for Westinghouse to begin construction of a destruction facility at Anniston. Construction at Anniston is expected to take over 2 ½ years, and at least an additional 1 ½ years will be required to test the facility fully before around-the-clock destruction can begin.

Environmental impact analyses are being conducted as the next step toward building pilot plants. These plants would enable large-scale testing of alternative technologies used to destroy the chemical agent that is stored in ton containers at Aberdeen Proving Ground, Maryland, and Newport, Indiana. The Aberdeen pilot plant will use hot water to neutralize mustard agent, resulting in by-products that are mostly water and the commercial chemical thiodiglycol. These waste

by-products will be further detoxified using biodegradation. Approximately five percent of the nation's arsenal is stored at Aberdeen, and just under four percent is located at Newport. The pilot plant at Newport will utilize hot sodium hydroxide to neutralize the nerve agent VX, producing waste by-products that will be further treated with supercritical water oxidation.

The two storage sites where technology questions must still be resolved are Pueblo, Colorado, and Blue Grass, Kentucky. The former site has seven percent of the nation's stockpile, the latter just under two percent. In late 1996, Congress directed the Army to initiate a new research program to identify the best alternative method to destroy an entire chemical munition—agent and explosive components. Congress set aside \$40 million for an Assembled Chemical Weapon Assessment Program to identify and demonstrate such a destruction technology. Incineration is the only technology that the Army and the National Academy of Sciences have judged to be capable at this point of safely destroying the variety of chemical agents, explosives, propellants, and metal components that are found in the U.S. chemical arsenal.

Editor's Note

As the Cold War began to wane, the two superpowers stepped forward to lead the international movement toward chemical weapons disarmament, but then failed to follow through on their intentions. In June 1990, Presidents Mikhael Gorbachev and George Bush signed a bilateral agreement to initiate destruction of the Soviet and American chemical arsenals—the world's two largest stockpiles of poison gas—but for a variety of reasons this bilateral accord was never activated. Now that the Chemical Weapons Convention has superseded the bilateral disarmament process, the onus is again upon Washington and Moscow to reassert leadership in chemical weapons nonproliferation and disarmament.

Just five days before the CWC entered into

force on April 29th, the U.S. Senate finally ratified the CWC by a vote of 74 to 26. Congress and the Clinton Administration have since dropped the ball on passing the CWC's implementing legislation, which is required to promulgate the guidelines for U.S. chemical industry to comply with the treaty's data declarations and inspections. As a result, America is in violation of the CWC. The United States has provided the new international inspectorate the data about its chemical weapons facilities, but has been unable to compile a declaration on U.S. chemical plants that produce, consume, import, or export chemicals that the CWC controls. This dereliction in implementing the CWC fully provides an easy excuse for other countries that may seek ways to skirt the CWC's obligations: If the United States doesn't comply, why should they?

For its part, Russia has set a time frame to debate and vote on the CWC this fall. Russian legislators are reluctant to ratify the CWC without funds on hand to meet the treaty's requirements to destroy Russia's huge chemical weapons stockpile. Moscow is fiscally strapped and would like guarantees of outside financial assistance before taking the final step of ratification. Possible donor governments counter that the horse must come before the cart, that Russian ratification of the

CWC must precede further aid. Russians are worried about possible penalties down the road if Russia is unable to meet the CWC's destruction deadline. More severe penalties will come much sooner, however, if Russia does not ratify the CWC. Absent ratification, Russia's chemical industry will suffer under the treaty's automatic economic sanctions, and Moscow will be politically isolated, aligned with a small group of pariah nations that remain outside the treaty. Given these circumstances, Russia's interests are clearly better served by joining the CWC.

The CWC's debut has been an impressive one, with the majority of the world's nations entering the treaty and half a dozen countries quickly relinquishing their chemical weapons programs to international control. However, if the CWC is to reach its full potential as an instrument to restrain and reverse chemical weapons proliferation, it must have the full participation of the world's two largest chemical weapons possessors. To that end, Congress must swiftly pass the CWC's implementing legislation, and Russia must ratify the CWC. The stakes are too high for Washington and Moscow to fall short again on their responsibilities to lead the global efforts to abolish this category of weapons of mass destruction.

About the Newsletter, the Stimson Center, and Its CWC Programming

This newsletter was prepared by Amy E. Smithson and Marisa Uchin. This newsletter and other products of the Chemical and Biological Weapons Nonproliferation Project also benefit from the oversight and guidance of Stimson Center president Michael Krepon.

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. The Stimson Center's projects assess the sources and consequences of international conflict, as well as the tools needed to build national security and international peace. They deal with regional security (peacekeeping, preventive diplomacy, and confidence-building measures), U.S. foreign and defense policies, arms control measures and their verification, and other building blocks of international security. Under a grant from the Carnegie Corporation of New York, the Stimson Center is focusing on various aspects of the implementation of the CWC, including the activities in The Hague, the U.S. ratification process, and the destruction of chemical stockpiles, here and abroad, and the strengthening of the 1972 Biological and Toxin Weapons Convention.

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