

THE THREAT OF CHEMICAL WEAPONS

I. The Issue

Chemical weapons (CW) were recognized as uniquely cruel and indiscriminate following their first widespread use in World War I. In 1928, the Geneva Protocol, banning the use in war of poisonous gases and certain other chemical weapons, entered into force. (The U.S. did not ratify the protocol until 1975.) However, the protocol did not restrict the possession of chemical weapons, and many countries continued to develop an offensive chemical weapons capability. According to the U.S. government, at least sixteen nations currently have active chemical weapons programs—some in violation of international agreements.¹

To address the shortcomings of the Geneva Protocol, the international community negotiated the Chemical Weapons Convention (CWC), which prohibits the development, production, acquisition, stockpiling, retention, transfer, and use of chemical weapons. The CWC, which has been signed by more than 170 countries and ratified by 151, entered into force on October 31, 1996. The CWC is perhaps the most complicated arms control agreement ever negotiated,² due in part to the “dual-use dilemma” that exists because components of chemical weapons also have peaceful industrial uses.

The United States enacted legislation implementing the CWC in 1997.³ The legislation makes it a crime to possess, stockpile, transfer, or use chemical weapons; places controls on the import and export of chemicals considered to pose the greatest risk; regulates the possession, transfer, and use of such chemicals; requires U.S. companies to report on their production and use of potentially dangerous chemicals; and provides for certain inspections under the CWC of chemical plants and other facilities. However, the legislation allows the President, on national security grounds, to deny a duly authorized inspection under the CWC.⁴ This has raised concerns that this provision may create a precedent for other countries to deny such inspections.⁵

The Soviet Union had the world’s largest CW program, consisting of over 60 institutions spread across the USSR. That program continues to present special international security problems today. Russia still possesses the world’s largest CW arsenal, with at least 40,000 metric tons stored at seven sites.⁶ Also, according to a veteran of the Soviet chemical weapons program, the USSR developed and produced “tens of tons of a few novel chemical nerve agents that are five to ten times more lethal than any other known chemicals.”⁷

Beyond this enormous CW stockpile, the break up of the Soviet Union left thousands of CW scientists without jobs. This poses a “brain drain” problem similar to that of

Russian nuclear scientists. However, this problem is more difficult to address because knowledge of chemistry is much more widespread. Diversion of weapons or the know-how to build them to a terrorist group could have serious security implications. For instance, in 1995, a previously obscure group, *Aum Shinrikyo*, achieved infamy when some of its members released sarin nerve gas into the Tokyo subway system. The attack killed 12 people and sent more than 5,000 others to hospitals.

To assist Russia with the destruction of its CW stockpile in compliance with the CWC, the United States began a program in 1992 to fund the construction of a CW destruction facility at Shchuch'ye. The stockpile at Shchuch'ye is of grave concern because it contains nearly 2 million artillery shells and missile warheads that are filled with nerve gas. These artillery shells are portable, easy to hide and, due to weak security at the facility, extremely vulnerable to theft. The design and site preparation for the destruction facility have been completed, but spending for the construction of the facility was delayed for three years.

In the National Defense Authorization Act for Fiscal Year 2000,⁸ Congress prohibited the use of fiscal year 2000 or subsequent year Cooperative Threat Reduction funds for Shchuch'ye, with the conferees stating concerns regarding the total costs involved and Russia's inability to fund infrastructure costs.⁹ Congress approved \$50 million for Shchuch'ye in FY 2002 and revised that prohibition so as to allow funds to be used for it if the Secretary of Defense certified that six conditions were met, including certification that Russia had provided complete information regarding the size of its chemical weapons stockpile and had made a commitment to spend at least \$25 million a year on the project (the full list of conditions can be found in the following section). The Secretary was unable to make those certifications, and the halt on spending for Shchuch'ye continued. At the request of the Administration, in section 8144 of the Department of Defense Appropriations Act for FY 2003,¹⁰ Congress authorized a presidential waiver of the six conditions. President Bush exercised this authority on January 10, 2003, thus freeing up more than \$150 million that had previously been appropriated for the chemical weapons destruction facility.¹¹

The United States must continue to work with other state parties to the CWC, particularly Russia, to ensure that stockpiles of chemical weapons are destroyed as quickly as possible and to support and expand programs providing peaceful employment of former chemical weapon scientists.

The first CWC Review Conference was held from April 28 to May 9, 2003 in The Hague.¹² The delegates to the conference declared that the member states' implementation of the treaty—known as “national implementation”—through means such as criminal legislation is key to the CWC's effectiveness. However, according to the British delegate, only one-quarter of the member states had laws covering “all the key areas for enforcement” of CWC provisions.¹³

II. Recent Legislation

- The Chemical Weapons Convention Implementation Act of 1998 (Division I of Public Law 105-277, the Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999; 22 USC 6701 note):
 - Makes the development, production, transfer, acquisition, or use of chemical weapons a federal crime;

- o Places controls on the import and export of chemicals considered to pose the greatest risk;
 - o Regulates the domestic possession, transfer, and use of such chemicals;
 - o Requires U.S. companies to report on their production and use of potentially dangerous chemicals; and
 - o Provides for certain inspections under the CWC of chemical plants and other facilities.

- Section 1305 of the National Defense Authorization Act for Fiscal Year 2000 (Public Law 106-65) prohibits the use Cooperative Threat Reduction funds appropriated for fiscal year 2000 or a later fiscal year from being used “for the planning, design, or construction of a chemical weapons destruction facility in Russia” (i.e., Shchuch’ye).

- Section 1308 of the National Defense Authorization Act for Fiscal Year 2002 (Public Law 107-107) amended the above prohibition so as to permit the use of Cooperative Threat Reduction funds for a chemical weapons destruction facility in Russia if the Secretary of Defense certifies that:
 - o Russia has provided full and accurate information regarding the size of its chemical weapons stockpile;
 - o Russia has made a demonstrated annual commitment to allocate at least \$25,000,000 to chemical weapons elimination;
 - o Russia has developed a practical plan for destroying its stockpile of nerve agents;
 - o Russia has enacted a law providing for the elimination of all nerve agents at a single site;
 - o Russia has agreed to destroy or convert its chemical weapons production facilities at Volgograd and Novocheboksark; and
 - o the international community has made a commitment to fund and build infrastructure needed to support and operate the facility.

- Section 8144 of the Department of Defense Appropriations Act, 2003 (Public Law 107-248) authorized the President to waive section 1305 of the National Defense Authorization Act for Fiscal Year 2000 with respect to fiscal year 2000-03 funds when it is “important to the national security interests.” (On January 14, 2003, the President executed waivers that freed up FY 2002 and 2003 Cooperative Threat Reduction funds totaling \$470 million, including more than \$150 million for the chemical weapons destruction facility in Shchuch’ye.)

- Section 3623 of the defense authorization bill for fiscal year 2004 (H.R. 1588), as passed by the House on May 21, 2003, requires the development of a comprehensive, detailed plan for chemical and biological weapons nonproliferation programs in the former Soviet Union and the appointment of a senior official with sufficient staff and resources to coordinate those programs.

- Section 1305 of the defense authorization bill for fiscal year 2004 (H.R. 1588), as passed by the Senate on June 4, 2003, extends by one year (through fiscal year 2004) the presidential waiver authority in section 8144 of the Department of Defense Appropriations Act, 2003, described above.

III. Obstacles

- The Presidential waiver authority for conditions placed on the expenditure of funds specifically for Shchuch'ye, found in the Department of Defense Appropriations Act for FY 2003 (Public Law 107-248), is only for FY 2000-FY 2003. This will have to be renewed or made permanent to ensure that funds are available to complete the destruction of Russia's chemical weapons stockpile. (Section 1305 of the Senate-passed defense authorization bill for fiscal year 2004 would grant a one-year extension, for fiscal year 2004.)

IV. Q & A

Q: What are chemical weapons?

A: Chemical weapons are highly toxic liquid and gaseous substances that can be dispersed in bombs, rockets, missiles, artillery, mines, grenades, or spray tanks. The four basic types of chemical agents are: blister agents that destroy exposed skin tissue (e.g., mustard gas and lewisite); blood agents that, when inhaled, block oxygen circulation within the body (e.g., hydrogen cyanide and cyanogen chloride); choking agents that inflame the bronchial tubes and lungs, possibly causing asphyxiation (e.g., phosgene and chlorine); and nerve agents that cause the nervous system to overload, resulting in respiratory failure and death (e.g., tabun, sarin, soman, and VX).¹⁴

Q: What states have chemical weapons and have they signed the CWC? And which states are suspected of possessing chemical weapons but have not signed the CWC?

A: The CWC requires that all states joining the treaty declare their CW stockpiles. The United States, Russia, India and South Korea have declared possession of CW stockpiles. In March 2000, CIA Director George Tenet identified five non-signatory states—Iraq, Libya, North Korea, and Syria—as countries that “now either possess or are actively pursuing” chemical weapons capabilities.¹⁵

Libya is thought to have produced and stockpiled chemical weapons, and Syria, Israel, and Egypt “probably possess chemical weapons capabilities.” In addition, Iran is believed to have “an active chemical weapons program” and to have produced chemical warfare agents. Iran ratified the CWC and declared having only former chemical weapons production facilities.¹⁶

North Korea may have one of the world's largest chemical warfare stockpiles—possibly between 2,500 and 5,000 tons;¹⁷ and estimates of its biological warfare capabilities “can range from North Korea having a rudimentary ... program, to actual possession of biological weapons already deployed.”¹⁸ On May 6, 2002, Undersecretary of State for Arms Control and Disarmament John R. Bolton stated that North Korea has “developed and produced, and may have weaponized, BW agents.”¹⁹

For a list of other countries that have chemical weapons activities, see The Henry L. Stimson Center, “Chemical Weapons Proliferation Concerns,” accessed at: www.stimson.org/cbw/?SN=CB20011220137.

Q: How is the CWC monitored and enforced?

A: The Organization for the Prohibition of Chemical Weapons (OPCW) was established upon the entry into force of the CWC, to implement the CWC. The OPCW receives states-parties' declarations, which detail chemical weapons-related activities or materials and relevant industrial activities. After receiving declarations, the OPCW inspects and monitors states-parties' facilities and activities that are relevant to the convention, aiming to ensure compliance. The OPCW verifies that its member countries are fulfilling their obligations under the CWC by:

- o assessing declarations made by its member countries on a regular basis—this amounts to thousands of pages of documents in six language;
- o conducting regular on-site inspections of declared military or industrial sites and/or facilities to verify the accuracy of declarations made;
- o conducting challenge inspections; and
- o investigating any report of CW use.²⁰

The OPCW is funded by contributions from member states generally based on the UN scale of assessments, which requires financial contributions according to the relative wealth of member states. The overall budget for the OPCW for 2002 was roughly \$52 million.²¹ The OPCW has had some success—all but six of the 148 CWC states-parties have fulfilled their treaty obligation to declare any chemical weapons and related facilities, states-parties have destroyed 6.7 thousand metric tons of chemical weapons agent, and nearly two million chemical weapons munitions and 28 former chemical weapons production facilities have been destroyed and nine converted for nonmilitary uses.²² However funding difficulties have hindered the OPCW's ability to fully carry out its mandate. In 2001, the OPCW conducted only 200 inspections—68 percent of the 293 inspections budgeted for that year. The organization's budget for 2001 was more than \$62 million, and the secretariat scaled back the number of inspections to avoid a deficit.²³

Q: Why should we be concerned about Russia's CW stockpile?

A: The Soviet Union had the world's largest chemical weapons program, consisting of over 60 institutions spread across the USSR. That program continues to present special international security problems today. Russia still possesses the world's largest chemical weapons arsenal, with at least 40,000 metric tons stored at seven sites.²⁴ These sites are poorly secured and there is not an accurate accounting of what many of the sites contain—making the stockpile particularly vulnerable to theft. The Russian CW stockpile must be secured to ensure that these weapons do not fall into the hands of terrorist groups or states that wish the U.S. harm.

V. Talking Points

- While more than a handful of countries have chemical weapons, the United States government should concentrate the bulk of its energies on the largest part of the problem: helping Russia secure and dispose of its bloated chemical weapons stockpile, while also working to ensure that states such as Iraq do not acquire or develop chemical weapons.
- The United States should work diligently to strengthen the CWC, especially the work of the Organization for the Prohibition of Chemical Weapons.

- While a CW attack would not be as deadly as a nuclear or biological weapons attack, the probability of a CW attack from these weapons is greater than most other threat scenarios.

VI. Factoids

- Russia continues to possess the world's largest chemical weapons arsenal, with 40,000 metric tons stored at seven sites.²⁵
- In the spring of 1995, a doomsday cult known as *Aum Shinrikyo* unleashed the nerve agent sarin in the Tokyo subway, killing 12 commuters and hospitalizing over 5,000 others.
- There are nearly 2 million artillery shells filled with nerve gas vulnerable to terrorist seizure in Shchuch'ye, Russia.²⁶
- At least 15 nations currently have active CW programs—some in violation of international agreements.²⁷
- To date, the Russian Federation has not met the deadline for destroying one percent of its Category One chemical weapons.²⁸

VII. Applicable Treaties, Legislation, and Other International Agreements

- Chemical Weapons Convention (CWC).²⁹
- 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, commonly known as the Geneva Protocol.³⁰
- The Australia Group, which is an informal forum of states whose goal is to discourage and impede chemical weapons proliferation by harmonizing national export controls on CW precursor chemicals, sharing information on proliferation programs, and seeking other ways to curb the use of CW. The Group was formed in 1984 and has 30 members.³¹
- (U.S.-U.S.S.R.) Bilateral Memorandum of Understanding was signed on September 23, 1989 and provided for a bilateral verification experiment and data exchange between the two countries to be carried out in two phases. In the first phase, the U.S. and U.S.S.R. exchanged information on their respective chemical weapons stockpiles and a series of visits to production facilities, storage facilities, and industrial chemical production facilities in each country. The second phase was stalled by the collapse of the Soviet Union but the two countries exchanged data in 1994. Unfortunately, the completeness of that data was questioned. Also in 1994 both sides conducted five practice challenge inspections at declared government CW facilities for the purpose of acquainting U.S. and Russian officials with challenge inspection procedures.³²
- (U.S.-U.S.S.R.) Bilateral Destruction Agreement signed in June 1990 requires both countries to stop producing CW and to reduce their respective chemical weapons stockpiles to no more than 5,000 agent tons by the end of 2002. Lack of funding for the destruction program in Russia was one of several obstacles delaying this

agreement's entry into force. Russia officially backed away from the Bilateral Destruction Agreement in mid-1996. The agreement is therefore dormant, and inspections of U.S. and Russian chemical weapons storage and destruction facilities are being conducted instead under the Chemical Weapons Convention.³³

- The Mendoza Accord signed on September 5, 1991 by Argentina, Brazil and Chile and subsequently signed by Bolivia, Ecuador, Paraguay, and Uruguay; the signatories agree “not to develop, produce, acquire in any way, stockpile or retain, transfer directly or indirectly, or use chemical or biological weapons.”³⁴
- India-Pakistan Agreement on chemical weapons signed on August 19, 1992; both countries agree to “never under any circumstances... develop, produce or otherwise acquire chemical weapons; to use chemical weapons; to assist, encourage or induce, in any way, anyone to engage in development, production, acquisition, stockpiling or use of chemical weapons.”³⁵

¹ The Henry L. Stimson Center, “Chemical Weapons Proliferation Concerns,” accessed at: <http://www.stimson.org/cbw/?SN=CB20011220137>.

² Amy Smithson, ed., “The Chemical Weapons Convention Handbook,” Henry L. Stimson Center, 1993, updated June 2001, accessed at: <http://www.stimson.org/cbw/?sn=CB2001121897>.

³ Chemical Weapons Convention Implementation Act of 1998 (Division I of Public Law 105-277, the Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999; 22 USC 6701 note).

⁴ Section 307 of the Chemical Weapons Convention Implementation Act of 1998.

⁵ Statement of Senator Joseph Biden, 105 Cong. Rec. 5078 (May 23, 1997).

⁶ Amy Smithson, “Toxic Archipelago: Preventing Proliferation from the Former Soviet Chemical and Biological Weapons Complexes,” The Stimson Center Report No. 32, December 1999, p. 11

⁷ *Ibid.*, p. 9.

⁸ Section 1305 (Public Law 106-65; 22 USC 5952 note).

⁹ Conference Report on the National Defense Authorization Act for Fiscal Year 2000 (H. Rept. No. 106-301).

¹⁰ Section 8144 of the Department of Defense Appropriations Act, 2003 (Public Law 107-248).

¹¹ Peter Eisler, “Bush Frees Cash to Secure Soviet Arms,” *USA Today*, January 14, 2003.

¹² Kerry Boyd, “Albania Has Chemical Arms; CWC Review Conference Meets,” *Arms Control Today*, June 2003, accessed at: http://www.armscontrol.org/act/2003_06/cwc_june03.asp. For the complete declaration issued at the conclusion of the conference, see “Inventory News: The First Chemical Weapons Convention Review Conference,” Center for Nonproliferation Studies, Monterey Institute for International Studies, May 15, 2003, accessed at <http://cns.miis.edu/pubs/inven/news.htm>.

¹³ *Ibid.*

¹⁴ Amy Smithson, ed., “The Chemical Weapons Convention Handbook...,” *op. cit.*, note 2.

¹⁵ Arms Control Association, “Fact Sheet: The Chemical Weapons Convention at a Glance,” accessed at: <http://www.armscontrol.org/factsheets/cwcunderstanding.asp>.

¹⁶ Amy Smithson, ed., “The Chemical Weapons Convention Handbook...,” *op. cit.*, note 2.

¹⁷ “North Korea Profile: Chemical Overview,” Center for Nonproliferation Studies, Monterey Institute of International Studies, prepared for the Nuclear Threat Initiative, accessed at http://www.nti.org/e_research/profiles/NK/Chemical/index.html.

¹⁸ “North Korea Profile: Biological Weapons Overview,” Center for Nonproliferation Studies, Monterey Institute of International Studies, prepared for the Nuclear Threat Initiative, accessed at http://www.nti.org/e_research/profiles/NK/Biological/index.html.

¹⁹ *Ibid.*

²⁰ Organization for the Prohibition of Chemical Weapons, “Verification” Fact Sheet, accessed at: <http://www.opcw.org/html/glance/index.html>.

²¹ Amy Smithson, ed., “The Chemical Weapons Convention Handbook...,” *op. cit.*, note 2.

²² Organization for the Prohibition of Chemical Weapons, “Instant Briefing: Results,” October 28, 2002, accessed at: <http://www.opcw.org/ib/>.

²³ Kerry Boyd, “OPCW Annual Report Cites Progress, Problems,” *Arms Control Today*, January/February 2003, accessed at: http://www.armscontrol.org/act/2003_01-02/opcw_janfeb03.asp.

²⁴ Amy Smithson, “Toxic Archipelago...,” *op. cit.*, note 6, p. 11.

²⁵ *Ibid.*

²⁶ Global Green USA, “Legacy,” accessed at: <http://www.globalgreen.org/programs/legacy.html>.

²⁷ The figure “15” excludes Iraq from the listing found in The Henry L. Stimson Center, “Chemical Weapons Proliferation Concerns,” accessed at: <http://www.stimson.org/cbw/?SN=CB20011220137>.

²⁸ Jean Jean du Preez and Markus Binder, “The Seventh Conference of State Parties to the Chemical Weapons Convention (CWC),” *Center for Nonproliferation Studies Issue Brief*, October 2002, accessed at: http://www.nti.org/e_research/e3_18b.html.

²⁹ “Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (CWC),” accessed at: http://www.opcw.org/html/db/cwc/eng/cwc_frameset.html.

³⁰ “Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare,” accessed at: http://www.opcw.org/html/db/cwc/more/geneva_protocol.html.

³¹ The Australia Group homepage, accessed at: <http://www.australiagroup.net>.

³² The Stimson Center, “Overview of CWC and Related US Agreements,” accessed at: <http://www.stimson.org/cbw/?sn=CB2001121896#bimou>.

³³ *Ibid.*

³⁴ Declaration One of “Joint Declaration on the Complete Prohibition of Chemical and Biological Weapons (The Mendoza Accord),” September 5, 1991, accessed at: www.stimson.org/cbw/?sn=CB20011221165.

³⁵ India and Pakistan “Joint Declaration on the Complete Prohibition of Chemical Weapons,” August 19, 1992, accessed at: <http://www.stimson.org/cbw/?sn=CB20011221163>.