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Chemical Weapons Convention: Issues for Congress

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SUMMARY

More than 100 years of international efforts to ban chemical weapons culminated January 13, 1993, in the signing of the Chemical Weapons Convention (CWC). The Convention entered into force April 29, 1997. One hundred forty-five of the 174 signatories have ratified the Convention. On April 24, 1997, the Senate passed the CWC resolution of ratification (S.Res. 75, 105th Congress) by a vote of 74-26. President Clinton signed the resolution and the United States became the 75th nation to ratify the Convention. Russia and Iran were the most recent nations to have ratified the CWC. The CWC bans the development, production, stockpiling, and use of chemical weapons by members signatories. It also requires the destruction of all chemical weapons stockpiles and production facilities. The Convention provides the most extensive and intrusive verification regime of any arms control treaty, extending its coverage to not only governmental but also civilian facilities. The Convention also requires export controls and reporting requirements on chemicals that can be used as warfare agents and their precursors. The CWC establishes the Organization for the Prohibition of Chemical Weapons (OPCW) to oversee the Convention's implementation. Chemical Weapons Convention implementing legislation (P.L. 105-277) provides the statutory authority for domestic compliance with the Convention's provisions. It sets criminal and civil penalties for the development, production, acquisition, stockpiling, transfer, possession, or use of chemical weapons. It also establishes: 1) procedures for seizure, forfeiture, and destruction of contraband chemical weapons; 2) statutory authority for record-keeping and reporting requirements relevant to the CWC; 3) various restrictions on certain chemicals, depending on their likelihood of being used to produce chemical weapons; and 4) a protective regime for confidential business information gathered from private corporations. The legislation also provides detailed procedures to be used for on-site inspections by the OPCW, including limitations on access and search warrant procedures, should they be required. Though supporting passage, CWC advocates expressed concerns over several sections of the legislation which were added in Judiciary Committee mark-up, and intended to work for their revision before final enactment. Of particular concern are provisions that allow the President to block challenge inspections and that prohibit the OPCW from sending chemical samples outside the United States for analysis. These provisions are intended to protect U.S. national security interests and proprietary commercial information. CWC supporters, however, believe that blocking a challenge inspection would violate a basic premise of the convention, and that if other nations adopt similar provisions it will weaken the convention's effectiveness. The opportunity to address concerns in a House-Senate conference did not arise, when S. 610 was incorporated without amendment as Division I of the FY1999 Omnibus Appropriations Act (H.R. 4328, P.L. 105-277). Some suggested that these issues be dealt with new legislation, but none has been introduced.

MOST RECENT DEVELOPMENTS

The Department of Defense Selected Acquisition Report released in April shows an 80% increase in the cost estimate for the chemical weapons demilitarization program, from $13.2 billion to $23.7 billion. Factors driving the increase were identified as: 1)revised destruction rates based upon the experience at Johnston Atoll depot; 2) schedule extensions; 3) new environmental regulations; 4) worse-than-expected stockpile condition; 5) increased equipment, labor, and construction costs; and 6) higher emergency preparedness costs.

For FY2003, the Defense Department has requested $1.49 billion for the chemical demilitarization program: R&D $302 million, Procurement $213 million, Operations & Maintenance $974 million, and Military Construction $167 million.

The Bush Administration led a successful effort to have Jose Bustani, the Director-General of the OPCW's Technical Secretariat, removed from office. Citing "disdain for the OPCW Executive Committee" and inappropriate administrative and budgetary policies among other charges, the State Department [http://www.state.gov/t/ac/rls/fs/9120.htm] *made a concerted and sustained effort to gain support over the last six months after Bustani refused to voluntarily resign. On April 21, the Conference of OPCW State Parties voted 48-7, with 43 abstentions to support the U.S. position. Consideration of a replacement Director-General was postponed until June when a recommendation is expected from the OPCW Executive Committee.*

The Bush Administration has informed both Russia and the Congress that it currently cannot provide the certification of Russia's commitment to arms control compliance required to permit continued U.S. aid under the Nunn-Lugar Threat Reduction programs. Financial assistance for the Russian chemical weapons destruction program is one of these efforts. The points of concern are further information on earlier Russian development of new chemical warfare agents, and greater access to current operations at former Russian biological weapons facilities that are still under military control. It is expected that this will be a topic for discussion at the upcoming U.S.-Russia Summit. Congress has the option to waive the presidential arms control certification requirement, if it so chooses.

BACKGROUND AND ANALYSIS

CWC Ratification and Implementation

The United States signed the Chemical Weapons Convention in the last days of the Bush Administration (1/13/93), and the Convention was submitted to the Senate for its advice and consent in the midst of the 103rd Congress (11/23/93). In the 103rd, 104th, and 105th Congresses, an extensive series of 13 hearings were held by the Foreign Relations, Armed Services, Intelligence, and Judiciary Committees, complemented with classified briefings from the intelligence community. (See **For Additional Reading**) Under a unanimous consent agreement,

the CWC ratification resolution was to have been brought to the Senate floor in mid-September 1996. However, uncertain of sufficient votes to ensure passage, it supporters postponed its consideration.

Ratifying Legislation in 105th Congress (S.Res. 75)

In his 1997 State of the Union address, President Clinton pledged he would make the CWC a high priority in 1997, pressing for Senate consent early in the 105th Congress. After extensive negotiations between the White House and key Senators, and within the Senate itself, a unanimous consent agreement was reached to bring the Chemical Weapons Convention ratification resolution (S.Res. 75) to the Senate floor on April 23, 1997. The resolution contained 33 conditions, 28 of which were agreed to by the White House and within the Senate. Under the unanimous consent agreement, these were not subject to further amendment or motions. Five conditions were not agreed to, and each was struck by roll-call vote during floor debate, prior to passage of the resolution. The summary of the conditions below provides only the general intent of each; the ratification resolution itself should be consulted for a full understanding of the requirements each condition establishes.

The CWC ratification resolution, including agreed upon conditions:

- Asserts the Senate's right under the Constitution to add reservations to the Convention.
- Assures congressional oversight of all funds provided under the CWC.
- Requires Presidential certification that the OPCW has an Inspector-General and specifies report requirements.
- Requires cost-sharing for R&D expenditures for verification.
- Establishes standards for U.S. intelligence sharing and reports to Congress.
- Requires submission of any CWC amendments to the Senate.
- Requires the President to obtain assurances from Australia Group members that Article XI is consistent with continued export controls.
- Requires a report on the assurances offered to countries that forswear the use of nuclear weapons.
- Requires Presidential certification that restrictions on Schedule 1 chemicals do not adversely affect the chemical, biotechnology, and pharmaceutical industries.
- Requires annual country reports of CW activities, compliance, and intelligence monitoring.
- Requires the Secretary of Defense to ensure the Armed Forces are effectively equipped, organized, trained, and exercised for operations in CBW environments.
- Asserts the primacy of the U.S. Constitution.
- Requires the President to use the full range of his authority to enforce compliance.
- Requires the United States to reject any Russian effort to make its ratification contingent on U.S. financial assistance.Requires the United States to limit its CW defensive assistance under Article X, to countries of concern, to medical antidotes and treatments.

- Prescribes U.S. responses to unauthorized release of confidential business information by the OPCW or other parties.
- States the sense of the Senate that U.S. negotiators should not agree to treaties that bar reservations.
- Prohibits transfer of inspection samples collected in the United States to laboratories outside the United States.
- States the Senate finding that chemical weapons terrorism is still a threat.
- States the Senate declaration that the United States should not be denied its vote in the CWC organization.
- Sense of the Senate that the U.S. On-Site Inspection Agency should provide assistance to facilities subject to routine inspection under the CWC.
- Limits U.S. assessment for OPCW to $25 million; ties increases to the Consumer Price Index; provides for certain exceptions, e.g., verification costs. Reaffirms the Senate's role in treaty interpretation.
- Reaffirms the Senate's role regarding arms control treaties.
- Requires Presidential certification that the CWC does not restrict U.S. use of riot control agents in certain specified circumstances. Requires notification and consultation when a chemical is added to CWC Schedules.
- Requires the President to explore alternative technologies for the destruction of the U.S. chemical weapons stockpile. Requires criminal search warrant for challenge inspections and administrative search warrant for routine inspections, if not permitted voluntarily.

Implementing Legislation in the 105th Congress (H.R. 1590, H.R. 2709, S. 610)

On May 23, 1997 the Senate unanimously passed S. 610. This legislation, as reported by the Judiciary Committee, was an amendment in the nature of a substitute for the Administration bill. CWC supporters with objections to provisions of S. 610 as reported hoped they could be resolved before final enactment, perhaps in House-Senate conference. (Congressional Record, May 23, p. S5078). However, S. 610's language was incorporated, without amendment, by the House International Relations Committee as Title II of the Iran Missile Proliferation Sanctions Act of 1997 (H.R. 2709), which passed the House by voice vote , Nov. 12, 1997. The Senate passed H.R. 2709 on May 22, 1998 with no amendment to the CWC-related element of the legislation. On June 9, 1998 the House concurred with a Senate amendment to the Title I missile sanctions regime, permitting submission of the legislation to the President, who vetoed the legislation on June 23. The veto stemmed from the Administration's disapproval of the Iran sanction elements of the legislation, not the CWC-related elements. In October 1998, the House incorporated S. 610's language, without amendment, into the FY1999 Omnibus Appropriations Act. This passed the House and Senate, and was signed into law October 20th, 1998 (P.L. 105-277)

The implementing legislation sets criminal and civil penalties for the development, production, acquisition, stockpiling, transfer, possession, or use of chemical weapons. These penalties would also apply to anyone who assists, encourages, induces, attempts, or conspires to carry out these proscribed activities. It also establishes: 1) procedures for seizure, forfeiture, and destruction of contraband chemical weapons; 2) statutory authority for record-keeping and reporting

requirements relevant to the CWC; 3) various restrictions on certain chemicals, depending on their likelihood of being used to produce chemical weapons; and 4) a protective regime for confidential business information gathered from private corporations. It also provides detailed procedures to be used for on-site inspections by the OPCW, including limitations on access and search warrant procedures, should they be required.

The provisions, now enacted into law, which raise concerns from CWC supporters and the OPCW include:

- Section 213 — sets procedures for U.S. firms to seek compensation from the U.S. government, should they suffer the loss of proprietary information through the actions of OPCW employees. Critics, however, maintain that, as worded, this section does not place a high enough burden of proof on the claimants, and consequently could lead to excessive and unfounded claims against the government. Sections 237 — grants the President the right to deny a request for inspection if it "may cause a threat to U.S. national security interests." The CWC contains no provision permitting denial of an inspection, and critics note that doing so could place the United States in non-compliance. They maintain that even if never exercised, this section's existence will encourage other nations to enact similar exemptions, thereby weakening the CWC verification regime.
- Section 253 — exempts discrete organic chemicals not on the CWC control lists and incidental chemical by-products or waste-streams from reporting and inspection requirements. This is intended to ease the potential burdens, particularly on paper manufacturers, but critics believe the exemption is too broadly worded and would rule out an effective non-intrusive sampling technique for inspectors. Sections 212 & 238 prohibit requiring that government contractors waive any constitutional rights for any purpose related to the CWC. Some believe that this could hinder the CWC routine inspection regime.

U.S.-Soviet Bilateral Agreements

U.S.-Soviet Memorandum of Understanding (Wyoming MOU), September 1989. In 1989, as the multilateral negotiations slowed, the U.S.-Soviet bilateral talks took on greater importance and assumed a much higher public profile. On September 23, 1989, the United States and the Soviet Union signed a bilateral Memorandum of Understanding (MOU) agreeing to data declarations on CW stockpiles and trial inspections. U.S. intelligence officials believe that Russian declarations have been incomplete, particularly in the area of binary chemical weapons and novel chemical agents. High level consultations continue to try to resolve these discrepancies. Compliance with this agreement is a factor in the Bush Administration's decision not to provide the certification of Russia's commitment to arms control upon which further Nunn-Lugar Threat Reduction aid is contingent. The Russian chemical weapons destruction program is a beneficiary of this aid program.

U.S.-/Russian Chemical Weapons Destruction Agreement, June 1990. On June 1, 1990, the United States and Russia signed an agreement covering the production of chemical weapons and the destruction of current CW stockpiles. This agreement, as yet not

implemented, would permit bilateral routine monitoring and challenge inspections of the CW destruction process conducted in accordance with the provisions of the Chemical Weapons Convention. Russia has communicated to the Administration that the Bilateral Destruction Agreement (BDA) described below has "outlived its usefulness", and should be superseded by the Chemical Weapons Convention. U.S. officials, however, still support the BDA and are continuing talks on the issue. Russian cost estimates have concluded that the BDA verification regime would be more expensive than OPCW monitoring and inspections.

Provisions of the Chemical Weapons Convention of 1993

More than 100 years of international efforts to ban chemical weapons culminated January 13, 1993, in the signing of the Chemical Weapons Convention (CWC). The United States was one of the original signatories of the Convention and has been joined by 173 other nations. The Clinton Administration submitted the Convention to the Senate on November 23, 1993. The United States ratified the convention May 25, 1997. The Convention came into force on April 29, 1997, 180 days after the 65th ratification was received. One hundred forty-five nations have ratified the Convention: Albania, Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bolivia, Bosnia-Herzegovina, Botswana, Brazil, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Canada, Chile, China, Cook Islands, Costa Rica, Cote d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Dominica, Ecuador, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, Former Republic of Yugoslavia, Former Yugoslav Republic of Macedonia, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece, Guinea, Guyana, Holy See, Hungary, Iceland, India, Indonesia, Iran, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Laos, Latvia, Lesotho, Lithuania, Luxembourg, Malawi, Malaysia, Maldives, Mali, Malta, Mauritania, Mauritius, Mexico, Micronesia, Moldova, Monaco, Mongolia, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, Nicaragua, Niger, Nigeria, Mauritania, New Zealand, Niger, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russian Federation, San Marino, Santa Lucia, Saudi Arabia, Senegal, Seychelles, Singapore, Slovak Republic, Slovenia, South Korea, South Africa, Spain, Sri Lanka, Sudan, Suriname, Swaziland, Sweden, Switzerland, Tajikistan, Tanzania, Togo, Trinidad-Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, the United Kingdom, the United States, Uruguay, Uzbekistan, Venezuela, Vietnam, Yemen, Zambia and Zimbabwe.

The CWC bans the development, production, stockpiling, and use of chemical weapons (CW) by its signatories. It also requires the destruction of all chemical weapons and production facilities. The Convention provides the most extensive and intrusive verification regime of any arms control treaty, extending its coverage to not only governmental but also civilian facilities. The verification package includes instrument-monitoring, both routine and random onsite inspections, and challenge inspections for sites suspected of CW storage or production. The Convention also requires export controls and reporting requirements on chemicals that can be used as warfare agents and their precursors.

Administratively, the Convention establishes the Organization for the Prohibition of Chemical Weapons (OPCW) to oversee the Convention's implementation. It is a permanent international organization charged with ensuring compliance with the Convention, and monitoring the chemical industry worldwide. The OPCW has three components: 1) the Conference of States Parties, comprising all signatories; 2) the Executive Council, composed of 41 signatories chosen in a rotation based upon geographic region and significance of commercial chemical production; and 3) the Technical Secretariat, which will conduct day-to-day administration of the Convention. Each signatory will also designate a National Authority that will be the liaison with the OPCW, and will administer the implementation of the CWC domestically. On June 25, 1999 President Clinton issued an Executive Order designating the State Department as the National Authority for the implementation of the CWC, and establishing an interagency group [http://www.cwc.gov/] comprising the Secretaries of State, Defense, Commerce, and Energy, and the Attorney-General to coordinate the implementation.

Declarations required from each state party by the CWC include:

- Location and detailed inventory of all chemical weapons storage sites.
- Location and capacities of all chemical weapons production and research facilities.
- All transfers of chemical weapons and CW production equipment since 1946.A detailed plan and schedule for the destruction of chemical weapons and CW production facilities. Location and activities of any facilities using or producing controlled chemicals.

Destruction of chemical weapons agents, munitions, and production facilities must be completed within 10 years of the Convention's entry into force (1997) or a State Party's ratification date, whichever is earlier. In extraordinary circumstances, this deadline can be extended for up to 5 years, with the approval of two-thirds of the states parties. Russia has applied for such an extension, and the United States may also need an extension, depending upon the progress of the CW stockpile demilitarization program.

The Convention establishes three lists (Schedules) of chemical warfare agents and their precursor chemicals arranged in order of their importance to CW production and range of legitimate peaceful uses. These chemical Schedules will be updated as needed by the OPCW Technical Secretariat. Above certain quantitative thresholds, these chemicals' production, use, or transfer must be projected and subsequently reported annually to the OPCW. All facilities capable of producing, or that use scheduled chemicals must be registered. In addition, all facilities that produce over 30 metric tons of a discrete chemical containing phosphorous, sulphur, or fluorine must be registered.

The OPCW inspection regimes will vary, depending on the type of facility:

- Declared CW production, storage, or destruction sites: systematic on-site inspection and continuous instrument monitoring.
- Declared non-CW chemical facilities: routine or random inspections, depending on the Schedule and amounts of chemicals produced or used.

- All other facilities: on-site challenge inspections upon request of a state party.

Signatories also agree not to export Schedule 1 chemicals to any non-signatory. As of 2000, Schedule 2 chemicals may be traded with non-States Parties.. Schedule 3 chemicals may be freely traded, with end-use certification, until 2002, at which time additional controls will be considered.

CWC Issues for Ratification and Implementation

The CWC raises a variety of issues for congressional consideration. Although the vast majority of the world's nations have signed the CWC, some nations suspected of having chemical weapons have not — Egypt, Iraq, Libya, North Korea, Syria. What effect does this lack of universality have upon the value of the Convention? The CWC's verification provisions are extensive, but they have not stilled the debate over whether they will be effective enough to deter violations. And, if violations are detected, are enforcement procedures and sanctions sufficiently stringent? Because the CWC extends its provisions to the civilian sector, the impact of inspections, reporting requirements, and export controls on commercial enterprise raises concerns unique to arms control treaties. The destruction of chemical weapon stockpiles, though congressionally-mandated independently of the CWC, presents technical, environmental, and financial challenges at home and abroad. Issues deserving attention in consideration of the CWC and its implementing legislation can be grouped in six general areas: 1) universality; 2) verification; 3) impact on U.S. industry; 4) enforcement; 5) technology transfer; 6) destruction of chemical weapons; and 7) cost.

Universality

How many nations are willing to ratify the CWC and, more importantly, which nations are not? As noted, 173 have signed, and 145 have ratified the Convention. Examining the signatory list, most are heartened to see China, Iran, and Israel — nations believed to have, or be developing, significant CW capability. However, Israel has not ratified the Convention, and both Iran and China remain under suspicion with regard to compliance. Some particularly troublesome nations, such as Iraq, Libya, North Korea, and Syria have not signed. In addition, a number of middle eastern states, notably Egypt and Jordan, have refused to sign, linking their participation to the removal of Israel's suspected *nuclear* capability.

Indicative of the difficulties that lack of universality brings is the continued concern about Iraq's intentions. In an effort to have the United Nations maintain economic sanctions on Iraq, the United States has shown Security Council members satellite photographic evidence that Iraq has rebuilt a plant formerly used to produce chemical weapons. U.S. analysts believe that Iraq could resume CW production almost immediately if monitoring ceased. U.S. officials also provided evidence that Iraq continues to try to import ballistic missile fuel and guidance system components.

It is assumed that a resurgence of Iraq's missile program will see a continuance of its previous efforts to develop CW warheads.

Critics of the CWC believe that its value is significantly reduced if all nations with the capability to develop and use chemical weapons are not parties, particularly in a region as volatile as the Middle East. The rationale is that even one nation having chemical weapons will create an incentive for its neighbors to follow suit. " They believe that it is unwise for the United States to relinquish its chemical weapons capability while other nations retain theirs. They also generally maintain that the possibility of retaliation in kind, i.e. with chemical weapons, is an important component of CW deterrence.

CWC supporters, while agreeing to the importance of persuading all CW-capable nations to join, believe that a small number of hold-outs does not pose a sufficient threat to justify not ratifying the Convention. They note that in the Persian Gulf War, the United States forswore retaliation with chemical weapons, even if Iraq used them against coalition forces. This decision was based on the assessment that the U.S. arsenal was adequate for both limited or massive retaliation without the use of chemical weapons. CWC supporters further argue that without the Convention there would be even greater incentive to acquire chemical weapons, and it would be easier to accomplish. The CWC would provide an international regime of export controls and a widely accepted international norm, to which all nations — signatories or not — could be held.

Verification

Verification is undoubtedly the thorniest issue. Devising an acceptable verification regime was the most difficult task for CWC negotiators and will be the most challenging for those implementing the Convention. The CWC provides for the most intrusive and extensive verification regime of any arms control agreement to date. The regime, for the first time in arms control, provides for routine monitoring and inspection not only of military facilities but also of certain civilian chemical facilities . In addition, challenge inspection provisions expand compliance verification to suspect facilities of any sort. The Organization for the Prohibition of Chemical Weapons will oversee the Convention's compliance verification. Two of the most salient verification concerns are its effectiveness and its impact on the rights and property of the U.S. chemical industry.

The most serious question is whether the OPCW will be able to detect all clandestine production or stockpiling of chemical weapons. Ironically, the CWC's supporters and detractors generally agree: the answer is no. Acknowledging that the verification regime will not be absolute carries differing significance for the Convention's critics and advocates. Those who question the Convention's value believe that if compliance verification cannot be guaranteed, and undetected CW possession may be possible, the Convention is not worth the cost and effort. Worse, perhaps, they are concerned that the Convention would engender a false sense of security. They point out that in certain circumstances, the selective use of relatively small amounts of chemical weapons could be significant militarily, particularly against unprotected personnel. Consequently, would-be violators need not produce or stockpile vast amounts.

Advocates argue that, though CWC may be imperfect, it provides the most intrusive and extensive verification regime in the history of disarmament and represents a notable improvement

over current CW non-proliferation regimes. For signatories, this fact could change the cost/benefit analysis of CW production or stockpiling enough to deter violations. Provision for challenge inspections creates the likelihood that violations would become public breaches of the international norm, something not possible without the CWC.

The most difficult challenge would be to detect existing chemical weapons that a nation does not declare and continues to store clandestinely. Detecting illicit transfers of controlled chemicals may also prove a challenging task. Covert production of chemical warfare agents and the subsequent manufacture of chemical munitions are higher-profile activities and consequently more vulnerable to detection. This assessment assumes that the OPCW and signatories' national intelligence resources will seek to uncover Convention violators. The extent of intelligence sharing will have a significant impact on the CWC's effectiveness. It can be anticipated that those nations with highly developed intelligence collection capabilities, the United States particularly, will be depended upon to cooperate with the OPCW.

Congress may wish to encourage the U.S. intelligence community explicitly to maintain close liaison with the OPCW. Congress could also require that the intelligence community provide periodic independent evaluations of the verification regime or that the President certify to Congress that the regime is performing effectively. This could be made part of the President's annual report to Congress on proliferation currently required under the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 (P.L. 102-182) or the State Departments annual report, *Adherence to and Compliance with Arms Control Agreements.*

Another factor that will affect the OPCW's verification capabilities will be the amount and reliability of its funding by the Convention's signatories. Without adequate funding to maintain the technological and personnel resources necessary to monitor the international chemical industry and government activities, the rigor of the verification regime will undoubtedly suffer. This issue has been of particular concern the last two years, as the United States and Russia, among others, have been consistently delinquent in their dues and required reimbursement to the OPCW for inspection costs. At U.S. insistence, the OPCW Executive Committee has denied budgetary increases to remove an inspection backlog. The approved OPCW 2002 budget increase is not expected cover inflation costs.

Concerns over verification have been heightened by press reports that U.S. officials believe that Russia has withheld information on its chemical weapons research programs. In a data exchange called for under a 1989 U.S.-Russian agreement, Russia acknowledged no binary chemical research program. (Binary chemical weapons use two non-lethal chemicals that combine to form a lethal agent after launching.) The United States worked on developing binary weapons sporadically from the 1950s, ending the effort in 1992, when the signing of the CWC became imminent. U.S. intelligence has long believed that Russia was undertaking a similar program. In 1992, a Russian scientist, Vil Mirzayanov, publicly claimed that Russia had developed a binary agent significantly more effective than current nerve agents. He also asserted that the Russian military leadership continued the program after President Gorbachev declared Russia's chemical weapons development at an end. Concern over this Russian program rekindled with the leaking of a classified DOD report to the press. Written at the U.S. Ground Intelligence Center, the report supposedly maintains that the new agent can be manufactured in significant amounts in modified

pesticide plants from chemicals not covered by the CWC. (*Washington Times*, February 4, 1997, p.1) CWC opponents believe this latest information highlights the difficulties of verification and the lack of Russian trustworthiness. CWC supporters have responded that without the CWC such a program is legal, but with the CWC and accession to it, it would be illegal and suspect facilities would be subject to inspection.

The United States, having specifically requested an accounting of the Russian binary program and received inadequate responses, is continuing discussions to resolve these discrepancies. Although the current data exchange is independent of the CWC, Russian recalcitrance on this issue could adversely affect support for the Convention. If Russia is unwilling to be forthright in what is generally judged to be an "open secret," it raises the question of how seriously it considers the prohibitions of the CWC and consequently places greater emphasis on effective verification. The Bush Administration has highlighted this point by its decision not to provide the certification of Russia's commitment to arms control upon which further Nunn-Lugar Threat Reduction aid is contingent, unless Russia provides further information on these programs,

Impact on U.S. Industry

Many U.S. enterprises may not meet the threshold requirements for reporting, others may have minimal obligations (e.g. one-page reports) because of the nature of the chemicals they handle. For the most part, the heaviest burden (annual reports on production/consumption/transfer and at least one initial inspection) will fall upon enterprises that deal with substantial amounts of chemicals that could be very useful in the production of CW warfare agents.

Implementing legislation for the CWC, addressed some issues that are novel for arms control agreements. The Convention grants the OPCW inspection rights (routine, random, and challenge) over purely civilian, privately owned facilities. These inspection rights are harmonized with U.S. constitutional protections against unreasonable search and seizure through procedures for obtaining administrative or criminal search warrants if necessary.

Loss of Proprietary Information (Trade Secrets). Potential loss of trade secrets is of great concern to private industry. And the question arises whether forced or incidental disclosure of such information during a CWC inspection would constitute a "seizure" under the Fourth Amendment. Implementing legislation addressed this issue by restricting information collection, providing non-disclosure protection, and penalties for unauthorized disclosure of Convention-related information. Chemical industries contend that it is essential to protect proprietary information (or trade secrets) to maintain a competitive advantage in the marketplace. And, the CWC, through its enforcement and verification procedures, will require a greater level of openness regarding production processes and rates, product composition, and market distribution. However, the U.S. chemical industry represented through the Chemical Manufacturer's Association and the Pharmaceutical Manufacturers Association, strongly endorsed the Convention's confidentiality measures and supported the CWC's ratification. The National Federation of Independent Business, a small businesses association, also extended its endorsement to the CWC, its spokesman noting that the NFIB did believe its members would be affected. (*Wall Street Journal*, February 14, 1997, pp. 1,16)

Export Controls. The CWC requires restrictions on the export or transfer of controlled chemicals to *non-states parties*. These restrictions vary in severity depending upon the chemicals involved. Also, as an incentive for nations to sign the CWC, the restrictions will tighten the years following the Convention coming into force. The United States already has a variety of export controls on CW-related chemicals, equipment, and technology. (See CRS Report 95-537, *Proliferation Control Regimes: Background and Status*.) The question arises as to what extent the United States will need to review and revise its current export controls in light of the CWC regime. U.S. industry is hoping for loosening of controls, particularly with regard to the transfer of chemicals and technology to U.S. subsidiaries in other countries. Others believe that the U.S. must keep tight controls in place until the CWC has demonstrated its effectiveness and the threat of CW proliferation has demonstrably abated. Nevertheless, continued pressure can be expected from developing countries and domestic industry to loosen export controls.

Enforcement/Sanctions

The question of sanctions was addressed late in the CWC negotiations. The consultative nature of the Convention's provisions and the lack of specificity regarding sanctions to be levied reflect the difficulty of those negotiations. It is generally anticipated that international sanctions would consist of trade and, perhaps, arms embargoes. CWC critics believe that its enforcement sanctions are too vague to be an effective deterrent. They question the effectiveness of economic and arms embargoes, maintaining that 1) embargoes are almost impossible to enforce internationally; 2) they historically have seldom achieved their foreign policy objectives; and 3) if they are effective at all, it is only over the long term. CWC supporters argue that the lack of specificity regarding possible sanctions heightens a potential violator's uncertainty about breaking the Convention. They believe that this uncertainty and the international approbation that would be generated by the enforcement procedure will sufficiently affect the "cost/benefit" analysis of chemical weapons production to deter a potential violator.

Chemical Weapons and Facilities Destruction

The CWC mandates the destruction of all chemical weapons stockpiles and production facilities within 10 years of the Convention's coming into force. This deadline is now 2007. With the approval of the States' Conference, this deadline can be extended up to 5 years. This extension clause was included specifically in anticipation of Russia's not being able to meet the destruction deadline, given its current political and economic instability. There is, however, the possibility that the United States could experience legal and regulatory difficulties in meeting a 10-year deadline.

The United States CW Demilitarization Program. The United States is by far the country most advanced in its CW destruction program. In the early 1980s, DOD declared approximately 90% of the U.S. chemical stockpile (28,000 agent tons) obsolete. This decision, coupled with a 1985 congressional directive to destroy these munitions, led DOD to begin planning a destruction program over a decade ago. Nevertheless, it is not entirely assured that the United States will be able to meet the 2007 CWC deadline. DOD estimates have called for completing destruction on time, but a number of factors could intervene. Indeed, in August, 1999, an independent analysis commissioned by DOD and conducted by the Arthur Anderson firm

estimated that the program has less than a 1% chance of meeting the 1997 deadline. This assessment is based on the assumption that incineration facility construction would be halted while alternative technologies are examined. Opponents to incineration do not regard the 2007 deadline as particularly significant, pointing to the CWC's provisions for extending it, if necessary.

The controversy over whether the United States will be able to complete destruction of its CW stockpile even by 2012 was rekindled by an internal Army report *Operations Schedule Task Force 2000-Final Report* obtained by the Appropriations Subcommittee on Defense. The report detailed the actual munition destruction rates at the Johnston Atoll depot, showing them to be much lower than previous official estimates, and indicated that substantially the same destruction rates should be expected at other incineration facilities. If so, the CW stockpile destruction program could extend beyond 2014. DOD initially contended that the report was a "worst case scenario", but the most recent DOD Selected Acquisition Report, released in April, shows an 80% increase in the program costs owing specifically to "revised destruction rates" and "schedule extensions."

An unpredictable factor is the length of time that will be required to obtain the necessary Federal and State permits to build and operate the destruction facilities, and this has been cited as another reason for the 80% program cost increase. Destruction facilities are to be built at each of the eight CW storage depots. These storage facilities are located in Aberdeen Proving Ground, MD; Anniston Army Depot, AL; Lexington-Bluegrass Army Depot, KY; Newport Army Ammunition Plant, IN; Pine Bluff Arsenal, AR; Pueblo Depot Activity, CO; Tooele Army Depot, UT; Umatilla Depot Activity, OR; and Johnston Atoll Depot in the South Pacific. For each site, the U.S. Army must obtain separate permits under the Resource Conservation and Recovery Act (RCRA) and the Clean Air Act Amendments of 1977. In addition, environmental impact statements are required under the National Environmental Policy Act of 1969.

Adding to the Federal requirements, the destruction program will face additional obstacles at the state level. In the last few years, public concern in the regions where destruction facilities are planned or under construction has heightened considerably. The primary fears are of toxic emissions from the destruction process and the possibility of catastrophic accident. The Chemical Weapons Working Group, an alliance of citizens' groups in communities with CW stockpiles, vigorously opposes incineration as a means of disposal.

The Army's chosen method (called "baseline") is to drain the munitions and incinerate the chemical agent and munition parts. Although the choice of this method came after extensive study of alternatives, incineration has still raised objections from some who oppose incineration. As a consequence, Congress directed the Army to reconsider alternative technologies. In the FY1997 DOD Appropriations Act (P.L. 104-208) Congress created the Assembled Chemical Weapons Assessment program (ACWA) to evaluate alternative approaches to incineration. Legislative provisions included:

- prohibiting obligation of funds for incinerator construction at the Pueblo, CO and Blue Grass, KY sites pending a report to Congress on the feasibility of alternative technologies, specifying that the ACWA program manager be independent of the Program Manager for Chemical Demilitarization

- allocating $40 million to "identify and develop at least two possible disposal alternatives"requiring a report to Congress no later than April 1999 on the initial safety and environmental assessments for the alternative technologies.

ACWA initially identified six possible alternative technologies; and, in the summer 1998 selected three for demonstration and possible pilot programs. This met the statutory requirement for at least two alternative pilots, but continuing public and congressional pressure has led DOD to undertake demonstrations for five alternatives. The ACWA program is currently preparing engineering design studies for two technologies (The contractors are General Atomics and Parsons/Honeywell), On August 24, 1999, the National Research Council submitted its own report to Congress on alternative technologies, *Review and Evaluation of Alternative Technologies for Demilitarization of Assembled Chemical Weapons*. [http://www.nap.edu/catalog/9660.html] The report does not recommend any specific technology, but rather identifies the strengths and weaknesses, and assesses their potential for full-scale development.

As a result of these efforts, it has been decided that the Newport, IN and Aberdeen, MD stockpiles, which are mustard agent in bulk containers, will be destroyed through a chemical neutralization process rather than incineration.

Cost estimates for the U.S. chemical weapons destruction program have grown steadily since its inception. In 1985, for example, DOD estimated the total program cost would be between $1.2 to $2.0 billion. The cost estimates routinely increased, with the 2001 estimate reaching $13.2 billion. Then, in April 2002, the Department of Defense Selected Acquisition Report announced a new 80% increase in the cost estimate, raising it from $13.2 billion to $23.7 billion. Factors driving the increase were identified as: 1)revised destruction rates based upon the experience at Johnston Atoll depot; 2) schedule extensions; 3) new environmental regulations; 4) worse-than-expected stockpile condition; 5) increased equipment, labor, and construction costs; and 6) higher emergency preparedness costs.

The FY2000 Defense Appropriations Act (H.R. 2561) provided $1.029 billion for chemical demilitarization, reducing the Administration's request by $141 million, including a $94 million cut in military construction funding. The Department of Defense submitted an FY2001 budget request for $1.003 billion for the CW stockpile demilitarization program, including: $607 million for operations and maintenance; $121.9 million for procurement, and $274 for research and development. The DOD FY2001 Appropriations Act (P.L. 106-259) provided $980 million, with the reductions owing to program delays and terminating some contract services in the procurement and O&M accounts. For FY2002, DOD has requested $1.153 billion for the CW demilitarization program, including $200.4 million for R&D, $164.2 million for procurement, and $789 million for operations and maintenance. The FY2002 DOD Appropriations Act reduced this by $48 million primarily from the operations and maintenance account.

Russian CW Destruction Program. Russia possesses the world's largest chemical weapons stockpile, estimated to be 40,000 to 50,000 tons. Its plans for a destruction program are embryonic, and the country's ongoing political and economic turmoil leads most observers to believe it will not be able to meet CWC deadlines on its own. Russia has established a commission to oversee the destruction program. Russian officials have made it clear that Russia desires both

technological and financial assistance to destroy its chemical weapons. Russia is also seeking foreign assistance to fund infrastructure improvements in the regions surrounding their CW depots, claiming that approval from local authorities to build destruction facilities is dependent upon such assistance. In addition to direct foreign assistance, Russia is considering establishing an investment bank to encourage commercial participation and hopes to recycle some commercially valuable compounds from the destruction process for sale.

Congress responded initially to Russia's call for assistance, appropriating $55 million in aid to be used for the initial planning and evaluation stages of the Russian program. In addition, the United States agreed to share destruction technology and participate in the exchange of technical experts. To facilitate these efforts, the United States has opened a Chemical Weapons Destruction Support Office (CWDSO) in Moscow.

The Administration sought for two years to gain funding to assist Russia in construction a CW demilitarization facility at Shchuch'ye. Both the House and Senate Armed Services Committees expressed strong reservations about Russia's ability to fund operation of the facility if constructed, and noted the relative paucity of assistance from other nations for this program. Consequently, the FY2000 DOD Authorization Act (P.L. 106-65, Sec. 1305) forbids funding designing, planning, or construction a chemical weapons facility in Russia. DOD's efforts in the FY2001 budget considerations to have this provision repealed and $35 million appropriated for a Shchuch'ye facility met continued congressional skepticism. House and Senate Armed Services Committee conferees accepted a Senate amendment in the DOD FY2001 Authorization Act (H.R. 4205) which amends the existing statutory prohibition to permit Shchuch'ye funding *only* after DOD certification that:

- Russia has agreed to provide $25 million annually for construction and operation.
- Russia has agreed to use the facility to destroy it four other nerve agent stockpiles.
- The United States has obtained multi-year commitments from the international community to assist infrastructure improvement around Shchuch'ye.
- Russia has agreed to destroy it CW production facilities at Volgograd and Novocheboksark.

These conditions were coupled with a DOD reporting requirement on Russian and international financial contributions towards the safeguarding and destruction of Russia's nerve agent stockpiles. (H.Rept 106-945, Sec. 4205)

For FY2002, both the House and Senate Armed Services Committees, satisfied that sufficient progress has been made in meeting these conditions, approved authorization of $35 million for the Shchuch'ye facility. Most recently, however, The Bush Administration has informed both Russia and the Congress that it currently cannot provide the certification of Russia's commitment to arms control compliance required to permit continued U.S. aid under the Nunn-Lugar Threat Reduction programs. Financial assistance for the Russian chemical weapons destruction program is one of these efforts. The points of concern are further information on earlier Russian development of new chemical warfare agents, and greater access to current operations at former Russian biological weapons facilities that are still under military control. It is expected that this will be a topic for

discussion at the upcoming U.S.-Russia Summit. Congress has the option to waive the presidential arms control certification requirement, if it so chooses.

CONGRESSIONAL HEARINGS, REPORTS, AND DOCUMENTS

U.S. Congress. *Chemical Weapons Convention: A Message from the President of the United States*. Treaty Document 103-21. 103 Congress, 1st Session.

U.S. Congress. *Chemical Weapons Convention*. Hearings, Senate Committee on Foreign Relations, 103rd Congress, 2nd Session, S.Hrg. 103-869.

U.S. Congress. *Iran Missile Proliferation Sanctions Act of 1997*. Report, House Committee on International Relations, 105 Congress, 2nd Session, H.Rept. 105-375

U.S. Congress. *Military Implications of the Chemical Weapons Convention*. Hearings, Senate Armed Services Committee. 103rd Congress, 2nd Session, S.Hrg. 103-835.

U.S. Congress. *U.S. Capability to Monitor Compliance with the Chemical Weapons Convention*. Report, Senate Select Committee on Intelligence. 103rd Congress, 2nd Session, S.Rept. 103-390.

U.S. Congress. *Convention on Chemical Weapons*. Hearing, Senate Foreign Relations Committee, 104th Congress, 2nd Session, S.Hrg. 104-668.

FOR ADDITIONAL READING

Selected World Wide Web Sites

Chemical and Biological Nonproliferation Program
[http://cns.miis.edu/cns/projects/cbwnp/index.htm]

Organization for the Prohibition of Chemical Weapons
[http://www.opcw.nl/ptshome.htm]

U.S. Army Chemical Demilitarization Program
[http://www-pmcd.apgea.army.mil/]