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**An Evaluation of the Chemical Weapons Convention
and the U. S. National Interest**

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An Evaluation of the Chemical Weapons Convention and the U.S. National Interest

Introduction

In January 1993, 149 nations signed the Convention on the Prohibition of Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, hereinafter referred to as the Chemical Weapons Convention, or CWC. This date marked the culmination of decades of arms control negotiations aimed at eliminating chemical weapons. The Convention is scheduled to enter into force 180 days after the sixty-fifth state party has deposited the instruments of ratification to the United Nations secretary general (Article XXI.1). Hungary became the sixty-fifth state to ratify the CWC on November 31, 1996, setting the entry-into-force (EIF) date at April 29, 1997.

On the eve of this watershed event, the United States stands at a crucial point in its history as a world leader. A champion of chemical weapon (CW) arms control for decades, the United States remains undecided on the ratification of the CWC. This paper will argue that U.S. ratification prior to the April 29 EIF date is crucial to the success of the Convention, the perpetuation of the U.S. international leadership position, and the pursuit of the national interest.

The paper will be divided into two sections. The first will discuss the historical context of chemical weapons and international efforts to prohibit their use. I will describe the properties and composition of CW agents, providing a context for discussion of verification and “dual-use” technology issues. I will also give an account of the historical use of CWs, from medieval times to the present day; this history reveals that chemical weapons have generally been regarded as immoral. The next section will trace the evolution of CW arms control, which began in the seventeenth century. This history will reveal the difficulties that have plagued previous attempts at CW disarmament and provide further context for my analysis of contemporary solutions embodied in the CWC. Lastly, I will provide an overview of the proposed Organization for the Prohibition of Chemical Weapons (OPCW), the regime empowered to implement the Convention.

The second section of the paper will address the main issues in the current U.S. debate over CWC ratification. First, I will address verification and compliance issues. The Convention is the most far-reaching arms control treaty ever constructed, with an organization aimed at deterring CW use and providing the mutual trust necessary for states to ratify the treaty. This section’s main aims are to weigh the merits of the Convention as opposed to a world without the CWC, as well as the impact that U.S. ratification will have on both the success of the Convention and the future of U.S. national interests.

One of the more contentious issues surrounding the Convention is the legal status of riot control agents (RCAs). The Articles of the CWC are vague in this area, which has led to conflicting interpretations. A definitive analysis of the Convention’s intent, based on established standards of international law, will clarify the legality of RCA use in several different military and law enforcement scenarios.

Next, I will analyze the effect of the Convention on the U.S. chemical industry. The chemical industry has supported the Convention for over twenty years and has influenced the negotiation of the treaty. I will argue that the failure of the United States to ratify the CWC will have devastating consequences for the U.S. chemical industry, sharply reducing exports in one of the few areas of U.S. trade which yields a net surplus. Further, U.S. failure to ratify the Convention will weaken the credibility of U.S. leadership, as well as the effectiveness of the CWC’s enforcement capabilities.

Lastly, the intrusiveness of the verification regime, especially as concerns the private sector, has raised several constitutional questions. The warrantless inspection regime proposed by the CWC fails to meet the standards established by the Supreme Court for legal searches, but implementing legislation accompanying the ratification of the Convention will allow the United States to comply with the treaty without trampling constitutional rights.

The United States has long stood at the forefront of an international coalition against chemical weapons. After seven decades of attempts to negotiate a global CW ban, the failure of the U.S. Senate to ratify the CWC would amount to nothing less than an abdication of international leadership, damaging both the effectiveness of the Convention and U.S. foreign policy goals. As former Secretary of State Lawrence Eagleburger contended,

The Chemical Weapons Convention is an important part of an international structure that would increase U.S. and global security in the next century. If we do not lead this effort to curb the proliferation of chemical weapons and initiate their global elimination, we increase the chances that we will encounter disasters in the twenty-first century reminiscent of those that occurred in the first fifty years of the twentieth century (ACA CWC Quotations Fact Sheet, 5).

The CWC's Historical and Functional Context

Chemical Weapons

A review of the types of chemical agents developed throughout the twentieth century, as well as verification of their use in warfare, is important for establishing a clear conception of the verification dilemma posed by the CWC. Often, the precursors of CWs are chemicals which can be found in common industrial production facilities. Additionally, the high toxicity of some CWs, such as nerve agents or biological toxins, means that even relatively small amount of agents can cause widespread injury and death. The classification of chemical weapons, which is based on their properties and composition, has a direct bearing in the success of the verification regime.

The physical and chemical properties of chemical weapons vary significantly, and the choice of specific agents for use in warfare is often based on the intended military objective. *Lethality* is the classification used to describe the intended injury, that is, to kill or not to kill. Non-lethal agents, such as tear gas and other riot control agents, are intended to incapacitate the enemy and eliminate his will to fight. However, the distinction between lethal and non-lethal is not exact, as high concentrations of non-lethal agents, combined with long exposure times, can kill a person. For example, high concentrations of CS, a standard tear gas agent, in a confined area, can overwhelm the respiratory system and cause death (Spiers, 3).

The *mode of action* describes the means by which the agent penetrates the body and affects the biological systems. Passive agents inflict injury by exposure through inhalation or percutaneous means, such as absorption into the mucous membranes, the skin, or the eyes. Some poisons act orally, inflicting damage on the digestive system or attacking the bloodstream.

The delay between one's exposure to an agent and the time it takes for the symptoms of exposure to occur is the *speed of action*. Again, the tactical nature of the agent is often based on this effect. A fast acting agent, such as nerve gas, could be utilized in a surprise attack, while slower acting agents, such as mustard gas, might be employed if the desired military objective were to soften up defensive positions over a longer period of time.

Persistency measures the time that the agent continues to pose a hazard on the battlefield. An agent with a low persistency level would be volatile, resulting in quick evaporation. The use of such an agent in a combat area would be based on the desire to occupy the area in question and to ensure the safety of one's own troops after the agent has incapacitated the enemy. An agent with a high persistency level would be employed if the military objective was area denial or the protection of supply lines (Spiers, 2).

Lastly, *toxicity* refers to the quantity of agent needed to achieve a goal, be it incapacitation, injury, or death. It is in this area that CW development has seen the most improvement. Phosgene, a standard World War I choking agent, requires 3,200 milligrams per cubic meter of air to kill 50 percent of those exposed. The nerve agent sarin, developed in 1938, requires only 70 milligrams to inflict an equal death rate (Spiers, 54). It should be noted that lethality figures are not military field-use models, which have demonstrated a lower lethality rate for equal concentrations of the above agents. In a battlefield situation, the concentration of agent reaching a soldier would be lower than the toxicity figures listed above. This is attributable to environmental conditions, such as wind, temperature, and topography. Warfighting estimates indicate that one ton of persistent agent, such as mustard gas, would be sufficient to cover approximately one square mile of territory and inflict a 50 percent casualty rate.

Chemical weapon agents fall under several classifications based on the type of injury they inflict and the mode of action. Of the first generation of agents developed and used in World War I, the primary CWs employed were choking agents, blood agents, and blister or vesicant, agents. The classic World War I CW was the *choking agent*, which includes chlorine and phosgene (Proliferation of Weapons of Mass Destruction, 47). The mode of action for these agents is inhalation. The cause of death is pulmonary edema, in which fluid from the bloodstream builds up in the lungs, resulting in the fatal accumulation of plasma, causing the victim to drown (Spiers, 4). These agents, due to their gaseous nature, are nonpersistent (CBW Threat, 2). By modern standards, their toxicity is relatively low, and their battlefield utility is limited by the fact that the released agent has a distinctive smell, which provides an early warning (Spiers 4). Phosgene and its precursors have numerous industrial uses (Proliferation of Weapons of Mass Destruction, 37).

Blood agents are absorbed into the body by inhalation and cause death by blocking the circulation of oxygen within the bloodstream (Spiers, 5). Common blood agents include hydrogen cyanide and cyanogen chloride. These agents are highly toxic and non-persistent, with a rapid speed of action (OPCW Webpage). It has been alleged that hydrogen cyanide was used extensively by the Iraqis against both the Iranians and the Kurds in the 1980's (OPCW Webpage). Concentrations as low as 120–150 milligrams per cubic meter of air can kill in thirty to sixty minutes, while lethality at concentrations of 300 milligrams per cubic meter of air or above is instantaneous (OPCW Webpage). Hydrogen cyanide and its chemical precursors have multiple industrial applications (Proliferation of Weapons of Mass Destruction, 37).

The last category of first generation agents are *blister agents* or *vesicants*. Due to their high persistency, these agents, notably sulfur mustard, nitrogen mustard, and lewisite, were frequently employed for the purposes of area denial. Vesicants have multiple modes of action, both respiratory and percutaneous. Lethality through inhalation occurs at extremely high concentrations, 1500 milligrams per cubic meter of air, and 10,000 milligrams per cubic meter of air by skin exposure, concentrations which would be difficult to attain on a battlefield (OPCW Webpage). Their primary purpose is to inflict injury. Exposure to the skin and the eyes can cause severe burns and blisters, while inhalation can result in damage to the respiratory system and internal organs (CBW Threat, 3). Mustard agents were the most widely stockpiled CW agent in World War II (Spiers, 5). Lewisite has a higher lethality rate than mustard gases, but the agent has a distinct odor and causes immediate eye discomfort, serving to warn the potential victim of its use. Additionally, lewisite's persistency in humid and wet conditions is significantly less than mustard agents (CBW Threat, 3).

Mustard agents are relatively simple to produce and are often the first agent sought by states seeking to acquire a CW capability (OPCW Webpage 2). Production methods are widely known, and the required precursors have multiple dual-use applications. For example, nitrogen mustard precursors are used in cancer chemotherapy (Proliferation of Weapons of Mass Destruction, 37). Additionally, as the Office of Technology Assessment (OTA) reports, "thiodiglycol, a sulfur-containing solvent used in ballpoint pen ink and other legitimate products, is easily converted to mustard agent in a one-step process" (The Chemical Weapons Convention, 7).

The second and third generation of CWs were *nerve agents*, that is, organophosphorus compounds. Second generation nerve agents, the G-series, were discovered in the inter-war period. The first such discovery was made by a German scientist, Doctor Gerhard Schrader, who discovered tabun (GA) in 1936 while conducting research on insecticides (Spiers, 5, 54). This class of nerve agents also includes sarin (GB) and soman (GD). The G-series of agents works nearly instantaneously, is non-persistent, and has a high rate of lethality (CBW Threat, 3). The agent is absorbed by the skin or by inhalation. Nerve agents inhibit the action of acetylcholinesterase, an enzyme responsible for transmitting nerve impulses (Spiers, 6). The result is the disruption and paralysis of the nervous and respiratory system, causing death (CBW Threat, 3; Proliferation of Weapons of Mass Destruction, 47).

The third generation of agents were the V-series nerve agents, first developed at the British Chemical Defense Establishment at Porton Down in the 1950's (Spiers, 71). V-series agents are related to the G-series agents but have a higher toxicity and persistency (CBW Threat, 3). As with the mustard agents, nerve agents have numerous dual-use applications. For example, phosphorus trichloride, used to produce VG, sarin, and tabun, has civilian uses in organic synthesis, gasoline additives, and insecticides (CBW Threat, 10).

The definition of toxic chemicals, a subset of CW criteria, covers:

any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harms to humans or animals. This includes all such chemicals, regardless of their origin or their method of production. (Article II.2).

These criteria include *toxins*, defined as non-living toxic substances which are produced by biological organisms or are synthesized to yield similar versions (Proliferation of Weapons of Mass Destruction, 3). The growth of the genetic engineering industry, combined with strides in biotechnology, have made toxins a viable potential agent (Harr, 28). Their mode of action is inhalation and due to their chemical makeup, they have a low persistency level (OPCW Webpage). Ricin, a toxin the Soviet Union is known to have synthesized in its biological weapons development program, is lethal at very low concentrations (Proliferation of Weapons of Mass Destruction, 47). The low-persistency and delayed speed of action of toxins suggests that they have a higher utility for terrorist use.

The last type of CW agents are *non-lethal agents*. Their characteristics include non-persistence, immediate speed of action, and reliance on inhalation as the mode of action (CBW Threat, 4). One such category is tear gas. Tear gas agents include chloroacetophenone (CN) and chlorobenzalmalonitrile (CS) (Spiers, 3). These agents are designed to cause the temporary incapacitation of victims, with effects ranging from irritating sensations to the eyes, sneezing and coughing, itching of the skin, and stinging of the orifices (Spiers, 3).

Another subset of non-lethal agents are incapacitating agents. Vomiting agents, non-lethal but capable of causing great discomfort, are standard riot control agents (RCAs). Adamsite (DM), developed in 1918, has a slower speed of action than the tear gas agents, but its effects are more intense, causing severe headaches and vomiting (Spiers, 2). Psychochemicals, such as LSD and benactylamide (BZ) formerly a standard U.S. agent, affect the nervous system, causing hallucination and loss of concentration. These agents were removed from CW arsenals due to their unpredictable effects (CBW Threat, 4).

The agents described above and their precursors all fall under the CWC Schedule 1 and 2 guidelines for chemicals. By definition, their status as a developed chemical weapon or as a precursor in the final technological stage of production of a toxic chemical is regarded as posing a risk to the purpose and object of the Convention (Annex of Chemicals A,1 (a)–(c); 2, (a)–(c)).

Historical Use of CW Agents

The Medieval Era. The modern use of CWs in warfare began with World War I, but historical records indicate their presence even in the medieval era. This usage focused on irritants or poisonous smoke, employing wind as a means of dispersal. In 600 BC, the Athenians defeated their enemies by poisoning their drinking water (Utgoff, 1). The Spartans were said to have used sulfur fumes in their sieges against Plataea and Velium in 431–401 BC (Spiers, 13). Even biological agents have an early history of use. During the French and Indian War, Sir Jeffery Amherst gave Indians, aligned with the French, blankets used by British troops that were infected with smallpox, resulting in a devastating epidemic (Utgoff, 1). These examples of use prior to World War I suggest several conclusions. In many cases, CW agents had a significant effect in warfare. Second, a major impediment to the use of large amounts of CW agents in warfare was the absence of a sizable chemical industry capable of producing standardized agents at a militarily significant level. Lastly, chemical weapons have been historically regarded as immoral. The nature of the injuries which they cause and their denial of one's ability to escape death through retreat or surrender contributed to this label (Utgoff, 3).

World War I. World War I marked the first use of chemical weapons in modern warfare. One hundred and thirteen thousand tons of chemical agents were used in combat (Kaplow, 8). The tonnage of agents used increased markedly in the later years of the war as more lethal and persistent agents were introduced. The first recorded chemical attack of World War I was initiated by Germany. In April 1915, the Germans launched a chlorine gas attack—designed to weaken defenses and prepare for an assault—against French troops at Langmarck. Allied forces were largely unprotected, and the attack caused over 15,000 casualties. Interestingly, the German High Command underestimated the tactical value of CWs and failed to allocate an adequate number of troops sufficient to exploit the eight kilometer hole produced in Allied lines (Utgoff, 5). Germany's initiation

of chemical warfare led to a rapid escalation of use and to the development of new, more lethal agents. Paralleling the development and production of agents with greater lethality was the development of protective equipment and rudimentary early warning systems (Utgoff, 5). This symmetry between the development of more lethal agents and improved CW protection systems continues to the present day.

As the war progressed, both sides introduced new training procedures for combat in a chemical environment (Utgoff, 9). Over the next three years, seventeen different agents were employed by all belligerents, including phosgene, hydrogen cyanide, and sulfur mustard. The first lethal gas utilized, again by Germany, was diphosgene, dispersed in artillery shells. In July 1917, the Germans first used mustard gas. The inability of existing protective equipment to work properly against new agents, such as mustard gas and phosgene, resulted in casualties on a mass scale. CWs use in World War I resulted in nearly 1.3 million military and civilian casualties and almost 100,000 deaths (CBW Threat, 1).

CW Use in the Third World. The use of chemical weapons since World War I has been restricted to Third World conflicts. The massive stockpiles accumulated by the major powers served as a deterrent in World War II. The legacy of CWs in World War I influenced their non-use in this conflict. Hitler, who himself was a victim of a gas attack at Ypres in October 1918, is said to have ordered non-use, for fear of Allied retaliation against German troops (Spiers, 78). Late in the war, when the tide had turned against Germany, records indicate that Hitler reevaluated this position, particularly in regard to the Russian front, but a lack of support among the German high command dissuaded him from initiating CW attacks (Utgoff, 56). Similarly, while Japan used CWs extensively against China, the fear of retaliation and the capabilities of the large U.S. chemical industry, deterred CW use against allied troops (Utgoff, 48).

The use of CWs in Third World conflicts has proved difficult to verify. Often, claims of chemical agent use are propaganda tools, which are spread to the media as deliberate disinformation (Robinson, 41). Allegations of CW use attempt to influence public opinion by shifting the moral high ground from one side to another. Frequently, such disinformation is intended to influence international opinion against an aggressor, such as unverified claims of CW use by China against Taiwan in 1958 or North Korean allegations of U.S. CW use in the Korean conflict (Robinson, 42).

However, several instances of CW use in the post-World War I era have been verified. In the 1930's, Mussolini's Italy used mustard gas against Ethiopia in the Abyssian conflict (Spiers, 53). In addition, Japanese use of chemical and biological agents against Chinese civilian populations from 1937 to 1945 has been authenticated. Chinese reports, generally regarded as accurate, indicate that over 1,000 independent gas attacks, with agents such as CN, hydrogen cyanide, phosgene, mustard gas, and lewisite, caused more than 26,000 casualties (Spiers, 99). In fact, the large stocks of abandoned Japanese CWs on Chinese soil were the major impetus for the official Convention position on old and abandoned CWs (Verification Annex IV). The clause obligates the abandoning state party to provide financial and technical assistance to remove the agents (Verification Annex, IV, C, 15).

Egyptian intervention in the Yemenese Civil War saw the use of both phosgene and mustard gas between 1963 and 1967 (Robinson, 45). While reports allege over forty independent incidents of CW use, only three were verified by independent international inspectors (Kaplow, 10). The most recent, internationally verified instances of poison gas warfare have been Iraqi use against Iran and the Iraqi Kurds. In 1982, in an attempt to stop Iranian counter-offenses, Iraq utilized tear gas (Utgoff, 81). Bolstered by its success, Iraq relied increasingly on both mustard gas and, in smaller quantities, the nerve agent Tabun to counter Iranian "human wave" attacks (Utgoff, 81). U.S. estimates indicate that Iraqi CW use caused over 50,000 casualties (Proliferation of Weapons of Mass Destruction, 10). The conflict escalated as Iran countered Iraqi CW use with its own agents, phosgene and mustard gas, in 1987 (Proliferation of Weapons of Mass Destruction, 83). Both Iranian and Iraqi use was verified by U.N. inspectors and declassified U.S. intelligence reports (Proliferation of Weapons of Mass Destruction, 83). The psychological impact of CWs in the Iran-Iraq War, an evaluation which is representative of the impact of CW use in any conflict, was examined in a recent United States Office of Technology Assessment report.

[CWs] had a critical effect on Iranian military and civilian morale by late 1987, and during the Iraqi counter-offensives and "war of the cities" in 1988. Sheer killing power is not the level of measure of success: It is

rather the strategic, tactical, and psycho-political impact of the use of such weapons. Even when troops are equipped with defensive gear, they often feel they are defenseless and break and run after limited losses. Populations which fear chemical attacks may well cease to support a conflict (Proliferation of Weapons of Mass Destruction, 58–59).

Iraq also used mustard gas against Kurds on its own territory in the late 1980s. Due to the Kurds lack of protective equipment, the casualty rate was high (Proliferation of Weapons of Mass Destruction, 10). Iraqi CW use against the Kurds highlights the shortcomings of the Geneva Protocol of 1925, to be discussed in the next section. The prevailing interpretation of that text outlaws the use of poison gas in conflicts between states parties (Arms Control and Disarmament Agreements, 15). However, CW use in internal conflicts, such as a civil war or against subnational groups, is not a violation of international law under the Geneva Protocol.

Arms Control History

The completion of negotiations for the CWC in September 1992 marked the culmination of over twenty-five years of work, but the history of chemical arms control is much longer. A review of this history provides the context for today's CWC debate, as many of the issues which served to derail past attempts to counter CW proliferation and use are still of major concern.

Prior to the negotiation of the Geneva Protocol of 1925, several attempts were made to exclude CWs from warfare. German and French Armies signed the Strassburg treaty in 1675. Article 57 of this agreement calls for a ban on the military use of poison bullets (Utgoff, 3). The Brussels Declaration of 1874, the Hague Gas Projectile Declaration of 1899, and the Hague Resolution of 1907 sought to codify an international stigma against the use of CWs. The Hague International Peace Conferences marked the first attempts to directly address CWs (Koplow, 16). The large-scale use of CWs during World War I illustrated the inadequacies of these previous attempts to prohibit the use of poison gases in warfare; but the impact of CWs on the conflict and the number of casualties produced provided the impetus for negotiating the 1925 Geneva Protocol. The Protocol bans the use of poisonous and asphyxiating gases as a method of warfare (Arms Control and Disarmament Agreements, 15).

The negotiation of the Geneva Protocol began in the League of Nations. Seeking to avoid the horrors of World War I, League members convened in a 1925 Conference “for the supervision of the international trade in arms and ammunition and in implements of war” (Robinson, 39). The focus of the Convention turned to chemical warfare when the U.S. delegation proposed a ban on the trade and transfer of toxic chemicals. The conference rejected the proposal on the basis that a general ban on toxic materials would establish a discriminatory regime favoring those states with self-sufficient domestic chemical industries, creating have and have-not CW states. Instead, the conference simply banned the *practice* of chemical warfare between states. Biological weapons and toxins were added at the request of the Polish delegation (Zanders, 39).

While the Geneva Convention was a first step towards today's CWC, its shortfalls are numerous. As interpreted by a majority of its over 150 signatories, the Geneva Protocol is a no first-use treaty. The production, stockpiling, testing, and transfer of chemical weapons is not prohibited. Most states have advocated a policy of retaliation in kind in regard to chemical attack. Furthermore, as noted earlier, CW use in internal conflicts is not prohibited.

Political disagreements, much like the ones which have delayed the CWC ratification process today, prevented the United States from ratifying the Geneva Protocol until 1975 (Kaplow, 17). Vigorous lobbying by the chemical industry and veterans groups prevented a vote on the Protocol in the Senate. In the aftermath of World War I, the U.S. chemical industry sought to publicize the deadly effects of chemical warfare, with the intention of raising public support for a strong chemical industry, capable of deterring CW attack by threat of responding in kind (Utgoff, xx). The industry, which at the time had a strong financial interest in CW production, lobbied successfully against ratification of the Protocol, arguing that a significant CW capability was essential to U.S. security (The Chemical Weapons Convention, 10).

The scope of the Geneva Protocol on CW use also divided U.S. policy makers. The status of non-lethal weapons and riot control agents, which the United States held were excluded from the Geneva Protocol, was a divisive issue (Kaplow, 18). President Nixon resubmitted the Protocol in 1969. At this time, Nixon reiterated

the U.S. policy of no-first use, while reserving the right to retaliate in kind, and renounced offensive biological weapons in the U.S. order of battle (Utgoff, 12). The Senate finally ratified the Geneva Protocol in 1975 (Kaplow, 19).

In the meantime, the 1960's saw the return of chemical arms control negotiations. The subject of chemical and biological warfare (CBW) was raised during U.S.–Soviet nuclear arms control negotiations. Ultimately, in 1968, the Cold War rivals accepted a Swedish proposal that the issue of chemical weapons be submitted to the Eighteen Nation Committee on Disarmament (ENCD) the Geneva multilateral negotiations convention (Robinson, 48). One impetus for the resumption of CBW arms control negotiations was the verified use of phosgene and mustard gas by Egyptian forces against Yemen in 1967. The United States use of pesticides and herbicides in Vietnam brought further attention to the use of chemical agents in warfare (Robinson, 48).

Actual negotiation of the CWC began in 1984, after the Iraqi introduction of lethal CW agents into its ongoing conflict with Iran (Robinson, 50). U.S. negotiators insisted on a stringent verification regime, calling for “anytime, anywhere” on-site inspections. Moscow opposed these intrusive verification standards until 1987, when Soviet leader Mikhail Gorbachev sought a rapprochement with the West. At this time, Gorbachev also announced the cessation of Soviet CW production, research, and development (Robinson, 50). Bilateral negotiations between the United States and the Soviet Union continued, leading to the signing of the 1989 Wyoming Memorandum of Understanding (MOU) (Utgoff, 125). This agreement included the stringent verification standards advocated by the United States in 1984. Destruction was slated to begin in 1992, and a mutual retention of 5,000 tons of CWs was permitted until the end of the destruction plan, in 2002 (Robinson, 50). The status of the Wyoming MOU and another agreement, the Bilateral Destruction Agreement (BDA), will be reviewed later in this paper.

The superpowers agreement on verification measures removed a major roadblock to the conclusion of the CWC (Utgoff, 126). In the aftermath of the Gulf War, President Bush withdrew the United States right to retain 5,000 tons of agent, sufficiently reassured that overwhelming conventional responses, as opposed to retaliation in kind, would serve as an adequate deterrent. As negotiations continued, the United States retreated from its earlier demands for stringent verification measures in an attempt to prevent the loss of sensitive military technology during on-site inspections. Instead of the previous “anytime, anywhere” regime, the U.S. negotiators called for a “level of verification that gives us confidence to go forward with the ban” (Flowerree, 5). The ambiguity inherent in this phrase was the basis for resistance from the majority of states present at the negotiations in Geneva. In 1992, the United States compromised, reaffirming its support for the verification standards it had originally introduced (Robinson, 52). In January 1993, the Convention was signed by 149 nations in Paris. The Convention was deposited with the U.N. secretary general, initiating a ratification process which would trigger the entry into force clause when 65 states has ratified the CWC.

The OPCW

Article VIII of the CWC establishes the general provisions of the implementing organization. The Organization for the Prohibition of Chemical Weapons (OPCW) is the legally recognized international institution given the powers to carry out the provisions of the Convention, including the verification regime, and to serve as the venue for cooperation and mediation among states parties (Article VIII A.1). The Convention authorizes the formation of three institutional organs: the Conference of the States Parties, the Executive Council, and the Technical Secretariat (Article VIII.A.4). The Headquarters of the OPCW is to be in the Hague (Article VIII.A.3).

The Conference of the States Parties, or the “conference,” will consist of one representative from each member state, each of whom will have one vote (Article VIII.B.9; VIII.B.17). The conference is scheduled to convene for its first session no later than thirty days after the Convention enters into force (Article VIII.B.10). Regular sessions are to be held on an annual basis, but guidelines for special sessions of the conference are also enumerated (VIII.B.11). A state party is permitted to call a special session of the conference if, for example, it feels that another state party is in non-compliance with the Convention, or to seek consultation on a decision made by the OPCW (Article VIII.B.12). Voting procedures are clearly outlined. The presence of a majority of conference representatives, or their designated alternates, constitutes a quorum (Article VIII.B.16). Procedural issues are to be determined by majority vote. For matters of substance, though, a consensus must be sought. If

a consensus appears unattainable, a 24-hour deferment period will be instituted, in order to attempt to achieve one. At the conclusion of the 24-hour period, a two-thirds majority of voting members will determine the conference decision (Article VIII.B.18).

An example of a substantive issue to be addressed within the conference is the existence of disputes between members, such as the terms of assistance between a nation which abandoned CWs on another state's territory, and the state in which the CWs were abandoned. The conference will serve as the principal organ for the OPCW, with the right to determine the parameters of the Convention's authority, as well as the powers and functions of the executive council and the technical secretariat (Article VIII.B.19). At the first session of the conference, a director-general of the technical secretariat will be appointed, members of the executive council will be elected, and the voluntary fund for assistance, outlined in Article X, will be established (Article VIII.B.c–d).

The executive organ of the Convention, the executive council, is charged with ensuring the implementation of, and compliance with, the Convention (Article VIII.C.30). The council, after receiving the budget from the technical secretariat, will evaluate it and submit it to the conference for approval (Article VIII.C.32.a). The executive council has the right to negotiate agreements and treaties with other states or international organizations (Article VIII.C.34.a). Issues of compliance raised by state parties, and redress against the non-compliance of states parties, will be addressed in the council (Article VIII.C.36).

The composition of the executive council varies significantly from that of the Conference of States Parties. The council will consist of forty-one members serving two-year terms (Article VIII.C.23). A principle of rotation, based on regional distribution and the size of the members chemical industries, will serve as the basis for determining the composition of the council (Article VIII.C.23). The forty-one membership slots of the executive council are structured to ensure the representation of all regions. Within each regional zone, a preset number of seats are automatically reserved for the states parties with the largest chemical industries (Article 23.C). The determination of the size of members chemical industries will be reevaluated every year, based on internationally reported data declarations. Table 1 details the distribution of seats within regions, and the number of positions reserved for states parties with sizable chemical industries (Article VIII.23.C.(a)–(e)).

The remaining position is reserved for states parties within the Asia and Latin America–Caribbean regions, with the seat rotating among the regions and the members within them (Article VIII.C.23.f).

The technical secretariat is the body charged with implementing of the verification regime (Article VIII.D.37). As noted, the verification budget for the OPCW will be prepared by the technical secretariat and submitted to the executive council for review (Article VIII.D.38.(b)). The international inspectorate is designated as a unit under the authority of the secretariat (Article VIII.D.42). Responsibilities include implementing on-site inspections, serving as the point of contact for states parties alleging others non-compliance and providing support to the National Authority of States Parties (Article VIII.D.38.(e); D.40).

The financial obligations of the Convention are modeled on the scale of assessments of the United Nations, adjusted for differences in the composition of membership (Article VIII.A.7). The OPCW budget is divided into two sections, administrative costs and verification expenses (Article VIII.E.48). The United States obligation would be 24.96 percent of total OPCW operating costs (Senate Foreign Relations Committee Report, 9). The other major contributors to the OPCW budget, and their percentage of financial obligations, include: Japan (13.92 percent), Germany (8.93 percent), France (6.31 percent), Russia (5.67 percent), and the United Kingdom (5.26 percent) (Senate Foreign Relations, 9). One key distinction between the funding mechanism of the United Nations and the OPCW is that an OPCW clause withholds voting rights for members which fail to meet their financial obligations. Aimed at preventing the accumulation of unmet financial commitments, a state party will

TABLE 1 Executive Council Seat Allocation

<i>Region</i>	<i>Number of Seats</i>	<i>Number of Seats Reserved</i>
Africa	9	3
Asia	9	4
Eastern Europe	5	1
L. America–Caribbean	7	3
W. Europe–Other States	10	5

have its voting privileges withheld if the accumulated debt exceeds two fiscal years worth of OPCW obligations (Article VIII.A.8).

The costs of destroying CW stockpiles and the verification of CW storage and destruction are to be assumed by the individual member (Article IV.16). At the request of U.S. negotiators, the verification costs of monitoring the implementation of bilateral agreements consistent with the purpose of the Convention, such as the United States–Russian Bilateral Destruction Agreement, are to be assumed by member states not party to the bilateral agreement (Senate Foreign Relations, 9). To avoid redundancy and limit excessive costs, OPCW inspections of activities implemented under bilateral agreements will be limited to complementary measures (Article IV.13.(a)). However, the OPCW reserves the right to monitor the implementation of the bilateral agreement (Article IV.14).

Verification

The verification regime envisioned by the CWC is more far reaching and intrusive than any arms control agreement in history. Due to the ease with which CWs can be produced and the potential for concealment of relatively small facilities, stringent verification standards, including on-site inspections (OSIs), were deemed necessary in order to ensure compliance and deter potential violations. No treaty can be expected to provide 100 percent compliance with its objectives; rather, the Convention will attempt to increase the likelihood that non-compliance will be detected, and increase the political and economic costs of cheating.

Within thirty days of the EIF date, states parties will be obligated to provide detailed information regarding their CWs programs, including CWs in their possession, CWs transferred to or received from other states, and chemical weapons production facilities (CWPFs). Members will provide information on CWs in their possession, as well as their storage location, quantity, type, Chemical Abstracts Service (CAS) registry number, and a draw-down schedule for their destruction (Article III.1.(a).(i–iii, v)). The exact location of CWs storage facilities, accompanied by a detailed site diagram, must also be provided (Verification Annex: IV.A.1.(b)). An inventory of equipment and chemical precursors related to the process of mating chemical agents with munitions and delivery systems will also be declared (Verification Annex: IV.1.(c).(iii–iv)). Declarations on CWPFs are to include their location, a history of ownership, a detailed site diagram, type of CWs or munitions processed, the plants production capacity, and yearly records of the quantity of CWs produced (Verification Annex: A.1). CWPF equipment as well as any equipment transferred or received must be declared (Verification Annex: A.1.3).

On-site inspections and their ability to verify the accuracy of data declarations will depend largely on verification technology. Equipment such as combined gas chromatograph-mass spectrometers (GC-MS) can detect trace amounts of CW agent byproducts. Sampling can occur in the production line itself, or from the waste stream, such as smoke stack discharge or other emissions (The Chemical Weapons Convention, 62). The GC-MS functions as follows:

First, the gas chromatograph vaporizes the sample and passes it through a packed column or a hollow glass capillary tube with a fine polymer material. Various substances in the sample take different amounts of time to emerge from the tube, depending on their molecular weight and their attraction to the polymer lining. As they emerge from the chromatography, constituents of the sample are then introduced into a mass spectrometer, which breaks them up into a compound-specific set of molecular fragments and then measures their masses very precisely (Select Committee on Intelligence, 32).

Additionally, unattended monitoring surveillance systems, designed to achieve continuous monitoring of facilities, will compliment the sampling activities. An internal computer records continuously and the equipment is designed to be tamper-proof (The Chemical Weapons Convention, 63).

The CWC and the U.S. National Interest

Compliance and Enforcement

Proponents of the Convention readily acknowledge that the treaty will not guarantee absolute compliance. However, non-states parties will have several incentives to join the regime and to comply with the mandates of

the treaty once they are members. In the interim, the Convention will make the acquisition of CWs and their precursors increasingly more difficult. A recent OTA report indicates that there are approximately twenty states with CWs or the capability to produce such agents; including Iraq, Iran, Syria, North Korea, Libya, India, Pakistan, Israel, China, South Korea, Ethiopia, Chile, Afghanistan, Thailand, South Africa, Laos, Myanmar (formerly Burma), and Brazil (Senate Foreign Relations, 163). Two-thirds of these states have signed the Convention, but Chile, Ethiopia, Lao Peoples Democratic Republic, and South Africa are the only states yet to ratify (OPCW Webpage). Critics argue that the CWC will be unable to influence the behavior of non-ratifiers nor capable of influencing the political calculus determining ratification decisions. The Convention will be able to influence the behavior of these states at several levels, furthering the goals of U.S. non-proliferation policy.

A major goal of the CWC is for the Convention to serve as a confidence-building measure and to create an international environment in which members are sufficiently reassured that other states, particularly regional rivals, are not engaging in CWs production. The aims of universality and effectiveness depend on the incentives for ratification and the potential costs that rogue states will face through non-compliance. A Convention backed by the majority of states and the global powers, a condition yet to be achieved given the current U.S. absence, will serve to establish an internationally accepted standard against CWs. This norm against production, possession, development, transfer, and use will have two effects. In states with politically accountable governments, being labeled an untrustworthy nation may make continued non-compliance politically damaging. As Oran Young, a Professor from Dartmouth College, stated:

A reputation for trustworthiness is one of the most valuable assets that any member of international society can acquire. . . . The costs of becoming stigmatized by others as a rule breaker may be quite severe, as many Third World states have discovered. (75).

The CWC will create the international standard by which states will be judged. While many non-compliant or CW capable states are currently not politically accountable to their domestic populations, an international standard against such action is essential if rogue activity is to be universally condemned. The establishment of an international norm against CWs, with the hope that the rogue label will serve to influence states, is consistent with U.S. foreign policy objectives aimed at furthering the number of democratic states. As nations move toward democracy, political accountability will evolve; the existence of an international standard used to judge non-compliance is essential if domestic voices and international condemnation are to influence policy makers. Similar to the history of accession to the Nuclear Non-Proliferation Treaty, over time, a cost-benefit analysis performed by rogue states may well reveal the political costs associated with non-compliance (Senate Foreign Relations, 179).

Both the Convention's financial incentives for states parties and sanctions for non-compliant states will also further the goal of universality. The Convention mandates that:

the State Parties shall:

Undertake to facilitate, and have the right to participate in, the fullest possible exchange of chemicals, equipment and scientific and technical information relating to the development and application of chemistry for purposes not prohibited under this Convention.

Not maintain amongst themselves any restrictions, including those in any international agreements, incompatible with obligations undertaken in this Convention, which would restrict or impede trade and the development and promotion of scientific and technological knowledge in the field of chemistry for industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes (Article XI.2.(b)-(c)).

This prohibition against trade restrictions among members is aimed at international supply-side control organizations, such as the Australia Group (the organization of industrialized states with large chemical industries), whose purpose is to restrict the trade of dual-use technologies and precursors to states seeking CWs capabilities. Australia Group export prohibitions will not apply to states parties to the Convention. This trade incentive is intended to persuade states seeking the development of a domestic chemical industry that ratification of the Convention will further their legitimate economic agenda.

Conversely, restrictions on trading chemicals on the Schedule of Chemicals (Annex 1) are designed to prevent non-states parties from acquisition of precursors, and to create an additional incentive to ratification. The export of Schedule 1 chemical precursors, as of the EIF date, is restricted to states parties (The Chemical Weapons Convention, 13). Regarding Schedule 2 chemicals, an end-use certificate, outlining the chain of custody of the chemicals, is required for non-states parties. Three years after the EIF date, the trade with non-members in Schedule 2 chemicals is banned (The Chemical Weapons Convention, 13). End-use certificates are required for Schedule 3 chemicals, with the possibility of more stringent restrictions five years after the EIF date (The Chemical Weapons Convention, 13). Former Secretary of State Warren Christopher explained before the Senate Foreign Relations Committee the effect that trade restrictions will have on rogue states seeking CWs capabilities:

The CWC will have a deterrent effect on CW proliferation and put new pressures on countries that remain outside the treaty. A country like Libya that requires foreign assistance to begin or further develop a CW program would find it more difficult since states parties will be prohibited from assisting anyone in activities banned by the CWC and will also be required to ban trade with non-states parties in certain chemicals that could be used to make chemical weapons (181).

Opponents have frequently used this line of reasoning to attempt to exhibit the Convention's flaws, by arguing that a state with indigenous CW production capability would not be adversely effected by a restriction in the trade of chemicals. However, this logic is flawed. First, while some non-states parties may have developed indigenous production capabilities, it is unlikely that they are self-sufficient in the various types of precursors needed to produce CWs. With the exception of the United States, the majority of the industrialized world—the source of a high percentage of the production of chemical precursors—have ratified the CWC.

Furthermore, both critics and supporters of the treaty agree that the Convention will not ensure 100 percent compliance. No treaty involving sovereign nations can claim universal adherence, nor are treaties intended to do so. Rather, the Convention establishes an internationally recognized prohibition of a class of weaponry, with the aim of influencing through political and economic means, states currently in non-compliance. At the very least, the trade restriction called for in the Convention will make the acquisition of CWs and their precursors on the international market more difficult and increase the likelihood of detection. Regardless of U.S. ratification, rogue states will exist; however the ability of the treaty to influence behavior would be greatly enhanced with U.S. participation.

Sanctions

The procedures for addressing non-compliance and the potential array of sanctions against cheating are not explained in detail in the Convention. Minor non-compliance violations are to be dealt with internally. Measures to redress a minor violation would include the suspension of voting rights and all privileges normally reserved for a state party. A member in non-compliance will also be subject to economic sanctions, such as the ones imposed on non-ratifiers, until non-compliance is addressed (Article XII.2). For more serious cheating, the Convention lists two possible means of redress. First, the Conference of States Parties can recommend collective measures against violators (Article XII.3); or, if the violation is viewed as more severe, the problem can be referred to the U.N. Security Council (Article XII. 4). It is important to note that the Convention places no restrictions on unilateral action, with the obvious exception of CW use, against a state party; this might include sanctions, the severing of diplomatic relations and foreign aid or military intervention. The lack of specificity in this area undoubtedly means that it will be addressed early on in the life of the OPCW, which is another compelling reason for U.S. ratification prior to EIF.

Russia and Compliance

Reliable estimates of the CW stockpile amassed by the Soviet Union indicate that Russia inherited 40,000 tons of CW agents, making Russia the largest CW possessor in the world. The question of Russian compliance, as the CWC awaits ratification in the Duma, is of concern to both supporters and critics. The inspection of Russian CW installations and CW destruction facilities will be implemented by a U.S. inspection team, in accordance with the Wyoming MOU, and the BDA. The Wyoming MOU, examined earlier, has progressed

toward fruition with the signing of Phase II of the MOU in 1994; this commits the United States and Russia to exchange data declarations and allow on-site inspections of several declared facilities (Senate Foreign Relations, 203). Data declarations have been exchanged, and U.S. teams have inspected three Russian CWFs. The bilateral inspections have increased the pool of knowledge on U.S.–Russian stockpiles—further decreasing levels of mistrust—and have provided valuable inspection lessons that will assist future on-site inspections of Russian sites.

The June 1990 BDA is still awaiting ratification in the Duma (Senate Foreign Relations, 205). The BDA was pursued in the late 1980's when it was thought that the CWC EIF date would be decades away. The BDA institutes a CW destruction time line, calling for the total elimination of United States and Russian arsenals by 2002 (Select Committee on Intelligence, 43). The BDA's inspection regime is virtually identical in scope to the CWC regime (Select Committee on Intelligence, 43). The CWC permits the implementation of bilateral agreements consistent with the purpose of the treaty. While the BDA is not as crucial as it was prior to the signing of the CWC, continued bilateral progress serves as a confidence-building indication that Russia will comply with the mandates of the Convention.

United States failure to ratify the CWC will have negative effects on the future of Russian CW destruction and the prospects for Russian ratification of the treaty. A non-compliant United States would allow Russia to delay ratification of both the BDA and the CWC by contending that the reciprocal intent of the BDA has been annulled. Further, it would destroy the trust which has been established in recent years in the area of CW destruction. The absence of both the United States and Russia, the two largest CW possessor states, from the Convention would further legitimize CW possession and impede the success of the regime's goal in influencing the behavior of non-members. The intention of moving states toward ratification, based on the solidarity of international opinion, is unlikely to have the desired effect on rogue nations—such as Libya, Iran, and North Korea—when the United States and Russia are absent from the regime.

Russian development of novel CWs, whose precursors are yet unknown or absent from the Schedule of Chemicals, is another concern. For example, in 1994, Vil Mirzayanov, a Russian scientist, revealed that the Russian CW program had developed a new nerve agent, A-232, which was composed of precursors absent from the Schedule of Chemicals. New agents, critics argue, would be unverifiable due to the novelty of their precursors. The prospects for detection of non-compliance with novel agents, however, are the same for CW agents which are currently known. Any large scale production, storage, or munitions-filling operation would be subject to the scrutiny of the international inspectorate and the National Technical Means (NTM) of the United States. Additionally, the General Purpose Criterion allows for the inclusion of previously unknown agents and their precursors to the Schedule of Chemicals. In fact, Mirzayanov has repudiated his earlier concerns regarding the inability of the CWC to deter and detect novel agents:

Initially, I too objected to the CWC, which I assessed as being inadequate for the task of eliminating chemical weapons. . . . What I did not understand when I first spoke out on these issues is that the CWC's negotiators build flexibility into the CWC to permit it to adapt to new scientific and technological developments. This adaptability was prudent because science does not stand still. The treaty contains provisions to permit additions to the list of banned and controlled chemicals and to improve inspection techniques and technologies to keep pace with such developments (Senate Foreign Relations, 202).

The CWC Verification Regime and U.S. Intelligence Capabilities

The verification regime of the OPCW will serve to increase the ability of the U.S. Intelligence Community (IC) to monitor CW proliferation threats by focusing attention on non-ratifiers and providing additional information from data declarations. Non-parties to the Convention would naturally be of greater concern than those states which have ratified the treaty and are submitting to the inspection regime. The verification regime will also enhance the IC's access to information by allowing data declarations and information yielded from inspections to be compared with intelligence gathered by other means. The IC will be charged with collecting information on potential proliferators regardless of the Senate's impending decision, but acceding to the treaty will increase its capabilities, as well as the information available for analysis. As former CIA Director James Woolsey indicated in congressional testimony.

it is to this broader mission that the (Convention) can make a contribution by increasing the amount and type of information available to the intelligence community and by providing a basis for comparison with information the United States currently obtains by other means. This information could then be used either to build confidence where all information is consistent or flag suspicions where there are inconsistencies or omissions. . . . [The Convention serves as another] tool to add to our collection . . . with a broad applicability which can help resolve a wide variety of problems. . . . We will know more about the state of chemical warfare preparations in the world with the treaty than we would know without it (Senate Foreign Relations, 178).

Chemical Defenses

Proponents of the treaty have frequently contended that the U.S. ratification of the CWC will lull the United States into a false sense of security, resulting in a decreased focus on chemical defense research and increased vulnerability of U.S. troops. This argument is incorrect at several levels. First, supporters of the treaty recognize that the CWC is far from a panacea eliminating CWs but argue that it will serve to make the acquisition of CWs more difficult, as well as deter potential acquisition and use. Chemical defense programs will continue to have high priority among U.S. defense planners, regardless of the ratification decision made in the Senate. Former Director of Central Intelligence John Deutch testified that:

The Department of Defense will maintain a robust chemical defense capability supported by aggressive intelligence collection efforts. To ensure that our soldiers, sailors, airmen, and marines are the best protected and best equipped fighting force for operations on a nuclear, chemical, or biological (NBC) battlefield, we have, with the support of Congress, developed a centralized management process that serves to coordinate the services requirements in these areas. Our NBC defense programs will continue in accordance with the provisions of the treaty and we will continued to provide our forces with the best protection available (Committee on Armed Services, 36).

A chemical defense program is divided into four areas: protection, detection, decontamination, and treatment (CBW Threat, 6). Protection aims at preventing the CWs from contacting the body, whatever its mode of action. Examples include gas masks and protective overgarments. Detection seeks to increase the warning time between CW release and the exposure of troops. Decontamination acts to eliminate the agent as a threat by treating the CW with neutralizing chemicals (CBW Threat, 7). The last stage of CW defense are the medical countermeasures, either pretreatment to increase the bodies resistance, or therapy post-CW exposure (CBW Threat, 7).

The Convention itself is clear on the issue of a member's right to develop defenses against CWs:

Nothing in this Convention shall be interpreted as impeding the right of any State Party to conduct research into, develop, produce, acquire, transfer, or use means of protective equipment against chemical weapons, for purposes not prohibited under this Convention (Article X.2)

The inclusion of Article X, referenced above, has also created controversy, with respect to its creation of a voluntary fund for states parties which are threatened with, or victims of, CW attack. Voluntary assistance, including CW defense systems, scientific and technical information, and additional resources will be available to members (Article X.1,3,5,7,10). At issue here is the contention that the fund will increase the CW defense capabilities of rogue states, increasing their confidence in engaging in chemical warfare. However, it is unlikely that rogue states would have access to such information. Non-states parties would have no access to the voluntary fund. States parties in non-compliance will have all rights and privileges suspended, including the Article X provisions (Article XII.2). Further, the fund outlined in Article X is strictly voluntary, as former Director of Central Intelligence John Deutch continued:

The United States is not required to provide assistance directly to any State Party attacked with chemical weapons. Article X only obligates States Parties to provide assistance for CW protective measures through the international Organization for the Prohibition of Chemical Weapons (OPCW). It does not require routine assistance in peacetime, nor does it require any type of security assurances beyond the provision of CW defensive equipment or funds to acquire such equipment (Committee on Armed Services, 51).

Riot Control Agents

One area of controversy surrounding the CWC is the status of riot control agents (RCAs). The text of the Convention is clear on the intended interpretation of RCAs: they are prohibited as a method of warfare (Article I.5). The Convention defines an RCA as “any chemical not listed in a schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following the termination of exposure” (Article II.7). This definition subjects RCAs to the general purpose criterion, the prohibitions enumerated in Article I, based on the definition of toxic chemicals, which includes “any chemical which through its chemical action on life processes can cause . . . temporary incapacitation” (Article II.2). The rapid production of sensory irritation or disabling effects would, by definition, result in temporary incapacitation.

The divergence of interpretations stems from the purposes not prohibited under the Convention. Purposes not prohibited by the general purpose criterion are:

- Industrial, agricultural, pharmaceutical, or other peaceful purposes;
- Protective purposes, namely those purposes directly related to protection against toxic chemicals and protection against chemical weapons;
- Military purposes not connected with the use of chemical weapons and not dependent on the use of toxic properties of chemicals as a method of war;
- Law enforcement including domestic riot control activities (Article II.9).

Opponents have argued that the prohibition of RCAs as a method of warfare and the exemption of activities not prohibited by the Convention raises several verification problems and will constrain legitimate military purposes. First, critics contend that the sole limitation on RCAs is found in Article I.5, prohibiting their use as a method of warfare. The extension of this interpretation would mean that RCAs are exempted from the Convention’s general purpose criterion prohibiting stockpiling, production, retention, and the transfer of CWs (Article I.(a)–(d)). This exemption would liken the status of RCAs to the no-first-use standards of the Geneva Protocol. This reading of the Convention is both incorrect and dangerous to the purpose of the treaty (Chayes, 2). Article I.5’s inclusion is intended to clarify the ambiguous nature of RCAs in the Geneva Protocol. U.S. representatives during the Geneva Protocol negotiations argued that RCAs were outside the boundaries of the treaty. Article I.5 is designed to prevent this interpretation, which is clearly inconsistent with the intent of the treaty. An RCA exemption would mitigate the desired confidence-building effect of the treaty.

Potential loopholes regarding the purposes not prohibited by the Convention were also raised by opponents. They argue that development of new agents, whose chemical precursors, due to their novel composition, are previously unknown to the industry and the Convention, could be developed under the veil of law enforcement, peaceful industrial use, or military purposes not associated with the use of CWs as a method of warfare. However, an attempt to produce CWs under the guise of law enforcement or other legitimate purposes would run a high risk of detection. While RCAs could be produced for law enforcement purposes, an attempted marriage of RCAs with military munitions would subject such agents to the general purpose criterion. The production of militarily significant levels of agents would increase the likelihood of detection. The storage facilities and munitions production facilities would be subject to international inspection, facing the risk of detection.

Furthermore, the Convention places a one-ton limit on the retention of scheduled chemicals for law enforcement purposes (Verification Annex: VI.2.(c)). The intent of this exemption, demanded by U.S. negotiators, is to ensure that instruments of capital punishment, such as lethal injection or the gas chamber, would remain viable options. A one-ton supply of agents has little military utility, as evidenced by the U.S.–Soviet bilateral accord, in which the parties agreed to retain 5,000 tons of CW agents, regarded as the baseline supply for military utility. An attempt to retain a larger stock of agents, or their storage in munitions, would run the same risk of detection as any other violation.

The Convention also lacks a clear definition of “law enforcement.” Critics argue that the use of RCAs could be legitimized by claiming that their use was in support of law enforcement objectives. International law defines law enforcement as “actions taken within the scope of a nation’s ‘jurisdiction to enforce’ its national law” (Chayes, 3). International law interpretations provide that a state may enforce its own law within its own

territory or against its own citizens, but that it may not enforce its national law in the territory of another state without that state's consent. According to the Convention's guidelines, these same rules apply to the use of toxic chemicals in law enforcement (Chayes, 3).

The Convention does not ban the use of RCAs "for purposes not connected with the use of chemical weapons and dependent on the use of the toxic chemicals as a method of warfare" (Article II.9(c)). A U.N. sponsored peacekeeping operation, under the law enforcement criteria, would be justified in using RCAs against non-combatants, provided they serve no military objective. The justifiable uses of RCAs for purposes not regarded as serving a "military objective" include rescue missions where noncombatant are interfering with the operation, or against rioting prisoners of war who, by definition, are noncombatants (Chayes, 5). RCA use in cases such as the protection of supply lines or against civilians shielding combatants would be banned because their use would serve a specific military objective (Chayes, 5).

The CWC and the U.S. Chemical Industry

The negative effects of the CWC on the U.S. chemical industry, ranging from the regulatory burden to the theft of trade secrets, have been arguments used by critics of the Convention. Arguments include the burdensome nature of reporting requirements, the opportunity cost of delaying production during inspections, and the potential loss of confidential business information as a result of economic espionage committed by foreign nationals on inspection teams. In reality, U.S. failure to ratify the treaty would inflict far greater damage to the U.S. chemical industry than the potential costs of compliance. Concern for the fate of the chemical industry is well-founded, as the industry is a vital element of U.S. competitiveness. The U.S. chemical industry is composed of 20,000 chemical manufacturing plants, accounting for one-third of the world's chemical production capacity. In 1991, the U.S. chemical industry accounted for \$85.5 billion in exports of chemical raw materials and specialty organic chemicals (The Chemical Weapons Convention, 9). U.S. companies also exported \$292.3 billion worth of primary, intermediate, and formulated chemicals in the same year (The Chemical Weapons Convention, 9). In 1995, over \$60 billion in chemical products and technology were exported, netting a \$20 billion trade surplus in the chemical field (Senate Foreign Relations, 214). In 1992, the chemical industries net exports totaled \$16 billion, a significant contribution to U.S. competitiveness, given that the merchandise trade deficit that year was \$93 billion (The Chemical Weapons Convention, 10). The industry employs 846,400 people nationwide, with a total payroll of \$31 billion (The Chemical Weapons Convention, 9).

U.S. failure to ratify the Convention could be disastrous for the chemical industry. The export standards of the CWC, reviewed in the compliance section, place specific restrictions on states not party to the treaty. As of the EIF, the U.S. chemical industry would be excluded from the trade of Schedule 1 chemicals. Three years after the EIF date, trade restrictions on Schedule 2 chemicals would go into force. Furthermore, the industry would be faced with a competitive disadvantage in the international market for Schedule 3 chemicals. U.S. companies would require end-use certificates for all imports and exports of Schedule 3 chemicals. Opponents of the treaty argue that the precursors in Schedules 2 and 3 compose only a small percentage of total U.S. exports, but restrictions on segments of the U.S. industry are likely to resonate in other areas.

Although Schedule 2 chemicals account for a relatively small portion of the U.S. chemicals, the impact on U.S. firms will likely affect trade in other chemicals as well. Companies tend to shop where there are no restrictions and prohibitions, therefore restrictions/prohibitions on trade in Schedule 2 chemicals will likely have a cascading effect on the overall chemical industry. Since there is ample foreign availability in the industrialized world, Japanese and European companies will undoubtedly move to fill the gap in authorized supply that the absence of U.S. availability would create (Senate Foreign Relations, 219–220).

The United States is the only member of the G-7, the leading group of industrialized nations, that has yet to ratify the CWC. Conservative estimates by the Chemical Manufacturers Association (CMA) indicate that failure to ratify the Convention could cost the U.S. chemical industry over \$600 million per year (Jacobs, 5). The potential economic costs associated with additional regulation are minor compared to the loss in competitiveness which non-compliance will cause. As Fred Weber, President of the CMA, told the Senate Foreign Relations Committee:

Fewer than 2,000 American companies will be directly affected [by the Convention]. Of that number, less than 200 are likely to ever have an on-site inspection. . . . It won't put companies out of business. And it won't keep lifesaving pharmaceuticals off the market. Chemical manufacturers are America's single largest exporting sector. We exported over \$60 billion in products and technology last year, with a \$30 billion trade surplus. . . . If the United States does not ratify the treaty, that status will change. Our largest trading partners are also party to the Convention, and will be forced to apply trade restrictions to chemicals that originate here, or that are being shipped here. . . . Potentially hundreds of millions of dollars of lost sales, for no other reason than the United States is not part of the CWC (Senate Foreign Relations, 215).

Industry attitudes towards CW disarmament have changed markedly over the years, especially in the 1970's. As evidence of extensive use of herbicides and napalm in Vietnam by the United States came to light, the U.S. chemical industry began to perceive that military production of CWs created negative public opinion (The Chemical Weapons Convention, 10). Additionally, private-industry production of CWs had been reduced to a negligible level, as production was internalized within the United States Army. A broad-based industry consensus recognized that its interests would be best served by participating in the negotiation of a CW ban, rather than attempting to comply with a treaty on which the industry had little influence (Olson, 99). The CMA officially stated its support for a complete CW ban in 1978. In 1987, the CMA moved to establish a working group which met regularly with U.S. government representatives to voice concerns relating to ongoing negotiation (The Chemical Weapons Convention, 10).

Broad-based chemical industry support for the CWC exists in the United States and worldwide. The CMA, representing 180 U.S. companies that constitute over 90 percent of the U.S. productive capacity, supports the treaty. Related trade groups, such as the Synthetic Organic Chemical Manufacturers Association, the Pharmaceutical Research and Manufacturers of America, the Biotechnology Industry Organization, and the American Chemical Society have all issued their formal support for the ratification of the Convention (Senate Foreign Relations, 214).

The CWC and U.S. Leadership

While the potential economic loss facing the U.S. chemical industry from a failure to ratify the Convention serves as a persuasive argument for Senate approval, it is hardly the only factor supporting ratification before the EIF date. Operating on the assumption that the United States decides to delay ratification, the result would be the forfeiture of a window of opportunity to protect U.S. national interests in the infant OPCW. Delay would mean the loss of a seat, for at least the first year, on the executive council, a position guaranteed to the United States. Failure to ratify before the EIF date would also lead to a U.S. absence in the Conference of States Parties. John Holum, Director of the United States Arms and Control and Disarmament Agency, explained the significance of U.S. non-involvement in the early stages of the OPCW's existence:

During the critical months of the CWC's implementation, a thousand small decisions will be made and myriad precedents and habits will be set that we will want to play a role in. Establishing the practical mechanisms of routine and challenge inspections is just one example of a process that will be shaped early on and will greatly affect U.S. interests. Given the negotiating history of the Convention, it would be not just unwise, but deeply ironic, if we lost our momentum at this critical last stage (Senate Foreign Relations, 176).

U.S. failure to ratify the Convention before the EIF date could also have serious ramifications for U.S. international stature. The United States has supported the negotiation of numerous arms control agreements. An abandonment of the Convention as it nears fruition would signify a U.S. retreat from the fight against the proliferation of weapons of mass destruction. Unilateral efforts to prevent transfers of destabilizing technology and armaments would be weakened as the U.S. commitment to stem proliferation becomes suspect.

Furthermore, the legitimacy and effectiveness of the Convention itself may be affected by the absence of the United States. U.S. non-involvement could have serious ramifications for enforcement and compliance issues within the OPCW, as well as cases where noncompliance is raised within the U.N. Security Council. As retired senior U.S. officials Brent Scowcroft and John Deutch have argued:

rejecting a treaty of which we were the primary architects and instead lining up with the pariah states such as Libya, Iran and North Korea would do real damage to America's international leadership, credibility, and

interests. By remaining outside the CWC, we let these rogue states off the hook by making it easier for them to ignore pressures to abandon chemical weapons. . . . It gives Russia—which has the world’s largest stock of chemical weapons—an easy excuse to delay further its own accession to the CWC (Washington Post, 21).

In summary, U.S. status as a non-signatory could have the effect of diluting the power of the Convention and weakening U.S. international credibility by aligning the United States with rogue nations as non-ratifiers. As Norman Schwarzkoph said, “I would just as soon not be associated with those thugs in this particular matter” (Lugar and Biden, 19).

The Constitutionality of the CWC

Among the more contentious issues surrounding the U.S. ratification of the CWC is the constitutionality of the verification regime. The structure of the U.S. government is such that all treaties entered into must comply with the Constitution. As the supremacy clause states:

This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding (Article VI, clause 2).

This legal hierarchy demands that any law or treaty must be legally aligned with the Constitution. The supremacy of the Constitution over treaties was reinforced by *Reid v Covert*, in which the Supreme Court held that “This Court has regularly and uniformly recognized the supremacy of the Constitution over a treaty” (354 U.S. 1;1957). Within the second level of the established legal hierarchy, congressional statutes and international treaties are regarded as having equal legal standing. When a federal law and an international agreement come into conflict, the standard of *lex posterior* is applied, meaning that the more recent statute takes precedence (Koplow, 158).

In the context of U.S. involvement in arms control treaty negotiations, the CWC has greater potential for risking constitutional challenges than previous initiatives. First, the CWC calls for the inspection of both government and private property. Previous arms control agreements, such as the Strategic Arms Limitation Talks (SALT), and the Biological Weapons Convention, focused exclusively on government facilities and resources. While the negotiation of the Intermediate-Range Nuclear Forces Treaty included minor impositions into the private sector, the magnitude of potential CWC intrusion is unparalleled (Koplow, 163). The verification annex of the Convention appears to limit the ability of private parties to invoke constitutional protection. In reference to challenge inspections, the Convention states:

In meeting the requirements to provide access as specified in paragraph 38 (General Rules on Conduct of Inspection), the inspected State Party shall be under the obligation to allow the greatest degree of access taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures. The inspected State Party has the right under managed access to take such measures as are necessary to protect national security. The provisions in this paragraph may not be invoked by the Inspected State Party to conceal evasion of its obligations not to engage in activities prohibited under this Convention (Verification Annex: X,C,41).

Given the Convention definition of a state party, which regards any territory or place, including the property of a private party, to be subject to the obligations of the Convention, paragraph forty-one seems to imply that private parties are restricted from invoking constitutional protection. University of Illinois Professor of Law Ron Rotunda indicates:

it appears that this protection of the Fourth Amendment does not apply to protect private parties. Only the United States, not a private individual, can invoke this paragraph [paragraph 41 of the Verification Annex], because only the United States is the “inspected State Party.” Only the United States (not a private party) can ratify the treaty (19).

Additionally, the verification regimes underpinning agreements like the SALT accords and the later Strategic Arms Reduction Treaty (START) agreements depended more on the utilization of National Technical

Means (NTM), such as aerial and satellite surveillance. In contrast, the verification regime of the CWC consists of on-site inspections, complimented by a state's NTM. While the United States will, of course, continue to use NTM to gather intelligence, the verification challenges of CWs and their production facilities limit the value of these intelligence gathering systems.

A second element of the treaty which raises issues of legality is the composition of inspection teams. The international inspectorate, designated by the technical secretariat, consists of representatives of the states parties to the Convention. Opponents have charged that foreign inspectors could be used as agents for the members to spy against private companies and U.S. military installations. The problematic element here is that the United States Constitution protects citizens from invasion of privacy only from the government itself. Intrusion by an international organization via foreign nationals may invalidate a Constitutional claim for compensation for theft or seizure of confidential business information. The Appointments Clause of the Constitution (Article II, Section 2, Clause 2) seeks to ensure that those who exercise federally granted power, such as an inspector, are responsible to the citizens, and to prevent the manipulation of appointments by a branch of the government (Adams, 9–10). As University of California at Berkeley Professor of Law John Yoo explained:

In addition to authorizing a search, CWC officials actually carry out the on-site inspections, a marriage of powers that no domestic law enforcement agency enjoys. This Constitution forbids the federal government from delegating this public function to a private or nongovernmental entity; it is almost axiomatic that individuals who are not members of the federal government cannot exercise federal power upon the individual rights of an American citizen (Wall Street Journal, A22).

However, given the status of the relationship of the federal government and the representatives of the technical secretariat, the judiciary is likely to regard the inspection team as a legal representative of the government, acting under the guise of federal law. Judicial precedence exists in which conditions of “joint endeavors” between the public and private sector have been accorded constitutional protection (*Lustig v United States*, 338 U.S. 74). In relation to the issue of foreign inspectors, opponents argue that an international inspector could obtain trade secrets or military information in the course in on-site inspections. However, the U.S. government can exclude an inspector from participation in on-site inspections within U.S. territory. Within thirty days of the EIF date, the technical secretariat will submit the name, nationality, and rank of inspectors scheduled to be designated as members of the international inspectorate, to all states parties (Verification Annex: Part II,1). Each state party may indicate its non-acceptance of an inspector, accompanied by the reason for exclusion, to the OPCW within thirty days of receipt of the list (Verification Annex: II,2). In the event that information justifying exclusion of an inspector is obtained after this deadline, a state party is permitted to exclude the inspector (Verification Annex: II,4).

Both forms of inspection specified under the CWC—routine and challenge—present Constitutional issues due to the nature of the searches. Most important, no warrant is required for the initiation of either type of search. A key constitutional question is whether the type and degree of intrusion demanded by the verification annex of the CWC violates the Fourth Amendment, which says:

The right of the people to be secure in their persons, homes, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon reasonable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

The courts have established a two-pronged test to determine the existence of a “reasonable expectation of privacy,” the basis for a Fourth Amendment violation. In *Katz v United States*, the case which produced the test, Justice Harlan wrote, “There is a two-fold requirement, first that a person has exhibited an actual (subjective) expectation of privacy and, second, that the expectation be one that society is prepared to recognize as ‘reasonable’” (398 U.S. 361). The CWC will affect the property of private persons on a larger scale than any previous arms control agreement. International inspectors are permitted to engage in “systematic verification through on-site inspection and monitoring with on-site instruments” of public and privately owned places where the presence of CWs are suspected (Article IV.3).

On-site monitoring activities, such as the inspection of waste emissions or aerial observation, do not pose a constitutional issue based on the reasonable expectation of privacy standard. The courts have ruled that no

reasonable expectation of privacy exists for garbage, on the premise that refuse materials, such as emissions, are left in plain view, accessible to the public and the police (Koplow, 166). The use of data collection devices, such as aerial photography, airborne sensing data, and water discharge emissions collection, could be constitutionally permissible and are key elements to the on-site inspection regime. In *Dow v United States*, the Supreme Court upheld the use of a “standard precision aerial mapping camera,” which the EPA used to collect data on a chemical plant (476 U.S. 227). The court held that “when Congress invests an agency with enforcement and investigator authority, it is not necessary to identify explicitly each and every technique that may be used in the course of executing the statutory mission” (476 U.S. 233). This element of the holding could justify the use of new verification technology for the inspection of open-view locations, as well as emissions when a reasonable expectation of privacy is absent.

The interior of private premises subject to on-site inspection do have a reasonable expectation of privacy. The court has consistently recognized that the Fourth Amendment criteria applies to commercial locations as well as private homes (*See v City of Seattle*, 387 U.S. 541,547). Therefore, a warrant would generally be required for a legal search of commercial premises. One possible means of avoiding this warrant requirement would be the classification of the subject of on-site inspections, the chemical industry, as a “pervasively regulated industry.” In some cases, the standard for a reasonable expectation of privacy is applied differently for commercial premises than private homes. This distinction lies in the relationship between the industry in question and the government. In *Dow v United States*, the court reaffirmed that the government has:

greater latitude to conduct warrantless inspections of commercial property [because] the expectation of privacy that the owner of commercial property enjoys is such that the property differs significantly from the sanctity accorded an individual’s home (476 U.S. 237–238; reaffirmation of *Donovan v Dewey*, 452 U.S. 598–599).

The standard, as explained by the court, contends that:

the statute’s inspection program, in terms of the certainty and regularity of its application, provides a constitutionally adequate substitute for a warrant. . . . It is the pervasiveness and regularity of federal regulation that ultimately determines whether a warrant is necessary to render an inspection program reasonable under that Amendment (*U.S. v Biswell* 406 U.S. 314).

Three criterion must be met in order for a warrant exemption based on the existence of pervasive industry regulation to be constitutionally valid. In regard to this exemption’s application to the chemical industry and the CWC inspection regime, several standards exist. First, “there must be a ‘substantial’ government interest that informs the regulatory scheme pursuant to which the inspection is made” (*New York v Burger* 482 U.S. 702). Since U.S. interests in furthering non-proliferation goals can certainly be called substantial, this prong of the standard would be satisfied.

Second, the warrantless inspection must be “necessary to further [the] regulatory scheme” (*New York v Burger* 482 U.S. 702). In *Biswell*, the court clarified this standard, contending that, “If inspection is to be effective and serve as a credible deterrent, unannounced, even frequent, inspections are essential. In this context, the prerequisite of a warrant could easily frustrate inspection” (406 U.S. 316). This standard is consistent with the nature of CWPFS, and the verification problems presented by dual-use technology. Inspections must occur quickly, as any delay could allow violators the time necessary to hide incriminating material.

It is the last criteria that presents the most difficulty for the Convention. “The statute’s inspection program, in terms of the *certainty* and *regularity* of its application, [must] provide a constitutionally adequate substitute for a warrant” (482 U.S. 703; italics added). In order to meet this standard, the regulatory scheme must be “sufficiently comprehensive and defined that the owner of commercial property cannot help but be aware that his property will be subject to periodic inspections undertaken for scientific purposes” (452 U.S. 600). The CWC’s verification scheme is difficult to define as a regime where inspections occur on a certain and regular basis. While a chemical industry owner would be well aware of the potential for inspection, no guidelines exist for determining which facilities are to be inspected and with what regularity. This standard exists to check the abuse of unlimited discretion by administrative officials (436 U.S. 323). As the court held in *Donovan v Dewey*:

warrantless inspections of commercial property may be constitutionally objectionable if their occurrence is so random, infrequent, or unpredictable that the owner, for all practical purposes, has no real expectation that his property will from time to time be inspected by government officials (452 U.S. 599).

The nature of the inspection regime advocated by the Convention, in regard to both routine and challenge inspections, fails to provide the certainty and regularity which would provide an owner with assurance of a search. While that owner would be aware of the potential for such a search, this random and arbitrary system, particularly for routine inspections, which require no proof of potential wrongdoing, would give the inspection team the unlimited discretion which the Supreme Court has deemed unconstitutional.

On the assumption that warrantless searches would be unconstitutional, a remedy seeking to provide adequate constitutional protection, and not interfering with the ability of the inspection regime to function properly, must be found. The application of an administrative warrant may be such a solution for routine inspections. Administrative warrants require federal inspectors to apply a warrant before a federal judge. This standard does not require the advance notification of the party to be inspected, thereby eliminating the potential for diversion as a result of early notification (The Chemical Weapons Convention, 37). Furthermore, the standard which must be met for the warrant to be issued—administrative probable cause—is less demanding than the standard involved in a criminal warrant. One report says:

The inspectors need only show that a specific business has been chosen for inspection on the basis of a general administrative plan. . . . the requirement for an administrative warrant assures the interposition of a neutral officer to establish that the inspection is reasonable and properly authorized. Administrative warrants can only be used for searches that are conducted primarily on the basis of neutral and objective criteria rather than on suspicion of guilt (The Chemical Weapons Convention, 37).

The intent of routine inspection is to verify the accuracy of submitted data declarations; therefore, administrative warrants could be issued for routine inspections in the United States, without weakening the deterrent and verification effect of the searches that advance notification might risk. However, since the intent of challenge inspections is to uncover non-compliance, the request for an administrative warrant would be discriminatory and would not justify its issuance (The Chemical Weapons Convention, 38). The CWC, however, recognizes this potential constitutional problems and adequately addresses the issue. The Convention states:

In meeting the requirements to provide access as specified in paragraph 38, the inspected State Party shall be under the obligation to allow the greatest degree of access taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures (Verification Annex: X.C.41).

The Convention will permit the United States to require that challenge inspections receive a criminal search warrant. In these cases, the relevant evidence and information which was presented to the executive council for the granting of the challenge inspection, will be presented at the criminal warrant hearing. Ivo Spalatin, Director of Congressional Affairs, wrote that this type of warrant must specify:

the type of inspection authorized; the purpose of the inspection; the type of facility to be inspected; the items, documents and areas that may be inspected; the commencement and concluding dates and times of the inspection; and the identities of the representatives of the Technical Secretariat of the OPCW, . . . and, if applicable, the representatives of the U.S. Government (Committee on Foreign Affairs, 90).

Conclusion

The signing of the CWC in 1993 represented a commitment on the part of the international community to eliminate chemical weapons from warfare. The effects of CWs make banning this method of warfare an imperative. The history of CW use, from medieval to modern times, reveals the impact which they have had in warfare, and the horrible nature of the injuries that they inflict. The progression of arms control negotiations toward the current CW ban has seen the slow development of a consensus against CW use. The shortcomings of previous CW arms control agreements, such as the Geneva Protocol, highlight the need for an organization

capable of enforcing the goals of the Convention. The OPCW is designed to ensure cooperation among its members and implement the verification regime envisioned by the Convention.

The Convention will seek to ensure compliance based on a combination of factors. The treaty establishes an international standard against the possession and use of CWs. Further, economic incentives in the trade of chemical precursors for the legitimate pursuits of states parties and trade sanctions against non-members will establish a financial motivation for states to ratify the treaty. In the event of non-compliance, the Convention has the right to apply additional sanctions or seek the intervention of the United Nations Security Council. Russia, the largest CW possessor state, is obligated by past bilateral accords with the United States to implement a destruction program. Their willingness to comply with CW destruction has been exhibited in U.S.–Russian mutual inspections, and Moscow’s CWC ratification is expected.

The verification regime of the CWC will serve as an additional tool for the U.S. intelligence community in its attempts to detect and deter CW proliferation. The additional data and information from data declarations and on-site inspections will complement intelligence collected by National Technical Means. Additionally, U.S. ratification of the CWC will not, as critics argue, create a false sense of security and interfere with U.S. chemical defense systems. The Convention explicitly permits members to engage in defensive research and preparation. The legal framework of the treaty will also permit the use of RCAs in limited conflict and law enforcement scenarios.

U.S. absence from the Convention will have devastating effects on the U.S. chemical industry. The application of trade restrictions designed for rogue nations to the U.S. chemical industry could result in the loss of up to \$600 million per year. The Convention provides adequate protection against the loss of proprietary information and will seek to ensure that inspections are conducted at a level of minimum intrusion. The United States has played a leadership role throughout the negotiation of the Convention. Failure to ratify at this key moment will impact both the credibility of the United States within the international community and the enforcement capabilities of the Convention.

Lastly, given the level of intrusiveness into the private sector by the verification regime, several constitutional questions have been raised. The text of the Convention provides flexibility to accommodate each member state’s legal structures. The United States government will be able to implement the Convention in a manner consistent with the Constitutional protection accorded to the public.

The United States faces a critical decision which will effect its national security, its position in the international community, and the competitiveness of a major industry. Failure to ratify at this time will represent an abdication of U.S. leadership in the area of arms control and prevent the United States from exerting influence, aimed at protecting U.S. interests, within the OPCW. While the CWC is far from being a perfect treaty, the support of the major powers, including the United States, and a genuine commitment from all nations towards CW disarmament will further the goal of codifying a CW ban in international law.

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