Train Wreck: The U.S. Violation of the Chemical Weapons Convention

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The United States is violating a multilateral arms control treaty. Russia is, too. It's not just some minor accord at stake; it's the 1993 Chemical Weapons Convention (CWC),[1] the critical, near-universal undertaking to banish the centuries-old scourge of chemical warfare. And it's not just some trivial misstep; it's a blatant transgression of one of the treaty's most fundamental provisions, requiring the timely destruction of the massive inventories of chemical weapons (CW) that the planet's erstwhile superpowers had laboriously constructed and assiduously maintained throughout the Cold War. And it won't be a near-miss; each country will stumble years beyond complying with the treaty's April 29, 2012, final deadline for accomplishing the total dismantling of this noxious ordnance – the United States now figures to eclipse that mandatory mark by at least eleven years.

How did we get into this mess? How did the United States, the leading exponent of the rule of law and a prime mover in negotiating and implementing the CWC, fall into such conspicuous violation? What can be done at this point to extricate ourselves and the Russians from this grisly political and legal predicament? And what can we do in the future to avoid other similar international law train wrecks?

This article parses the problem of noncompliance with the CWC's dismantling obligations as a case study in the operation (or non-operation) of international law. Part I provides the essential background on chemical weapons and the treaty, highlighting the CWC's vital role in reining in a horrific global threat and outlining the treaty's provisions regarding the safe, clean, and verified elimination of chemical stockpiles. The CWC is one of the most ambitious and one of the most successful multilateral arms control regimes in history, but it is hardly without controversy.

Part II focuses on the U.S. chemical weapons program: its history, current status, and, especially, the convoluted program for incinerating or chemically neutralizing the lethal agents – and details why it has fallen so far behind the

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1. Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, *opened for signature* Jan. 13, 1993, 1974 U.N.T.S. 45, 32 I.L.M. 800, (entered into force Apr. 13, 1997) [hereinafter CWC].

legally-required schedule. Part III presents the comparable portrait for Russia and other countries, describing how Moscow, too, despite significant outside financial assistance, has been blatantly unable to comply with the CWC's negotiated timetables. The declared inventories of Albania, India, Iraq, Libya, and South Korea pale in comparison to those of the Russia and United States, but their travails have been similar; some have succeeded in timely elimination in conformity with the treaty, but there are some interesting precedents of treaty breach here, too.

Part IV describes the U.S. political remediation efforts undertaken to date. U.S. diplomats have been surprisingly successful in managing the violation on a low-key political plane, through increased transparency and a renewed commitment to the ultimate goal of a CW-free planet. These efforts have surely been helpful, and are worth retaining, but they are hardly sufficient to solve the overall legal and political problem. Part V then turns to international law, concluding that the ostentatious failure places the United States and Russia into a position of "material breach" of the CWC, even if their violations are not the result of bad faith or deception and even if the retained CW inventories carry little true military significance. This part also argues that international law's putative excuses for non-performance of a treaty obligation (such as impossibility, changed circumstances, and *force majeure*) are unavailing in this case, and it evaluates the effects of a peculiar tension between competing types of CWC obligations. This part also inspects the array of remedies that international law affords to innocent parties aggrieved by these ongoing violations (such as suspension or termination of counter-performance, suit in the International Court of Justice, and invocation of the specialized procedures created by the CWC itself).

To put this specific CW case study into a larger context, Part VI asks how member countries have managed to resolve this sort of dilemma, and how future accords could handle cognate challenges better. On those rare occasions when the international political stars align in favor of a disarmament measure, we do want the legal documents to exert pressure on the weapons-holding states to eliminate their newly-banned inventories as soon as practicable, but we do not want to again demand the impossible, or to jeopardize the treaty structure if an unavoidable delay crops up. New treaties regulating anti-personnel land mines and cluster munitions already implicate these same dismantling concerns, and others may someday do likewise.

Returning to the CWC, Part VII next surveys an array of possible responses to the 2012 deadline crisis – it evaluates a roster of options that the United States, Russia, the other CWC parties, and various international institutions may be able to exercise to mitigate the problem. None of these alternatives is perfect (and there may be something of an inverse relationship between the options that would be "best" in some sense and the options that would be most attainable), but consideration of the full cadre of possibilities may be illuminating.

Part VIII offers some recommendations. Despite the fully-understandable and

remarkably successful U.S. government efforts to finesse this issue, missing this treaty deadline is a big deal. Rarely has the international community been compelled to confront such an open-and-shut case of an important violation of an important arms control treaty – and by the planet's leading players, no less. It may not be possible to avoid all the damage from this collision, but perhaps some principles of value can still be salvaged.

Finally, Part IX offers some concluding thoughts. What is at stake here is not merely conformity with a single international obligation. Rather, each occasion where international law is, or is not, adhered to constitutes an expression of support or rejection of the global rule of law – and when the planet's leading military powers fail to perform as they have promised, the entire fabric of the legal order is called into question. This is an occasion to set an important precedent – when the United States, in particular, should take the opportunity to "model" for the rest of the world how an honorable country should behave, if it finds itself in the unfortunate situation of violating a solemn international agreement.

Overall, the animating force behind this article is an argument that the long-term interests of the United States lie in validating the importance of full, timely compliance with treaties – especially arms control agreements. Even if, in a particular case, it might be possible to "finesse" an act of U.S. non-compliance by agreeing with other nations to a muted and non-punitive global response, that short-term accomplishment disserves the bigger picture. Instead, the United States should publicly own up to its breach, take its medicine, and thereby demonstrate in the most powerful manner that compliance with international law really is an enduring U.S. principle, applicable even to ourselves, even when it comes with some pain.

I. THE PROBLEM OF CHEMICAL WEAPONS AND THE SOLUTION IN THE CWC

The story of chemical weaponry is long, sad, and convoluted. Throughout the centuries and around the world, armies have regularly attempted to employ poisons of varying formulae against their enemies; sometimes this scientific zeal has resulted in telling battlefield advantage; even more often it has inspired indiscriminate pain, horror, and public revulsion.[2]

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2. *See generally* John Ellis Van Courtland Moon, *Controlling Chemical and Biological Weapons Through World War II*, *in* 2 ENCYCLOPEDIA OF ARMS CONTROL AND DISARMAMENT 657, 657-674 (Richard Dean Burns ed., 1993); Charles C. Flowerree, *Chemical and Biological Weapons and Arms Control*, *in* 2 ENCYCLOPEDIA OF ARMS CONTROL AND DISARMAMENT 999-1014 (Richard Dean Burns ed., 1993); Jean Pascal Zanders, *International Norms Against Chemical and Biological Warfare: An Ambiguous Legacy*, 8 J. OF CONFLICT AND SEC. LAW 391, 391-410 (2003); FREDERICK J. VOGEL, U.S. ARMY WAR COLL., THE CHEMICAL WEAPONS CONVENTION: STRATEGIC IMPLICATIONS FOR THE UNITED STATES (1997), *available at* http://www.strategicstudiesinstitute.army.mil/pubs/summary.cfm?q=322; Paul F. Walker, *Abolishing Chemical Weapons: Progress, Challenges, and Opportunities*, 40.9 ARMS CONTROL TODAY, Nov. 2010, at 22; JONATHAN B. TUCKER, WAR OF NERVES: CHEMICAL WARFARE FROM WORLD WAR I TO AL-QAEDA, (Pantheon ed., 2006); OFFICE OF THE UNDER SEC'Y OF DEF. FOR ACQUISITION AND TECH., U.S. DEP'T OF DEF., *THE MILITARILY CRITICAL TECHNOLOGIES LIST PART II: WEAPONS OF MASS DESTRUCTION TECHNOLOGIES*

Pre-biblical literature from India (1500 B.C.), Greece (429 B.C.), and Rome (150 B.C.) as well as subsequent lore from other combatants carry sagas of fulminating gases wafted toward an adversary's encampment, lethal potions strategically dumped into enemy wells or rivers, contaminants insinuated into foreign food supplies, and arrows and artillery shells laced with toxins.[3] World War I married modern chemistry with that longstanding lethal intent, and 125,000 tons of mustard gas, phosgene, lewisite, cyanide and other insidious concoctions polluted the European trenches, inflicting 1.3 million injuries and nearly 100,000 deaths.[4]

By contrast, the central battlefields of World War II were remarkably CW-free, despite the fact that partisans on both sides were armed to the teeth with enormous arsenals of much more deadly generations of nerve gases. Apparently primitive deterrence drove both sides toward mutual (if uncomfortably unsteady) self-restraint.[5] A handful of notorious episodes of CW use arose after 1945. Most infamous were the large-scale invocation of poisons by both sides in the 1980–1988 Iran-Iraq conflict, and by Iraq against its own Kurdish minority in 1987–1988. These outrages kept the issue in the world's attention, even if the attacks did not necessarily achieve mass casualties or decisive military victories.[6]

(ADA 330102), "CHEMICAL WEAPONS TECHNOLOGY," Feb. 1998, *available at* http://www.fas.org/programs/bio/chemweapons/production.html (describing CW production technology, military applications, and foreign state capabilities); S. EXEC. DOC. NO. 104-33, at 12-13 (1996) (Conf. Rep.) [hereinafter Report 104-33]; *Introduction to Chemical Weapons, and Types of Chemical Weapons*, FED'N OF AM. SCIENTISTS, http://www.fas.org/programs/bio/chemweapons; *Basic Facts on Chemical Disarmament*, OPCW WEBSITE, http://www.opcw.org/news-publications/publications/history-of-the-chemical-weapons-convention [hereinafter OPCW *Basic Facts*]; *Chemical Disarmament*, RUSSIAN MUNITIONS AGENCY, http://www.munition.gov.ru/eng/zapasho.html; *id.* at *History of CW Development*; *id*. at *Chemical Weapons*.

3. Moon, *supra* note 2, at 657-658; Zanders, *supra* note 2, at 392-393; ADRIENNE MAYOR, GREEK FIRE, POISON ARROWS, AND SCORPION BOMBS: BIOLOGICAL AND CHEMICAL WARFARE IN THE ANCIENT WORLD (1st ed., 2003).

4. Moon, *supra* note 2, at 659-662; Zanders, *supra* note 2, at 395; OPCW *Basic Facts*, *supra* note 2; ROBERT NOYES, CHEMICAL WEAPONS DESTRUCTION AND EXPLOSIVE WASTE/UNEXPLODED ORDNANCE REMEDIATION 3-6 (William Andrew ed., 1996).

5. Moon, *supra* note 2, at 668-670. Chemical weapons were used by Italy in Ethiopia in 1935-1936, and by Japan in China in 1937-1945, as well as by Germany in many of the concentration and death camps. Moon, *supra* note 2, at 666-668; Vogel, *supra* note 2.

6. Flowerree, *supra* note 2, at 1002-1004; Walker, *supra* note 2 (reporting that "[c]hemical weapons have been used in warfare and terrorist attacks a dozen times or more in the last three decades"); J.P. Perry Robinson, *Origins of the Chemical Weapons Convention, in* SHADOWS AND SUBSTANCE: THE CHEMICAL WEAPONS CONVENTION, 37, 42-43 (Benoit Morel & Kyle Olson eds., 1993) [hereinafter Morel & Olson] (listing dozens of instances after World War I in which CW use was alleged); Report 104-133, *supra* note 2, at 163, 169 (noting that in 1996, "[s]ome 20 nations are now suspected of having chemical weapons or developing a chemical weapons capability."); Vogel, *supra* note 2; *Hearing 103-869*, *infra* note 84, at 8 (statement of Hon. John D. Holum, Dir. of the U.S. Arms Control and Disarmament Agency) ("Some twenty nations are now suspected of having chemical weapons or developing a chemical weapons capability."). In the 1980s, the United States alleged that the Soviet Union and its allies used "yellow rain" chemical and biological weapons in Laos, Cambodia, and Afghanistan; these reports were subsequently largely discredited. *See* U.S. DEP'T OF STATE, CHEMICAL WARFARE IN SOUTHEAST ASIA AND AFGHANISTAN: AN UPDATE, SPECIAL REP. NO. 104 (Nov. 1982).

The historical counterpoint to the use of chemicals – the widespread public loathing of this form of combat – provides a parallel history. Ancient civilizations recorded their antipathy toward these invisible, insidious toxins,[7] and more recent public rejection of the scourge of CW prompted some of the earliest arms control treaties: the St. Petersburg Declaration of 1868,[8] the Brussels Declaration of 1874,[9] and the Hague Conventions of 1899[10] and 1907[11] reflected the participants' visceral rejection of "asphyxiating or deleterious gases."[12]

The first modern arms control treaty, the Geneva Protocol of 1925,[13] placed the train of CW control firmly onto a sturdier international track. That accord (which is still in force and has attracted 137 parties[14]) binds countries to renounce "the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices."[15] This treaty now constitutes essentially a ban only against the first use of CW; it does not restrict countries' possession of lethal arsenals nor their application in retaliation for an enemy's opening chemical salvo.[16]

The diplomatic process, therefore, continued unsated toward a more comprehensive CW accord, but the post-World War II efforts largely succumbed to Cold War politics and other distractions.[17] Three related international agreements did help fill part of the void: the multilateral 1972 Biological Weapons

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7. Moon, *supra* note 2, at 657-658.

8. Declaration Renouncing the Use, in Time of War, of Certain Explosive Projectiles Under 400 Grammes Weight, Nov. 29/Dec. 11, 1868, 18 Martens Nouveau Recueil (ser. 1) 474, 138 Consol. T.S. 297.

9. Project of an International Declaration Concerning the Laws and Customs of War, Aug. 27, 1874, 4 Martens Nouveau Recueil (ser. 2) 219 (never entered into force), *available at* http://www.icrc.org/ihl.nsf/INTRO/135?OpenDocument.

10. "[I]t is especially prohibited . . . to employ poison or poisoned arms." Convention with Respect to the Laws and Customs of War on Land, art. 23, July 29, 1899, 32 Stat. 1803, T.S. 403, 1 Bevans 247, 187 C.T.S. 429 (1898-1899), *available at* http://avalon.law.yale.edu/19th_century/dec99-02.asp [hereinafter Hague II]; "The Contracting Powers agree to abstain from the use of projectiles the object of which is the diffusion of asphyxiating or deleterious gases." Hague IV, Declaration II Concerning the Prohibition of the Use of Projectiles Diffusing Asphyxiating Gases, July 29, 1899, 26 Martens Nouveau Recueil (ser. 2) 998, 187 C.T.S. 453 [hereinafter Declaration II].

11. "[I]t is especially forbidden . . . To employ poison or poisoned weapons." Convention (IV) Respecting the Laws and Customs of War on Land and its Annex: Regulations Concerning the Laws and Customs of War on Land, art. 23, Oct. 18, 1907, 36 Stat. 2277, 1 Bevans 631 *available at* http://avalon.law.yale.edu/20th_century/hague04.asp [hereinafter Hague IV].

12. Declaration II, *supra* note 10.

13. Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571, 94 L.N.T.S. 65, *available at* http://unhq-appspub-01.un.org/UNODA/TreatyStatus.nsf [hereinafter Geneva Protocol].

14. For a list of parties to the treaty, *see* http://www.fas.harvard.edu/hsp/gensig.html. The United States did not join the Geneva Protocol until Apr. 10, 1975.

15. Geneva Protocol, *supra* note 13, pmbl, ¶2.

16. *See* Report 104-133, *supra* note 2, at 164; Moon, *supra* note 2, at 664; Flowerree, *supra* note 2, at 1000-1002.

17. *See* Report 104-133, *supra* note 2, at 165-166; Flowerree, *supra* note 2, at 1011-1014; VICTOR A. UTGOFF, THE CHALLENGE OF CHEMICAL WEAPONS: AN AMERICAN PERSPECTIVE 88-90 (1991).

Convention (BWC)[18] dealt with the related issue of disease-causing agents (as partially contrasted with pure poisons[19]); the bilateral 1989 Wyoming Memorandum of Understanding[20] provided an interim U.S.-U.S.S.R. mechanism for exchanging data and inspection visits in anticipation of a forthcoming broader multilateral CW treaty; and the 1990 Bilateral Destruction Agreement reflected the two superpowers' consensus to initiate promptly the process for destroying most of their CW, even prior to the conclusion of a universal treaty.[21]

That long-sought comprehensive treaty, the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (CWC),[22] finally ripened in 1993. It has attracted 188 parties; two more states (Israel and Myanmar) have signed, but not yet ratified; and only six countries (Angola, Egypt, North Korea, Somalia, Syria, and the recently-formed South Sudan) have shunned the treaty altogether.[23]

As its title suggests, the CWC aims to erect a permanent, all-encompassing

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18. Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, Apr. 10, 1972, 26 U.S.T. 583, T.I.A.S. 8062, 1015 U.N.T.S. 163 [hereinafter BWC].

19. The precise distinction between "chemical" and "biological" agents is elusive. Essentially, the concept of a biological weapon focuses upon living microorganisms that cause diseases in humans, animals, or plants. A chemical weapon operates through poison, rather than disease. A "toxin" is a sort of middle ground, containing some of the characteristics of both CW and BW, and being regulated by both the BWC and the CWC. *See* Julian Perry Robinson, *Chemical and Biological Weapons, in* COMBATING WEAPONS OF MASS DESTRUCTION: THE FUTURE OF INTERNATIONAL NONPROLIFERATION POLICY 74, 74 (Nathan E. Busch & Daniel H. Joyner eds., 2009). The authoritative interpretative source regarding the CWC is WALTER KRUTZSCH & RALF TRAPP, A COMMENTARY ON THE CHEMICAL WEAPONS CONVENTION 31-32 (1994) [hereinafter KRUTZSCH & TRAPP].

20. Memorandum of Understanding Regarding a Bilateral Verification Experiment and Data Exchange Related to Prohibition of Chemical Weapons, U.S.-U.S.S.R., Sept. 23, 1989, *reprinted in* 28 I.L.M. 1438 [hereinafter Wyoming Memorandum of Understanding]. This agreement inaugurated a two-phase program of data exchanges about chemical weapons stocks and reciprocal on-site visits. The contemplated exchange program was never fully implemented, as U.S. authorities were unsatisfied with the accuracy and completeness of the data provided by Soviet officials. U.S. DEP'T OF STATE, FACT SHEET: U.S.-RUSSIAN WYOMING MEMORANDUM OF UNDERSTANDING ON CHEMICAL WEAPONS (Sept. 1998), http://www.state.gov/www/global/arms/factsheets/wmd/cw/cwmou.html; U.S. GOV'T ACCOUNTABILITY OFFICE, GAO/NSIAD-94-136, ARMS CONTROL: STATUS OF U.S.-RUSSIAN AGREEMENTS AND THE CHEMICAL WEAPONS CONVENTION (1994) [hereinafter STATUS OF U.S.-RUSSIAN AGREEMENTS]; Report 104-133, *supra* note 2, at 26-28, 166-167, 203-204.

21. U.S.-Soviet Agreement on Destruction and Non-Production of Chemical Weapons and on Measures to Facilitate the Multilateral Chemical Weapons Convention, U.S.-U.S.S.R., June 1, 1990, 29 I.L.M. 934, 56 Fed. Reg. 25,404. This agreement called for each party to begin destroying most, but not all, of its CW and CW production facilities, subject to verification inspections conducted by the other side. The agreement was never operational, and was superseded by the CWC. Federation of American Scientists, Bilateral Destruction Agreement, http://www.fas.org/nuke/control/bda/index.html; Report 104-133, *supra* note 2, at 26-28, 166-167, 203-204.

22. CWC, *supra* note 1; KRUTZSCH & TRAPP, *supra* note 19, at 31-32.

23. *OPCW Member States*, ORGANISATION FOR THE PROHIBITION OF CHEMICAL WEAPONS, (Oct. 9, 2012), http://www.opcw.org/about-opcw/member-states (as of Nov. 12, 2012); *OPCW Non-Member States,* ORGANISATION FOR THE PROHIBITION OF CHEMICAL WEAPONS, *available at* http://www.opcw.org/about-opcw/ (as of Nov. 12, 2012); *see also* Daniel Feakes, *Getting Down to the Hard Cases: Prospects for CWC Universality,* 38.2 ARMS CONTROL TODAY, Mar. 2008, at 15 (discussing challenges of achieving universal adherence to the CWC).

prohibition on chemical weapons. It exceeds the accomplishment of the Geneva Protocol by banning all production, acquisition, retention, use, preparation for use, and assistance to others for the use of chemical weapons.[24] It also establishes an elaborate mechanism for data exchanges, inspection by an international organization, and dispute resolution mechanisms to ensure verified compliance with the underlying obligations.[25] The treaty defines the prohibited items expansively – it covers active chemical weapons agents and substances that could be their "precursors";[26] it likewise regulates even "non-lethal" tear gas and other riot control agents;[27] and it embraces even old, obsolete, and abandoned chemical munitions that failed to detonate in combat or were discarded carelessly in test ranges.[28] It requires dismantling or conversion of facilities formerly used to produce CW[29] and regulates international commerce in substances and equipment that could be diverted for weapons purposes.[30] The CWC may be the longest, most detailed, most elaborately-crafted multilateral arms control agreement in history. It has properly been hailed by UN Secretary-General Ban Ki-Moon as "one of the greatest achievements in the history of multilateral efforts to achieve disarmament and non-proliferation" and "a fundamental pillar of international peace and security."[31]

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24. CWC, *supra* note 1, art. I.

25. *Id.* arts. III (Declarations), VIII (the Organization), IX (Consultations, Cooperation and Fact-Finding). The OPCW has undertaken more than 4680 inspections of 195 chemical weapons-related sites and 1103 chemical industry sites in eighty-one countries. Statistics column (lower right), OPCW WEBSITE, http://www.opcw.org; Walker, *supra* note 2; OPCW, Executive Council, *Draft Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2011*, EC-69/3 (July 11, 2012) at 7-12 (reporting numbers of different types of inspections conducted by OPCW in 2011), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15580.

26. CWC, *supra* note 1, art. II.3. The treaty establishes three main categories of toxic chemicals. Schedule 1 includes the most dangerous materials, those that have previously been used as weapons; Schedule 2 include substances that pose risks as weapons, but that are also used in the civilian economy; Schedule 3 covers those of lesser, but still noteworthy risk. The treaty's provisions regarding declarations of inventories, destruction of weapons, international commerce, and verification of compliance vary according to which schedule covers the specific chemical. This article concentrates on the provisions relevant to Schedule 1, the most salient problem. *See generally*, CWC, *supra* note 1, Annex on Chemicals; *see also* Ralf Trapp, *Advances in Science and Technology and the Chemical Weapons Convention*, 38.2 ARMS CONTROL TODAY, Mar. 2008.

27. CWC, *supra* note 1, arts. I.5, II.7; *see also* Kyle M. Ballard, *Convention in Peril? Riot Control Agents and the Chemical Weapons Ban*, 37.7 ARMS CONTROL TODAY, Sept. 2007.

28. CWC, *supra* note 1, arts. I.3, II.5, II.6, and Annex on Implementation and Verification, Part IV(B). *See* John Hart, *Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons*, 38.2 ARMS CONTROL TODAY, Mar. 2008; OPCW, Conference of the States Parties, *Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2010*, C-16/4 (Nov. 30, 2011) ¶1.14 (noting that ten countries reported new discoveries of old or abandoned CW during 2010).

29. CWC, *supra* note 1, arts. I.4, V.

30. *Id.* Annex on Implementation and Verification, Part VI.B, VII.C, VIII.C.

31. "We Cannot Rest Until We Destroy All Chemical Arms." Press Release, Dep't of Public Information, Secretary-General Tells Meeting of States Parties to Chemical Weapons Convention, U.N. Press Release SG/SM/13974, DC/3316 (Nov. 28, 2011); *see also* Note by the Technical Secretariat, *Review of the Operation of the Chemical Weapons Convention Since the 1st Review Conference*, OPCW,

In support of those aspirations, the CWC created an implementing body, the Organization for the Prohibition of Chemical Weapons (OPCW),[32] sitting in The Hague and consisting of a Conference of the States Parties (comprising all treaty members),[33] an Executive Council (composed of forty-one member states),[34] and a Technical Secretariat (the professional staff, headed by a Director-General).[35] The organization's 2012 budget is approximately 70.6 million euros (about $93 million).[36]

Adjunct to the basic bans on production, stockpiling, and use of CW, the treaty also requires each party to destroy all the chemical weapons it owns or possesses or that are located at any place within its jurisdiction or control[37] and to do so "in an essentially irreversible way to a form unsuitable for production of chemical weapons."[38] The CWC further specifies an "agreed rate and sequence of destruction," known as the "order of destruction."[39] Specifically, each party is obligated:

- to commence destruction operations within two years after the treaty enters into force for it;[40]
- to submit detailed annual plans for the destruction process;[41]
- to destroy not less than one percent of its chemical weapons within three years after entry into force;[42]
- to destroy not less than twenty percent of the inventory within five years;[43]

RC-2/S/1, (Mar. 31, 2008), para 2.1 (noting that the CWC "is widely appreciated as a unique multilateral agreement that, alone among treaties of a similar nature, effectively bans an entire category of weapons of mass destruction, for all countries and in a non-discriminatory fashion and under strict international control.").

32. CWC, *supra* note 1, art. VIII; OPCW *Basic Facts*, *supra* note 2.

33. CWC, *supra* note 1, art. VIII. B. The Conference of the States Parties is the "principal organ" of the OPCW, authorized to consider any questions and to make recommendations and decisions on all matters related to the CWC, including setting the budget, selecting members of the Executive Council, appointing the Director-General, and taking "the necessary measures to ensure compliance" with the Convention. *Id.* art. VIII.19, 21.

34. CWC, *supra* note 1, art. VIII. C. The Executive Council is the "executive organ" of the OPCW; it is to "promote the effective implementation of, and compliance with," the Convention. *Id.* art. VIII.31.

35. CWC, *supra* note 1, art. VIII. D. The Technical Secretariat assists the other OPCW organs in carrying out their functions, by preparing draft budgets, programs and reports, and conducts the Convention's verification measures. *Id.* art. VIII.37, 38.

36. OPCW, Conference of the States Parties, *Decision: Programme and Budget of the OPCW for 2012*, C-16/DEC.12 (Dec. 2, 2011). The approved 2012 figure (EUR 70,561,800) represents a 5.4% decrease from the 2011 budget. *Id.* Annex, at 9; *see also* OPCW TODAY, Vol. 1, No. 1, Apr. 2012, at 10.

37. CWC, *supra* note 1, art. I.1.2.

38. *Id*. Annex on Implementation and Verification, Part IV(A).C.12.

39. *Id*. art. IV.6.

40. *Id*. art. IV.6.

41. *Id*. art. IV.7.

42. *Id*. Annex on Implementation and Verification, Part IV(A).C.17(a)(i).

43. *Id*. Annex on Implementation and Verification, Part IV(A).C.17(a)(ii).

- to destroy not less than forty-five percent within seven years;[44] and
- to destroy all its chemical weapons not later than ten years after entry into force.[45]

If a party, "due to exceptional circumstances beyond its control,"[46] will be unable to achieve any of these benchmarks in the order of destruction, it may propose a modification of the timetable. In the extreme case, a party may submit to the Executive Council and the Conference of the States Parties a request for an extension of the ten-year completion requirement, but "in no case shall the deadline for a State Party to complete its destruction of all chemical weapons be extended beyond 15 years after the entry into force of this Convention."[47] The CWC entered into force on April 29, 1997, so that ultimate, non-renewable deadline for the destruction of all CW was April 29, 2012.

The request for an extension is to include: the duration of the proposed continuance, a "detailed explanation of the reasons for the proposed extension," and the party's detailed plan for pursuing the destruction operations.[48] In granting a prolongation, the Executive Council and the Conference of the States Parties may set conditions, including specifying additional verification measures; the party is to meet the costs of verification during the extension period.[49]

The treaty leaves it to each party to determine what to employ for destroying its CW inventory,[50] subject to the conditions that: (1) each "shall assign the highest priority to ensuring the safety of people and to protecting the environment";[51] (2) each will avoid the simple but intolerable precedents of ocean dumping, land burial, or open-pit burning of the detritus;[52] (3) each shall bear the costs of its destruction process;[53] and (4) the entire operation must be undertaken in a transparent fashion, accessible to the international inspectorate.[54]

Unsurprisingly, a treaty of this ambitious scope and prominence – despite its bipartisan origins – attracted considerable political controversy in the United

44. *Id*. Annex on Implementation and Verification, Part IV(A).C.17(a)(iii).
45. *Id*. Annex on Implementation and Verification, Part IV(A).C.17(a)(iv).
46. *Id*. Annex on Implementation and Verification, Part IV(A).C.21.
47. *Id*. Annex on Implementation and Verification, Part IV(A).C.26.
48. *Id*. Annex on Implementation and Verification, Part IV(A).C.25. A detailed annual plan for destruction is to include: the quantity of each type of chemical weapon to be destroyed at each destruction facility and the dates of operation; a detailed site diagram of each facility; and a schedule of activities at each facility, including design, construction, installation of equipment, operator training, scheduled periods of inactivity, etc. *Id*. at C.29.
49. *Id*. Annex on Implementation and Verification, Part IV(A).C.26.
50. *Id*. Annex on Implementation and Verification, Part IV(A).C.13.
51. *Id*. art. IV.10. Similar provisions, requiring parties to assign the highest priority to ensuring the safety of people and protecting the environment, are included in articles V.11 and VII.3. Notably, both art. IV.10 and art. V.11 specify that the destruction operations shall be conducted "in accordance with [the party's] national standards for safety and emissions."
52. *Id*. Annex on Implementation and Verification, Part IV(A).C.13.
53. *Id*. art. IV.16.
54. *Id*. Annex on Implementation and Verification, Part IV(A).D.

States and elsewhere.[55] The U.S. Senate pondered its advice and consent to ratification of the CWC for four years, ultimately endorsing the instrument on April 24, 1997,[56] subject to twenty-eight conditions. These provisos addressed issues such as mandatory detailed reporting to Congress about other parties' compliance with the treaty; enhancement of U.S. chemical defenses; and the level of dues and other voluntary contributions to the OPCW that the United States would pay.[57] But none of the Senate's expressed limitations concerned the obligation for destruction or the accompanying timetable – on that point, at least, there was a clear consensus both within the United States and internationally.[58] The treaty entered into force for the United States (and simultaneously for all the other original parties) on April 29, 1997.[59]

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55. Report 104-133, *supra* note 2, at 173 (discussing issues addressed in the CWC ratification debate); *see also* Thomas Moore, *Six Faulty Reasons for Supporting the Chemical Weapons Convention*, THE HERITAGE FOUND. (Apr. 23, 1997), http://www.heritage.org/research/reports/1997/04/bg1111-six-faulty-reasons-for-supporting-the-cwc; Kathleen C. Bailey, *Problems with the Chemical Weapons Convention, in* Morel & Olson, *supra* note 6. The Convention had been negotiated and signed under President George H.W. Bush; President Bill Clinton won the advice and consent of the Senate and ratified the Convention.

56. U.S. Senate Resolution to Advise and Consent to the Ratification of the Chemical Weapons Convention, S. Res. 75, 105th Cong. (1997) (enacted) [hereinafter Resolution of Advice and Consent]. In addition, the CWC implementing legislation, contained in the Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1999, Pub. L. No. 105-277, §112 Stat. 2681, 856-887 (1998), provides the authority for domestic implementation of the CWC's provisions.

57. Resolution of Advice and Consent, *supra* note 56, condition 10 ("Monitoring and verification of compliance"), condition 11 ("Enhancements to robust chemical and biological defenses"), condition 22 ("Limitations on the scale of assessment").

58. *See* Report 104-133, *supra* note 2, at 186 (noting that "The administration anticipates that the United States will be able to meet the 2004 deadline, provided that environmental issues can be resolved in a 'timely manner'"); *id*. at 187 ("the present program can ensure environmentally safe destruction within the 10-year timeline of the [Convention.]"); *id*. at 189 (discussing the possibility that if the United States became unable to destroy the stockpile within 10 years, it would be possible to seek a 5-year extension, but cautioning that "[a]ny delay on the part of the United States would probably result in an equal or greater delay on the part of Russia . . . . In addition, in the eyes of many, the status of the United States as a major proponent of the Convention and arguably the most technologically advanced Nation places a greater responsibility on its adherence to Convention provisions."); *id*. at 227 (concluding "[m]eeting the destruction schedule laid out in the CWC will be a major challenge. Important political, environmental, and economic barriers lie ahead. If the destruction effort does not keep pace with implementation of other provisions of the CWC, however, the credibility of the entire Convention will be undermined.").

The Senate did attach conditions that required the president to explore "alternative technologies" for the destruction of U.S. CW, "in order to ensure that the United States has the safest, most effective and environmentally sound plans and programs for meeting its obligations" and to consult with Congress about whether to submit a request to the OPCW Executive Council for an extension of the deadline for destroying the CW stocks, if "the President determines that alternatives to the incineration of chemical weapons are available that are safer and more environmentally sound but whose use would preclude the United States from meeting the deadlines of the Convention." Resolution of Advice and Consent, *supra* note 56, condition 27. That condition also extended until April 29, 2007, the prior 2004 statutory deadline (established by the U.S. Department of Defense Authorization Act for 1986, 50 U.S.C. §1521 (2010) for destroying U.S. CW. *Id.* Condition 27 (B).

59. OPCW WEBSITE, *supra* note 23. The treaty entered into force for Russia on May 12, 1997. *Id.*

Finally, it must be noted that even a comprehensive, near-universal treaty cannot by itself irrevocably solve the problem of CW. Indeed, rumors and allegations persist of covert evasions, attempts to sneak something past the OPCW inspectorate, or sputtering intentions to sustain a clandestine military CW program on behalf of renegade countries.[60] The United States has publicly charged China, Iran, Russia, and Sudan with violating the CWC,[61] and apprehensions have also been raised regarding CWC non-parties North Korea and Syria.[62]

Additionally, the threats of non-state actors – terrorist groups from Aum Shinrikyo[63] (the Japanese cult that unleashed sarin nerve gas in the Tokyo subway in 1995, killing twelve and injuring scores more) to al Qaeda[64] – were

60. U.S. DEP'T OF STATE, ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION AND DISARMAMENT AGREEMENTS AND COMMITMENTS, 37 (general), 43 (China), 45 (Iran), 50 (Russia) (July 2010) [hereinafter STATE COMPLIANCE REPORT OF 2010]; U.S. DEP'T OF STATE, COMPLIANCE WITH THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION, STOCKPILING AND USE OF CHEMICAL WEAPONS AND ON THEIR DESTRUCTION, CONDITION, (10)(C) REP. (Aug. 2010) [hereinafter CWC PROHIBITION REPORT 2010]; STATUS OF U.S.-RUSSIAN AGREEMENTS, *supra* note 20, at 2 (reporting that in 1994, "[t]he number of countries suspected of having or developing [chemical] weapons has increased to 24."); Jonathan B. Tucker, *The Future of Chemical Weapons,* NEW ATLANTIS, Fall 2009/Winter 2010, at 3.

61. Jonathan B. Tucker, *Verifying the Chemical Weapons Ban: Missing Elements*, 37.1 ARMS CONTROL TODAY, Jan./Feb. 2007; Statement of Stephen G. Rademaker, Ass't. Sec'y of State for Arms Control, at the First Review Conference of the CWC (Apr. 28, 2003); U.S. DEP'T OF STATE, ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION, AND DISARMAMENT AGREEMENTS AND COMMITMENTS 50-62 (Aug. 2005) [hereinafter STATE COMPLIANCE REPORT OF 2005].

62. *U.N. to Investigate North Korean Attempt to Export Reagents to Syria*, GLOBAL SEC. NEWSWIRE, Jan. 6, 2012, http://www.nti.org/gsn/article/un-probing-2009-north-korean-attempt-export-reagents-syria/; Joby Warrick, *Syrian Unrest Raises Fears About Chemical Arsenal*, WASH. POST, Aug. 28, 2011, at A1; *Major Ground Force Likely Needed to Guard Syrian Chemical Arms: Pentagon*, GLOBAL SEC. NEWSWIRE, Feb. 23, 2012, http://www.nti.org/gsn/article/us-calculates-big-military-footprint-may-be-needed-guard-syrian-chemical-arms/ (U.S. Department of Defense (DoD) estimates Syria has fifty CW manufacturing and storage facilities); Syria's CW arsenal became a special concern in 2012, as the ongoing insurgency there raised apprehension that the regime might employ CW against the rebels or any outside intervention force, and that a sudden collapse of the government might leave a substantial quantity of weaponized CW vulnerable to theft or seizure by terrorists. Joby Warrick, *U.S., Allies Accelerating Plans to Secure Chemical Arsenal as Syrian Crisis Worsens*, WASH. POST, May 19, 2012, at A19; *Syrian Resistance Develops Plan to Protect Chemical Arsenal: Report*, GLOBAL SEC. NEWSWIRE, May 29, 2012, http://www.nti.org/gsn/article/syrian-resistance-plans-protect-chemical-arsenal-report/.

63. RICHARD DANZIG ET.AL., AUM SHINRIKYO: INSIGHTS INTO HOW TERRORISTS DEVELOP BIOLOGICAL AND CHEMICAL WEAPONS (Center for a New American Security 2011), *available at* http://www.cnas.org/aumshinrikyo (describing Aum Shinrikyo's program for developing a CW capability); Martin Martishak, *Report: Cult Demonstrates Chemical Terrorism Threat*, GLOBAL SEC. NEWSWIRE, July 29, 2011, http://www.nti.org/gsn/article/report-cult-demonstrates-chemical-terrorism-threat (concluding that CW is a more viable and accessible option than biological weapons for terrorists).

64. *Al-Qaeda Magazine Urges Chemical, Biological Strikes Against Foes*, GLOBAL SEC. NEWSWIRE, May 3, 2012, http://www.nti.org/gsn/article/al-qaeda-magazine-urges-chemical-biological-strikes-us (describing recent article by the Yemen affiliate of al Qaeda, recommending the use of chemical and biological weapons for the mass killing of nonbelievers); ROLF MOWATT-LARSSEN, AL QAEDA WEAPONS OF MASS DESTRUCTION THREAT: HYPE OR REALITY? (Belfer Center 2010), *available at* http://belfercenter.ksg.harvard.edu/files/al-qaeda-wmd-threat.pdf (arguing that the al Qaeda leadership is more interested in acquiring nuclear or biological weapons, leaving chemical weapons to the initiative of individual cells; citing examples of prominent small-scale CW terrorist activities); Rene Pita, *Assessing al Qaeda's*

not at the forefront of the CWC negotiators' minds, but have come to loom large in evaluating CW dangers and the treaty today.[65] Chemical (and biological) weapons have frequently been referred to as "the poor man's atomic bomb" – but with the bonus factor of greater accessibility, since as many as seventy different compounds have been stockpiled as weapons by various countries.[66] The allure of CW as an inexpensive, obtainable "equalizer" in conflict has held a great appeal.[67]

II. THE U.S. CHEMICAL WEAPONS PROGRAM

Just as American weaponeers have pursued virtually every other form of possible military advantage over the years, so, too, did they explore chemistry for hostile applications. Before and during World War II, the United States manufactured untold quantities of varying chemical concoctions, which it thankfully never applied in combat.[68] After the war, batches of the excess chemicals were unceremoniously disposed of (often via insanely hazardous techniques such as dumping in shallow waters or burial in unmarked trenches),[69] but nearly

Chemical Threat, 2 ATHENA PAPER 28 (2007); Chris Quillen, *Three Explanations for al-Qaeda's Lack of a CBRN Attack*, 5.3 TERRORISM MONITOR, Feb. 21, 2007, *available at* http://www.jamestown.org/programs/gta/single/?tx_ttnews%5Btt_news%5D=1015&tx_ttnews%5BbackPid%5D=182&no_cache=1.

65. OFFICE OF THE COORDINATOR FOR COUNTERTERRORISM, U.S. DEP'T OF STATE, THE GLOBAL CHALLENGE OF CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) TERRORISM, COUNTRY REPORTS ON TERRORISM 2010 (Aug. 2011) (noting that "preventing chemical terrorism is particularly challenging"); Walker, *supra* note 2 (noting that Iraqi insurgent forces have employed crude chemical weapons, by affixing improvised explosive devices to vehicles carrying tanks of chlorine gas); Report 104-33, *supra* note 2, at 209-211 (assessing the CWC's likely impact on anti-terrorism efforts); *Israel Concerned Syrian Chemical Arms May Be Proliferating to Extremists*, GLOBAL SEC. NEWSWIRE, Jan. 3, 2012, http://www.nti.org/gsn/article/israel-concerned-syrian-chemical-arms-proliferating-extremists/; *see* Opening Statement by the Director-General to the the Conference of the States Parties at Its 16th Session, OPCW, C-2/DG.18, Nov. 28, 2011, ¶¶114-117, http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15203; Jonathan B. Tucker, *The Future of Chemical Weapons*, NEW ATLANTIS, Fall 2009/Winter 2010, at 3.

66. DANIEL H. JOYNER, INTERNATIONAL LAW AND THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION 80 (Oxford Scholarship Online 2009).

67. NEIL C. LIVINGSTONE & JOSEPH D. DOUGLASS, JR., CBW: THE POOR MAN'S ATOMIC BOMB (Institute for Foreign Policy Analysis 1984).

68. In 1943, President Roosevelt, speaking about chemical weapons, declared, "I have been loath to believe that any nation, even our present enemies, would or would be willing to loose upon mankind such terrible and inhumane weapons . . . . Use of such weapons has been outlawed by the general opinion of civilized mankind. This country has not used them. I state categorically that we shall in no circumstances resort to the use of such weapons unless they are first used by our enemies." Quoted in LEONARD A. COLE, CLOUDS OF SECRECY: THE ARMY'S GERM WARFARE TESTS OVER POPULATED AREAS 12 (1990).

69. U.S. CENTERS FOR DISEASE CONTROL, HISTORY OF U.S. CHEMICAL WEAPONS ELIMINATION, http://www.cdc.gov/nceh/demil/history.htm [hereinafter CDC] (noting Operation CHASE, an acronym for "Cut Holes and Sink 'Em," a 1960s program for loading unwanted CW onto obsolete ships which were then scuttled).

30,000 metric tonnes of lethal chemicals were retained, and research persisted on new and better agents.[70]

By 1993, the stockpile consisted of some 3.3 million chemical weapons of three general types: (1) rockets, land mines, projectiles, and cartridges, equipped with "energetic" components such as fuzes, propellants, or bursters; (2) bombs, which lack energetics; and (3) bulk storage drums, especially ton containers and spray tanks.[71] The two major categories of lethal CW are nerve agents (denominated GA or tabun, GB or sarin, and VX), which are colorless, odorless, and tasteless organophosphorus compounds that attack the central nervous system, with even a tiny amount proving lethal; and vesicant or blister agents (including mustard gas and lewisite), which kill via inhalation or infiltration through exposed skin.[72]

These apocalyptic devices and materials were stored at nine star-crossed locations: Aberdeen, Maryland; Lexington, Kentucky; Newport, Indiana; Anniston, Alabama; Pine Bluff, Arkansas; Pueblo, Colorado; Tooele, Utah; Umatilla, Oregon; and Johnston Atoll in the Pacific.[73] Most of the ordnance remained in reasonably stable condition, but the United States had stopped producing new chemical weapons after 1969,[74] so by 1993, the inventory was seriously aging, and deterioration of some of the components became inevitable. Leakage,

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70. *Id.* Measurements of the quantities of chemical weapons are expressed inconsistently – sometimes in metric tonnes (1000 kg or approximately 2200 pounds) and sometimes in tons (2000 pounds). For example, in many sources, the original U.S. CW inventory is stated as containing approximately 31,500 tons of agent. *Chemical Weapons: Better Management Tools Needed to Guide DOD's Stockpile Destruction Program: Hearing Before the Subcomm. on Terrorism, Unconventional Threats and Capabilities, of the H. Comm. on Armed Services,* GAO-04-221T (2003) (statement of Henry L. Hinton, Jr., Managing Director, Defense Capabilities and Management).

71. U.S. GENERAL ACCOUNTING OFFICE, GAO/NSIAD-97-18, REPORT TO CONGRESSIONAL COMMITTEES, CHEMICAL WEAPONS AND MATERIEL: KEY FACTORS AFFECTING DISPOSAL COSTS AND SCHEDULE, 25 (1997) [hereinafter KEY FACTORS].

72. CLAUDINE MCCARTHY & JULIE FISCHER, INCHING AWAY FROM ARMAGEDDON: DESTROYING THE U.S. CHEMICAL WEAPONS STOCKPILE 21–30 (Henry L. Stimson Center 2004) [hereinafter MCCARTHY & FISCHER]; Report 104-33, *supra* note 2, at 167-69 (describing the various chemical weapons, their destructive effects, and their utility); *Introduction to Chemical Weapons, supra* note 2; NOYES, *supra* note 4, at 2 (noting that 3000 chemicals have been studied for use as possible CW agents; 45 have seen widespread application in combat; and about a dozen have been used in quantity).

73. MCCARTHY & FISCHER, *supra* note 72, at 3-19 (noting that each of the nine locations provides its own mixture of types of chemicals and containers: Aberdeen, for example, held only 1625 tons of CW, almost all of it in the form of mustard agent in ton containers; Pine Bluff contained 3850 tons, including sarin in rockets, VX in rockets and land mines, and mustard in ton containers; Umatilla housed 3717 tons including sarin and VX in projectiles, rockets, bombs, land mines and spray tanks, as well as mustard in ton containers).

74. Report 104-33, *supra* note 2, at 185. Between 1987 and 1990, the United States manufactured a small quantity of "binary" chemical weapons – devices in which two relatively less-toxic chemicals are produced and handled separately, and they are combined to create a lethal agent only when the shell or bomb is in flight en route to its target. These weapons were all destroyed by 2007. *Binary Chemical Weapons*, U.S. ARMY CHEMICAL MATERIALS ACTIVITY, http://www.cma.army.mil/completedmissions.aspx; *Introduction to Chemical Weapons*, *supra* note 2.

especially from the corroded forty-year old M55 rockets, became a recurrent problem.[75]

In addition to those components of the "active stockpile," a vast quantity of abandoned and obsolete "non-stockpile materiel" must also be accounted for under the CWC. Nobody really knows how much noxious chemical waste was inconspicuously dumped or buried over the decades, or where and when it might turn up – an Army survey in 1993 suggested that as many as 215 sites in thirty-three states might contain hidden repositories.[76] Some of the chemicals can retain their lethality for decades, so whenever a potential deposit is revealed by an unlucky construction crew's backhoe, a farmer's plow, or a fishing trawler's net, emergency response teams must immediately don their HAZMAT gear for a delicate recovery and disposal operation.[77]

The United States, with the Army in the lead role, had initiated efforts to whittle down the CW arsenal in the 1970s, long before the CWC began to require it. American authorities had already concluded that much of the weaponry was so unstable, so unusable on the battlefield, and so undesirable strategically that the United States should proceed with dismantling and destruction unilaterally, independent of what other states might eventually do.[78] In 1985,

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75. MCCARTHY & FISCHER, *supra* note 72, at 33, 49-54 (listing dozens of incidents involving leaks, shutdowns and malfunctions at the CW storage and disposal sites); *Pueblo Chemical Neutralization Plant Almost Finished*, GLOBAL SEC. NEWSWIRE, Sept. 28, 2011, http://www.nti.org/gsn/article/pueblo-chemical-neutralization-plant-almost-finished (reporting 101 documented instances of mustard agents leaks at the Pueblo arsenal alone); AMY E. SMITHSON, THE U.S. CHEMICAL WEAPONS DESTRUCTION PROGRAM: VIEWS, ANALYSIS, AND RECOMMENDATIONS 15 (Henry L. Stimson Center 1994); U.S. DEP'T OF DEF., ANNUAL STATUS REPORT ON THE DESTRUCTION OF THE UNITED STATES STOCKPILE OF LETHAL CHEMICAL AGENTS AND MUNITIONS FOR FISCAL YEAR 2011, 2, B-1 (Sept. 2011) [hereinafter STATUS REPORT 2011] (noting five leaking CW munitions discovered in 2011; listing 5,183 incidents since 1980); NOYES, *supra* note 4, at 31-34 (discussing leaks, especially from M55 rockets); *see also Thousands of Sites Could Be Altered to Produce Chemical Weapons, Expert Says*, GLOBAL SEC. NEWSWIRE, Mar. 5, 2012, http://www.nti.org/gsn/article/thousands-sites-are-creating-substances-chemical-weapon-applications-expert-says (noting that Russia, too, has experienced problems with leaking CW; in September 2010, four people at the Kirov destruction facility exhibited symptoms of nerve gas poisoning).

76. U.S. ARMY, GUIDE TO NON-STOCKPILE CHEMICAL WARFARE MATERIEL (Oct. 2003); Walker, *supra* note 2 (citing 224 burial sites in thirty-eight states); COMM. ON REVIEW OF THE CONDUCT OF OPERATIONS FOR REMEDIATION OF RECOVERED CHEM. WARFARE MATERIEL FROM BURIAL SITES, NAT'L RESEARCH COUNCIL, REMEDIATION OF BURIED CHEMICAL WARFARE MATERIEL (2012) (considering approximately 250 sites in forty states); KEY FACTORS, *supra* note 71, at 40-54 (describing issues affecting destruction of non-stockpile CW items); Milton E. Blackwood, Jr., *Beyond the Chemical Weapons Stockpile: The Challenge of Non-Stockpile Materiel*, 28.5 ARMS CONTROL TODAY, June/July 1998; U.S. ARMY, NON-STOCKPILE CHEMICAL MATERIEL PROJECT, GUIDE TO NON-STOCKPILE CHEMICAL WARFARE MATERIEL (Oct. 2005).

77. Walker, *supra* note 2 (reporting that the most conspicuous such cleanup operation, in Spring Valley, an upscale section of Washington, D.C., near American University, has cost more than $250 million, recovering "dozens of buried chemical munitions, related toxic materials, and unexploded ordnance over the last 17 years, all dumped after World War I."); H.Q. Le and S.J. Knudsen, *Exposure to a First World War Blistering Agent*, 23 EMERGENCY MED. J. 296 (2006) (reporting serious injury to a U.S. military male who had suffered a short, small exposure to decades-old mustard agent).

78. MCCARTHY & FISCHER, *supra* note 72, at 45; Report 104-33, *supra* note 2, at 187 (noting a Congressional Research Service report that in the early 1980s, the DoD had declared 90% of the U.S.

Congress mandated and funded the destruction operations.[79]

Significant efforts to "neutralize" some of the toxins via chemical reactions were undertaken during the 1970s and 1980s, but these proved slow, expensive, and hazardous – and they generated even larger quantities of non-weaponized, but still parlous, byproducts.[80]

Attention next turned to incineration of the ordnance, and in the mid-1980s the Army undertook to construct a series of state-of-the-art combustion chambers at the nine sites where the weapons were housed.[81] The first such facility, on Johnston Atoll, was erected in 1988 and began operating in 1990; larger versions were then to be erected at most of the stateside locations, beginning with Tooele, Utah, which retained the largest CW inventory. Some 1,436 tonnes of CW (five percent of the U.S. total) had already been destroyed in that fashion before the CWC entered into force in 1997.[82] The original 1985 expectation was that the destruction process could be efficiently completed within nine years, at a cost of $1.7 billion.[83] Although that initial time frame quickly became obsolete, U.S. officials were again willing to stick out their collective necks on this point during the 1994 Senate ratification hearings for the Convention, saying, "We are confident that we can complete the destruction within the 10-year timeline of the CWC."[84]

CW stockpile to be obsolete); CHEM. MATERIALS AGENCY, U.S. ARMY, FACT SHEET: MILESTONES IN U.S. CHEMICAL WEAPONS STORAGE AND DESTRUCTION (Aug. 2009).

79. National Defense Authorization Act for Fiscal Year 1986, Pub. L. No. 99-145, §1412(a), 99 Stat. 583 (1985); Report 104-33, *supra* note 2, at 185.

80. COMM. ON ALTERNATIVE CHEM. DEMILITARIZATION TECHS, NAT'L RESEARCH COUNCIL, ALTERNATIVE TECHNOLOGIES FOR THE DESTRUCTION OF CHEMICAL AGENTS AND MUNITIONS 54–62 (1993) (noting that between 1973 and 1976, the Army destroyed nearly 4200 tons of CW via chemical neutralization (also referred to as "hydrolysis"), but concluded that the process was too complex and too expensive, and produced too much hazardous waste); KEY FACTORS, *supra* note 71, at 11; CDC, *supra* note 69, FACT SHEET: METHODS USED TO DESTROY CHEMICAL WARFARE AGENTS; Thomas Stock, *Chemical Weapon Destruction Technologies for the Russian CW Stockpile*, *in* Hart & Miller, *infra* note 121, at 75, 78-83 (identifying neutralization campaigns to destroy CW stocks); J.F. Bunnett, *Some Problems in the Destruction of Chemical Munitions, and Recommendations Toward Their Amelioration*, 67 PURE AND APPLIED CHEM. 841 (1995); U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, TECHNOLOGIES UNDERLYING WEAPONS OF MASS DESTRUCTION (OTA-BP-ISC-115, 1993); Ronald Sutherland, *The Destruction of Chemical Weapons and Chemical Weapons Production Facilities*, in M. BOTHE, N. RONZITTI AND A. ROSAS (eds.), THE NEW CHEMICAL WEAPONS CONVENTION: IMPLEMENTATION AND PROSPECTS, 185 (1998).

81. KEY FACTORS, *supra* note 71, at 18 (reporting that the Army, based upon a 1984 study by the National Research Council of the National Academy of Sciences, concluded that incineration was a more desirable mechanism for CW destruction, because neutralization was more expensive and produced larger quantities of toxic byproducts); CDC, *supra* note 69, FACT SHEET: INCINERATION. The incinerators burn the CW at 2700 degrees Fahrenheit. *Destruction Technologies*, http://www.opcw.org/our-work/demilitarisation/destruction-technologies.

82. Walker, *supra* note 2.

83. MCCARTHY & FISCHER, *supra* note 72, at 39.

84. *Chemical Weapons Convention: Senate Hearing 103-869 on Treaty Doc. No. 103-21 Before the U.S. Senate Committee on Foreign Relations*, 103rd Cong. 9, 66 (1994) [hereinafter *Hearing 103-869*] (statement of Harold P. Smith, Jr., Asst to the Sec'y of Def. for Nuclear, Chem., and Biological Def. Programs) (answering a question about whether the destruction could be completed within the allowed ten years, Smith responded, "Yes, sir, it can. One can never predict the effects of obtaining permits, the

Those sanguine projections, however, soon proved illusory. Delays in obtaining the portfolio of required federal and state permits and in drafting and finalizing a series of programmatic and site-specific environmental impact statements led to slippage of the timetable.[85] Those delays, in turn, drove inflation in the budget estimates, especially when coupled with the erratic adjustments compelled by the need to incorporate new features of the cutting-edge destruction technologies.[86] Whistle-blower charges of insufficient attention to safety threw further spotlight on the problem, as did occasional accidents in the construction and operations processes – even while the continuing incidence of weapon leakage demonstrated that simply maintaining the status quo was not a viable course.[87]

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effects of litigation, et cetera. But if the program proceeds on the path that it is now embarked . . . we can, indeed, meet the timetable for the CWC. It is technically well within our grasp. Our planning and budgeting is realistic."); *id.* at 20 (statement of John D. Holum, Dir. of the U.S. Arms Control and Disarmament Agency) (stating that legislation could inhibit the process of destroying the CW, but "we have some cushion there.").

Administration officials were less sanguine regarding Russia's ability to complete the destruction process within ten years, even with U.S. assistance and advice. *Hearing 103-869*, *supra* note 84, at 37 (statement of Stephen Ledogar, U.S. Rep. to the Conference on Disarmament) (recounting that during the CWC negotiations, "the Russians noted there would be problems in meeting this deadline, making it difficult for the Russian federation to ratify. Therefore, a compromise was struck, whereby the ten-year destruction period was retained, with extension an unlikely, but not entirely impossible event."); *id.* at 67 (statement of Walter B. Slocombe, DoD Deputy Under Sec'y for Policy) (addressing the likelihood of Russia meeting the Convention deadlines; "I do not say unequivocally that they can meet the deadline. But it is a far more optimistic, realistic situation than people may have thought."); *id.* at 84 (statement of Donald Mahley, Special Negotiator for Nonproliferation) ("The official statements by the Russian federation to us, which we, of course, have no formal way to refute, indicate that they can, with the appropriate priorities and the appropriate resources, complete their destruction program within the 10-year period."); *id.* at 185 (questions for the record for Stephen Ledogar) ("We believe that despite the political and economic situation in Russia, there is sufficient administrative ability to get a CW destruction program functioning to meet the CWC's destruction deadline, given U.S. financial and technical assistance."); *see also* KRUTZSCH & TRAPP, *supra* note 19, at 63 (CWC negotiators included the possible five-year extension of the CW deadline in recognition of the special economic and other problems Russia was facing).

85. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-03-1031, REPORT TO CONGRESSIONAL COMMITTEES, CHEMICAL WEAPONS: SUSTAINED LEADERSHIP, ALONG WITH KEY STRATEGIC MANAGEMENT TOOLS, IS NEEDED TO GUIDE DOD'S DESTRUCTION PROGRAM 20 (2003) [hereinafter SUSTAINED LEADERSHIP] (stating that destruction operations at several facilities were delayed due to environmental permitting issues, sometimes due to "unanticipated engineering changes related to reprogramming software and design changes that required permit modifications"); KEY FACTORS, *supra* note 71 (concluding that due to lack of consensus about the destruction method to use, the cost and schedule for the CW disposal program were uncertain).

86. One chronology of cost and time overruns in the CW destruction process charts the following coordinates relating the date that an official estimate was made, the projected cost (in billions of dollars), and the anticipated time of completion: 1985: $1.7, 1994; 1989: $3.0, 1997; 1990: $3.4, 1997; 1992: $7.9, 2000; 1993: $8.6, 2003; 1994: $10.0, unspecified; 1995: $11.9, 2004; 1996: $12.0, 2004; 1997: $12.4, 2004; 1998: $12.7, 2007; 2000: $15.3, 2007; 2001: $24.0, 2011; 2002: $24.0, 2016; 2003: $25.1, 2007. MCCARTHY & FISCHER, *supra* note 72, at 39; *see also* SUSTAINED LEADERSHIP, *supra* note 85, at 10.

87. *See* SUSTAINED LEADERSHIP, *supra* note 85, at 20 (CW destruction operations at the Tooele facility (the largest in the system) were suspended between July 2002 and March 2003 because of an incident involving a plant worker who accidentally came into contact with nerve agent while performing routine

Two crucial political decisions then intervened, further complicating and delaying the CW destruction process. The first negated a plausible efficiency option, to concentrate the CW inventory into fewer locations, so fewer expensive new incinerators would have to be constructed. The Army at one point had contemplated erecting only three stateside incinerators, in centralized sites, but Congress, responding to constituents' NIMBY (Not In My Back Yard) concerns about the safety and security of transporting the huge quantities of such lethal and sometimes-fragile materials via truck or rail, forbade the executive branch from pursuing relocation options.[88] This fateful decision, to construct multiple, arguably redundant facilities, in order to avoid hazardous interstate transfers of the noxious products, eventually came to carry momentous, irreversible implications for the overall destruction timetable.

Second, simultaneously, some of the communities surrounding the eight continental U.S. CW storage sites became especially interested in alternative technologies, demanding consideration of options other than incineration, to seek mechanisms that would not emit even the tiniest quantities of hazardous

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maintenance; even after a corrective action plan was instituted, several temporary shutdowns occurred); *Hearing 103-869, supra* note 84, at 9 (statement of John D. Holum, Dir. of the U.S. Arms Control and Disarmament Agency) (stating that the dangers of leakage and contamination from continuing to hold CW in storage outweigh any potential risks from destroying the weapons); *id.* at 53 (statement of Walter B. Slocombe) (stating that the risks of delaying the destruction of the aging stockpile are greater than the advantages of developing an alternative technology other than incineration); *see also* KEY FACTORS, *supra* note 71, at 33-34 (concluding that the CW stockpile would be basically stable through 2013); Hinton, *supra* note 70, at 2 (judging that the U.S. CW demilitarization program "has suffered from several long-standing and unresolved leadership, organizational, and strategic planning issues"); *Umitilla Contractor Fined Over Nerve Agent Monitoring*, GLOBAL SEC. NEWSWIRE, July 25, 2011, http://www.nti.org/gsn/article/umatilla-contractor-fined-over-nerve-agent-monitoring/; Annette Cary, *URS Fined for Violations at Umatilla Chemical Depot*, TRI-CITY HERALD, Nov. 30, 2010, http://www.tri-cityherald.com/2010/12/01/1273540/urs-fined-over-burning-violations.html; *Anniston Chemical Weapons Disposal Plant Operator Fined*, GLOBAL SEC. NEWSWIRE, Sept. 15, 2010, http://www.nti.org/gsn/article/anniston-chemical-weapons-disposal-plant-operator-fined/; *Umatilla Contractor Fined Over Permit Breaches*, GLOBAL SEC. NEWSWIRE, Feb. 2, 2012, http://www.nti.org/gsn/article/umatilla-contractor-fined-over-permit-breaches/. *But see* Raini Brunson, *Pine Bluff Chemical Agent Disposal Facility Achieves Safety Milestone – 1,000,000 Safe Work Hours without a Recordable Injury*, U.S. ARMY CHEM. MATERIALS AGENCY (July 17, 2009), http://www.army.mil/article/24557/Pine_Bluff_Chemical_Agent_Disposal_Facility_Achieves_Safety_Milestone_1_000_000_Safe_Work_Hours_wi; *Utah Chemical Depot Clinic Wins Safety Award*, SALT LAKE TRIB., Jan. 26, 2011 (explaining "tremendous" safety records).

88. National Defense Authorization Act for Fiscal Year 1995, Pub. L. No. 103-337, §143, 108 Stat. 2663 (1994), 50 U.S.C.A. 1512a (prohibiting transport of a chemical weapon outside the state in which it was located on October 5, 1994); KEY FACTORS, *supra* note 71, at 11, 35-36; SMITHSON, *supra* note 75; John Norton, *Pueblo's Chem Demil Program Hits $3.6 Billion and Rising*, PUEBLO CHIEFTAIN, Apr. 3, 2012, *available at* http://www.chieftain.com/news/metro/pueblo-s-chem-demil-program-hits-billion-and-rising/article_d5ebd3ce-7d40-11e1-ba0f-0019bb2963f4.html. By 2010, the DoD concluded that transportation of the remaining CW stockpiles to existing incineration sites (instead of proceeding with construction of two neutralization facilities) was "the only option with any reasonable probability of success" to achieve the destruction of the stockpile by 2017, "however, this option is currently precluded by law." CHEM. DEMILITARIZATION PROGRAM , U.S. DEP'T OF DEFENSE, SEMI-ANNUAL REPORT TO CONGRESS (Sept. 2010).

byproducts from a smokestack.[89] The Army, relying upon determinations by the National Academy of Sciences that incineration was a fully safe mechanism,[90] resisted. Again, Congress waded into the fray, mandating non-incineration methods at two of the locations housing the smallest inventories (Lexington and Pueblo),[91] despite the fact that no chemical neutralization or other alternatives

89. COMM. ON ALTERNATIVE CHEM. DEMILITARIZATION TECHS, NAT'L RESEARCH COUNCIL, ALTERNATIVE TECHNOLOGIES FOR THE DESTRUCTION OF CHEMICAL AGENTS AND MUNITIONS (1993); ROBERT F. DURANT, THE GREENING OF THE U.S. MILITARY: ENVIRONMENTAL POLICY, NATIONAL SECURITY AND ORGANIZATIONAL CHANGE 179-183 (2007); ALFRED PICARDI ET AL., ALTERNATIVE TECHNOLOGIES FOR THE DETOXIFICATION OF CHEMICAL WEAPONS: AN INFORMATION DOCUMENT (1991); Chemical Weapons Working Group, *Citizens' Solution for Safe Chemical Weapons Disposal*, CHEM. WEAPONS WORKING GRP., (Apr. 29, 2007), www.cwwg.org/citsol.07.html; *Greenpeace Report Finds Serious Health Hazards Linked to Waste Incinerators*, CHEM. WEAPONS WORKING GRP., (MAY 15, 2001), www.cwwg.org/gppr.html; Triana Silton, *Out of the Frying Pan . . . Chemical Weapons Incineration in the United States*, 23 THE ECOLOGIST 18 (1993); U.S. CONG., OFFICE OF TECH. ASSESSMENT, BACKGROUND PAPER, OTA-BP-O-95, DISPOSAL OF CHEMICAL WEAPONS: ALTERNATIVE TECHNOLOGIES (1992); PAT COSTNER, CHEMICAL WEAPONS DEMILITARIZATION AND DISPOSAL: JOHNSTON ATOLL CHEMICAL DISPOSAL SYSTEM, GB AND VX CAMPAIGNS (1993).

90. COMM. ON DEMILITARIZING CHEM. MUNITIONS AND AGENTS, NAT'L RESEARCH COUNCIL, DISPOSAL OF CHEMICAL MUNITIONS AND AGENTS (1984); *see also* COMM. ON EVALUATION OF CHEM. EVENTS AT ARMY CHEM. AGENT DISPOSAL FACILITIES, NAT'L RESEARCH COUNCIL, EVALUATION OF CHEMICAL EVENTS AT ARMY CHEMICAL AGENT DISPOSAL FACILITIES (2002); COMM. ON ALTERNATIVE CHEM. DEMILITARIZATION TECH, NAT'L RESEARCH COUNCIL, ALTERNATIVE TECHNOLOGIES FOR THE DESTRUCTION OF CHEMICAL AGENTS AND MUNITIONS (1993); COMM. ON REVIEW AND EVALUATION OF THE ARMY CHEM. STOCKPILE DISPOSAL PROGRAM, NAT'L RESEARCH COUNCIL, RECOMMENDATIONS FOR THE DISPOSAL OF CHEMICAL AGENTS AND MUNITIONS (1994); COMM. ON REVIEW AND EVALUATION OF ALTERNATIVE TECHS FOR DEMILITARIZATION OF ASSEMBLED CHEM. WEAPONS, NAT'L RESEARCH COUNCIL, REVIEW AND EVALUATION OF ALTERNATIVE TECHNOLOGIES FOR DEMILITARIZATION OF ASSEMBLED CHEMICAL WEAPONS (1999); Report 104-33, *supra* note 2 at 186-187; CDC, *supra* note 69, FACT SHEET: INCINERATION, INCINERATOR AIR EMISSIONS – INHALATION EXPOSURE PERSPECTIVES, AND SAFE DISPOSAL OF CHEMICAL WEAPONS; SMITHSON, *supra* note 75.

91. In a series of enactments, Congress directed the U.S. Army to pursue alternatives to incineration. The National Defense Authorization Act for Fiscal Years 1988 and 1989 required the U.S. Department of Defense to evaluate non-incineration technologies and present to Congress "an alternative concept plan" by March 15, 1998. National Defense Authorization Act for Fiscal Years 1988 and 1989, Pub. L. No. 100-180, §125, 101 Stat. 1019 (1987). The National Defense Authorization Act for Fiscal Year 1993 required additional study of alternatives to incineration. National Defense Authorization Act for Fiscal Year 1993, Pub. L. No. 102-484, §§173-175, 106 Stat. 2315 (1992). The National Defense Authorization Act for Fiscal Year 1997 required further study and demonstration of alternatives. National Defense Authorization Act for Fiscal Year 1997, Pub. L. No. 104-201, §142, 110 Stat. 2422 (1996). The 1997 Omnibus Consolidated Appropriations Act required pilot funding for two non-incineration alternatives. 1997 Omnibus Consolidated Appropriations Act, Pub. L. No. 104-208, §8065, 110 Stat. 3009 (1996). The Strom Thurmond National Defense Authorization Act for Fiscal Year reorganized the Army's chemical demilitarization apparatus and underscored the pursuit of alternatives to incineration. 1999 Strom Thurmond National Defense Authorization Act for Fiscal Year 1999, Pub. L. No. 105-261, §142, 112 Stat. 1920 (1998). The Military Construction Appropriations Act of 2000 and the Fiscal Year 2000 Supplemental Appropriations Acts prohibited construction of any CW destruction facility at Lexington until six different alternatives to incineration were demonstrated. Military Construction Appropriations Act of 2000, Pub. L. No. 106-52, §131, 113 Stat. 259 (1999); Fiscal Year 2000 Supplemental Appropriations, Pub. L. No. 106-246, 114 Stat. 511 (2000). The Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 limited the operations at Pueblo to incineration and the alternative technologies that had been demonstrated by May 1, 2000. Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001, Pub. L. No. 106-398, §151, 114 Stat. 1654 (2000).

The U.S. Department of Defense Appropriations Act of 2008, the National Defense Authorization Act for Fiscal Year 2008, and the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 all

had been demonstrated to be safe, effective, and affordable on anything like the requisite scale and cadence of the treaty-required operations.[92]

Eventually, a patchwork of five incinerators (at Johnston Atoll, Tooele, Umatilla, Anniston, and Pine Bluff) and four neutralization facilities (at Newport, Aberdeen, Pueblo, and Lexington) was created.[93]

The United States succeeded in meeting its initial CWC deadlines, destroying one percent of the CW inventory by September 1997 and twenty percent by July 2001.[94] In October 2003, the United States solicited and received a three-year extension of the original April 2004 deadline for destroying forty-five percent of the stocks.[95]

By 2003, it had also become abundantly clear that the mandate to eliminate the entire CW legacy by the ten-year point – April 2007 – could not be satisfied, and concerns were rising about the program's compatibility with even a 2012 target.[96] The United States therefore took advantage of the CWC procedure to

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directed the U.S. Department of Defense to destroy all U.S. CW by the deadline established by the CWC, or in no circumstances later than December 31, 2017. Department of Defense Appropriations Act of 2008, Pub. L. No. 110-116, §8119, 121 Stat. 1295 (2007); National Defense Authorization Act for Fiscal Year 2008, Pub. L. No. 110-181, §922, 122 Stat. 3 (2008); Ike Skelton National Defense Authorization Act for Fiscal Year 2011, Pub. L. No. 111-383, §1421, 124 Stat. 4137 (2011).

In 1994, the Army decided to use nonincineration technologies at Aberdeen and Newport, because each of those sites housed only a single chemical agent, stored only in ton containers, making the demilitarization process simpler. In 1997, pilot testing of neutralization technology was approved for those two facilities. SUSTAINED LEADERSHIP, *supra* note 85, at 5; DURANT, *supra* note 89, at 182.

92. NOYES, *supra* note 4, at 40 (reporting that the National Academy of Sciences had concluded in 1984 that neutralization processes would be more expensive and generate large quantities of toxic wastes); *id.* at 58-70 (critically assessing other alternative technologies); KEY FACTORS, *supra* note 71, at 35 (concluding that "alternative technologies may not reduce costs or shorten disposal operations").

93. Walker, *supra* note 2; BLUE GRASS CHEM. AGENT DESTRUCTION PILOT PLANT, HYDROLYSATE OVERVIEW (2008), *available at* https://www.peoacwa.army.mil/info/fact_sheets.html; BLUE GRASS CHEM. AGENT DESTRUCTION PILOT PLANT, NEUTRALIZATION FOLLOWED BY SUPERCRITICAL WATER OXIDATION (2010), *available at* https://www.peoacwa.army.mil/info/fact_sheets.html; BLUE GRASS CHEM. AGENT DESTRUCTION PILOT PLANT, CHEMICAL WEAPONS DESTRUCTION AT BLUE GRASS (2012), *available at* https://www.peoacwa.army.mil/info/fact_sheets.html. These fact sheets describe the destruction technology to be used in Kentucky.

At each site, some "reject" weapons are destroyed using alternative technologies, such as the Detonation of Ammunition in a Vacuum Integrated Chamber (DAVINCH), an explosive mechanism applicable to units that have leaked, are unstable, contain solidified residues, or are otherwise unsuitable for routine processing. U.S. ARMY ELEMENT, ASSEMBLED CHEMICAL WEAPONS ALTERNATIVES, *INFORMATION SHEET: DAVINCH OVERVIEW*, https://www.peoacwa.army.mil/info/dl/ACWA_DAVINCH_Fact%20Sheet.pdf.

94. SUSTAINED LEADERSHIP, *supra* note 85, at 6; Statement by Robert P. Mikulak, U.S. Ambassador, at the 16th Session of the Conference of the States Parties, OPCW, C-16/NAT.31, at 1, Nov. 29, 2011 (noting that the United States also met the treaty deadline for destroying all of its prior CW production facilities) [hereinafter Mikulak Nov. 29, 2011 Statement].

95. OPCW, *Decision: Extension of the Intermediate and Final Deadlines for the Destruction by the United States of America of Its Category 1 Chemical Weapons*, C-8/DEC.15 (Oct. 24, 2003) [hereinafter OPCW Oct. 24, 2003 *Decision*].

96. Hinton, *supra* note 70, at 2, 7-8. *See also* SEMI-ANNUAL REPORT, *supra* note 88, at 4 (noting 2008 assessments of options for destruction).

request the single allowable five-year extension of the original milestone.[97] Pursuant to a recommendation from the OPCW Executive Council, the Conference of the States Parties granted the request on December 8, 2006, fixing the firm final date for completion of the destruction as April 29, 2012.[98]

Even that 2006 extension was addressed with tongues firmly planted in cheeks: the United States estimated, and the other CWC states heard, that only about two-thirds of the existing American CW inventory would, in fact, be destroyed by April 29, 2012.[99] In a series of presentations over the succeeding years, the United States made clear (typically in "informal," but quite authoritative, statements) that it was not on a pathway that would get close to full, timely compliance with the treaty's basic obligation.[100]

In an unusual bit of good news since 2007, a variety of corrective measures (based on "learning the lessons" from the initial incinerator experiences, adopting risk mitigation efforts, and providing additional financial performance incentives to the construction and operations companies) produced a significant acceleration in the destruction timetable.[101] Exploiting those benefits, a major milestone was reached on January 21, 2012: the incineration of the last CW munition stored at the Tooele site. With that accomplishment, all five of the incineration sites and the first two of the neutralization sites had finished their demilitarization work, totaling almost ninety percent of the U.S. treaty-required destruction; only the last two alternative technology sites now linger past the treaty deadline.[102]

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97. OPCW Oct. 24, 2003 *Decision*, *supra* note 95; OPCW, Report of the Executive Council on the Performance of Its Activities in the Period from 2 July 2005 to 7 July 2006, EC-47/3, C-11/2, para. 2.17 (Nov. 8, 2006).

98. OPCW, Conference of the States Parties, *Decision: Request by the U.S. for Establishment of a Revised Date for the Final Deadline for Destroying All of its Category 1 Chemical Weapons*, C-11/DEC.17 (Dec. 8, 2006) [hereinafter OPCW Dec. 8. 2006 *Decision*].

99. Statement by Robert P. Mikulak, U.S. Ambassador, at the 65th Session of the Executive Council, OPCW, EC-65/NAT.8, July 12, 2011 [hereinafter Mikulak July 12, 2011 Statement]; *Rumsfeld: U.S. Will Miss Chemical Weapons Disposal Deadline*, ARMY TIMES, Apr. 13, 2006.

100. *See, e.g.*, Mikulak July 12, 2011 Statement, *supra* note 99, at 1, 5 Statement by Robert P. Mikulak, U.S. Ambassador, at the 64th Session of the Executive Council, OPCW, EC-64/NAT.5, at 1, May 3, 2011; Statement by Robert P. Mikulak, U.S. Ambassador, at the 63rd Session of the Executive Council, OPCW, EC-63/NAT.16, at 1, Feb. 15, 2011; Statement by Robert P. Mikulak, U.S. Ambassador, at the 15th Session of the Conference of the States Parties, OPCW, C-15/NAT.3, at 4, Nov. 29, 2010 [hereinafter Mikulak Nov. 29, 2010 Statement); Statement of Andrew C. Weber, Asst. Sec'y. of Def. for Nuclear and Chem. and Biological Def. Programs, at the 14th Session of the Conference of the States Parties, C-14/NAT.7, at 5, Nov. 30, 2009.

101. Among the tactics adopted to accelerate the timetable have been recruiting experienced operators from the sites that have completed operations, to retain their expertise; using small-scale systems (such as mobile explosive chambers) to destroy individual munitions that are in such weakened or deteriorating condition that standardized handling operations would be hazardous; off-site treatment or disposal of energetics, contaminated wastes and filters; and development of improved systems to lessen the impact of mercury contamination from certain weapons.

102. *CMA News*, U.S. ARMY, CHEM. MATERIALS AGENCY, Feb. 2012; U.S. ARMY ELEMENT, ASSEMBLED CHEMICAL WEAPONS ALTERNATIVES, INFORMATION SHEET, QUICK FACTS: ACWA PROGRAM CERTIFICATION https://www.pmacwa.army.mil/info/fact_sheets.html (2011) [hereinafter QUICK FACTS]. Cleanup work,

But those two locations will be drawn much further "to the right" on the timeline: Pueblo, which contained 8.5 percent of the original U.S. inventory (some 2371 tonnes of mustard variants HD and HT in 4.2 inch mortars, 105mm projectiles and 155mm projectiles) will commence operations in 2015 and finish in 2019. Lexington, which is home to 1.7 percent of the original stockpile (475 tonnes of agents GB, VX and H in M55/56 rockets, 155mm projectiles, and 8 inch projectiles) will begin destruction operations in 2020 and not finish until late 2023.[103] Thus, even with an expenditure now pegged at over $38 billion, the United States is not projected to complete the task of destroying all its CW until the fourth quarter of 2023, more than eleven-and-a-half years after the treaty's absolute deadline.[104]

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such as destroying the infrastructure of the incineration facility, including the incinerator itself, will continue for some additional years at each site, even after the CW stocks are eliminated.

Pursuant to statute, the executive branch reports frequently to Congress regarding progress in CW demilitarization. Dep't of Defense Appropriations Act of 2008, Pub. L. No. 110-116, §8119, 121 Stat. 1295 (2007); Nat'l Defense Authorization Act for Fiscal Year 2008, Pub. L. 110-181, §922(c), 122 Stat. 3 (2008). *See* SEMI-ANNUAL REPORT, *supra* note 88. The United States also provides regular reports to the OPCW and its subsidiary bodies. *See* Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 2 (noting the pattern of reporting every 90 days on progress); Mikulak July 12, 2011 Statement, *supra* note 99, at 2; Note by OPCW Dir.-Gen., *Status Report on the Progress Made by Those States Parties That Have Been Granted Extensions of Deadlines for the Destruction of Their Chemical Weapons*, EC-58/DG.11 (2009).

103. U.S. ARMY ELEMENT, ASSEMBLED CHEMICAL WEAPONS ALTERNATIVES, DEPARTMENT OF DEFENSE APPROVES NEW COST AND SCHEDULE ESTIMATES FOR CHEMICAL WEAPONS DESTRUCTION PLANTS (Apr. 17 2012), https://www.pmacwa.army.mil/info/fact_sheets.html [hereinafter NEW COST ESTIMATES]; *Pentagon Pushes Back Chemical Weapons Disposal Schedule*, GLOBAL SEC. NEWSWIRE, Apr. 17, 2012, http://www.nti.org/gsn/article/pentagon-pushes-back-chemical-weapons-disposal-schedule/; QUICK FACTS, *supra* note 102; *Kentucky Chemical Weapons Disposal Facility Half Finished*, GLOBAL SEC. NEWSWIRE, May 22, 2012, http://www.nti.org/gsn/article/Kentucky-Chemical-Weapons-Disposal-Facility-Half-Finished (noting that construction of the CW destruction plant is slightly more than 50% complete; four of the 11 major technical systems are still being built or undergoing trials).

Note that this schedule also introduces two "gap" periods, when the United States will not be undertaking any ongoing CW destruction operations at all, despite being in violation of the CWC: from the conclusion of the incineration operations (Jan. 2012) until the start of neutralization operations at Pueblo (2015) and from the conclusion of operations at Pueblo (2019) to the beginning of operations at Lexington (2020). These gaps do not legally worsen the treaty breach, but they do look bad to the international community, aggravating the adverse political impression. *See* Statement by Robert P. Mikulak, U.S. Ambassador, at the 69th Session of the Executive Council, OPCW, EC-69/NAT.15, at 1, July 11, 2012 (characterizing the U.S. CW "destruction" program as currently being a "construction" program, because the United States is building, but not yet operating, new facilities).

104. Chris Schneidmiller, *U.S. Chemical Weapons Disposal Slippage "No Surprise," Expert Says*, GLOBAL SEC. NEWSWIRE, Apr. 18, 2012, http://www.nti.org/gsn/article/us-chemical-weapons-disposal-slippage-no-surprise-expert-says (noting that the United States has spent or committed $28 billion for the destruction of CW at the first several sites, and expects to spend an additional $10.6 billion for operations at the final two locations); Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 2 (noting $23.7 billion spent so far); QUICK FACTS, *supra* note 102; Ahmet Üzümcü, OPCW Dir.-Gen., Address at the 15th Chemical Weapons Demilitarization Conference, Glasgow, United Kingdom (May 22, 2012) [hereinafter Üzümcü May 22, 2012] (noting a September 2023 projected completion date).

Note that not only is there a mismatch between the U.S. destruction program and the CWC, there is a similar disconnect between the reality of the program's timetable and the applicable U.S. statutory law. Congress has not yet adjusted the legislated 2017 date for 100% completion of the destruction program, even while approving Army plans that are considerably in excess of that date. The Department of

Multiple factors account for the protracted delays. First, the job itself is simply very difficult and complex. The weapons are old and extremely hazardous (both because of the toxic chemicals themselves, and because of the explosives in most units); some of them are quite fragile, corroded or already leaking; and in some instances, the liquid chemical has partially solidified into congealed "heels" that resist ordinary treatment algorithms. The disassembly and destruction processes must be conducted under rigidly controlled conditions in a hermetically sealed environment, to preempt any unwarranted excursions of lethal agents. The various destruction technologies are all novel, not previously proven (or even invented), and few firms are qualified to undertake the massive design, construction and operation requirements. In many instances, there is simply no way to "bake this cake faster," because the construction of the necessary facilities is an intricate, multi-step process, and is followed by a lengthy "systemization" phase, involving the progressive testing of all components, systems and subsystems and a working demonstration that the plant and its personnel are ready to commence agent operations.[105]

Of special interest, the 9/11 terrorist attacks also imposed unforeseen disruptions on the CW demilitarization effort. Previously, factors such as the type of weapons, the size of each local stockpile, and the difficulty of the particular destruction operation had been the principal drivers in determining the priority of operations among the various sites and within each site. After 9/11, however, the assessed vulnerability to terrorist attack or seizure also became an overriding consideration, triggering a significant reallocation of resources toward the relatively small inventories housed at Aberdeen and Newport. There, bulk mustard agent was held in voluminous container tanks, which were judged to be at greater risk than the warheads or artillery projectiles stored elsewhere. Responding well to that increased sense of urgency, the program succeeded in eliminating those two repositories relatively quickly (almost two years ahead of the original schedule, in the case of Aberdeen[106]), but the sudden reorientation of the planned sequence imposed some costs and delays.[107]

Moreover, the U.S. CW destruction program did itself no favor by creating, and too-frequently revising, a rickety bureaucratic apparatus that provided inconsistent oversight, poor coordination, and unclear goals, seriously undercutting performance. The U.S. General Accounting Office (now the Government Accountability Office or GAO) has issued dozens of reports on various aspects

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Defense Appropriations Act of 2008, the National Defense Authorization Act for FY 2008, and the Ike Skelton National Defense Authorization Act for FY 2011 all directed the U.S. Department of Defense to destroy all U.S. CW by the deadline established by the CWC, or in no circumstances later than December 31, 2017. Department of Defense Appropriations Act of 2008, Pub. L. No. 110-116, 121 Stat. 1295, §8119 (2007); National Defense Authorization Act for Fiscal Year 2008, Pub. L. No. 110-181, §922, 122 Stat. 3 (2008); Ike Skelton National Defense Authorization Act for Fiscal Year 2011, Pub. L. No. 111-383, §1421, 124 Stat. 4137 (2011).

105. *See* SUSTAINED LEADERSHIP, *supra* note 85, at 30 (describing the systemization process).

106. MCCARTHY & FISCHER, *supra* note 72, at 4.

107. SUSTAINED LEADERSHIP, *supra* note 85, at 5, 22-23.

of the CW program, concluding as early as May 2000 that "Effective management of the Chemical Demilitarization Program has been hindered by its complex management structure and ineffective coordination among program offices and with state and local officials."[108] The GAO amplified that judgment in 2003, scolding that "the program remains in turmoil, affecting management performance because of long-standing and unresolved leadership, organizational, and strategic planning issues."[109]

The GAO critiques focused on management and bureaucratic weaknesses, shifting leadership, changes in oversight responsibilities, and ineffective reorganizations, as well as safety incidents during operations, delays in environmental permitting, and insecurities about community protection – all of which contributed to plagues of schedule delays and cost overruns.[110] Even the Department of Defense concurred in those harsh judgments.[111]

The most recent programmatic introspection, a six-month assessment culminating in June 2011, was occasioned by the mushrooming cost projections at the final two neutralization sites. Under the Nunn-McCurdy Act, a searching federal review is required when a major defense program exceeds its projected budget by twenty-five percent.[112] For Pueblo and Lexington together, the estimates surged thirty-three percent from the previous (April 2007) $7.9 billion to $10.6 billion.[113] The Department of Defense, therefore, reviewed and restructured these final aspects of the CW destruction program, certifying to Congress that:

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108. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO/NSIAD-00-80, CHEMICAL WEAPONS DISPOSAL: IMPROVEMENTS NEEDED IN PROGRAM ACCOUNTABILITY AND FINANCIAL MANAGEMENT, REPORT TO CONGRESSIONAL COMMITTEES 15 (2000).

109. SUSTAINED LEADERSHIP, *supra* note 85, at 3; *see also* MCCARTHY & FISCHER, *supra* note 72, at 45-47 (presenting a time line highlighting organizational changes in oversight of the CW demilitarization program); Alexander Kelle, *Chemical Weapons Destruction Deadline Missed*, BULL. OF THE ATOMIC SCIENTISTS (Apr. 24, 2012) (citing drastic budget cuts in 2006 as impeding development of the last two CW destruction sites), *available at* http://www.thebulletin.org/web-edition/columnists/alexander-kelle/chemical-weapons-destruction-deadline-missed; *Rumsfeld: U.S. Will Miss Chemical Weapons Disposal Deadline*, ARMY TIMES, Apr. 13, 2006.

110. SUSTAINED LEADERSHIP, *supra* note 85, at 12, 18, 20; *see also* DURANT, *supra* note 89, at 178-79.

111. SUSTAINED LEADERSHIP, *supra* note 85, at 36.

In 1997, Congress established the Assembled Chemical Weapons Assessment program (later renamed as Assembled Chemical Weapons Alternatives), which assumed responsibility for destruction of the CW at the Pueblo and Lexington sites. CDC, *supra* note 69, FACT SHEET: METHODS USED TO DESTROY CHEMICAL WARFARE AGENTS. The Army Chemical Materials Agency remained responsible for destroying the larger quantity of U.S. CW at the incineration sites.

112. Continued Financing of Government Operations, Pub. L. No. 111-123, §206, 123 Stat. 3483 (codified at 10 U.S.C. 2433a (2009)). A "significant" Nunn-McCurdy breach occurs when a major defense acquisition program experiences an increase of 15% in budgeted costs; these must be notified to Congress. For the chemical destruction program, that notification was provided on July 21, 2010. A "critical" Nunn-McCurdy breach occurs when the program's costs exceed the baseline estimates by 25%. Any such programs must be terminated unless the U.S. Department of Defense makes specified findings and notifies Congress. QUICK FACTS, *supra* note 102.

113. Schneidmiller, *supra* note 104; NEW COST ESTIMATES, *supra* note 103; QUICK FACTS, *supra* note 102; JI S. BYUN ET AL., CHEMICAL DEMILITARIZATION – ASSEMBLED CHEMICAL WEAPONS ALTERNATIVES (ACWA): ROOT CAUSE ANALYSIS, iii, 9 (2011) (reporting that the revised cost overrun reaches 39.22% from the 2007 estimate); STATUS REPORT 2011, *supra* note 75, at 4 (citing a 37% increase); *Chemical*

- continuation of the program is essential to the national security;
- there are no alternatives to the program that can meet the requirements at less cost;
- the new estimates of total program costs are reasonable;
- the program has a higher priority than other programs whose funding must be reduced in order to accommodate the increases here; and
- the program's management structure is adequate to control costs.[114]

Concluding that the main cause of the Nunn-McCurdy violation had been the unrealistic earlier budget and risk profiles, rather than a fundamental problem with the CW destruction program itself, the Department of Defense did not impose significant changes in the activities or plans at Lexington or Pueblo, but grafted on some additional options for responding to future difficulties, and inserted a more realistic set of estimates.[115] Most significantly, these revisions included prolonging the previously announced timetable by the additional two years, to culminate in 2023.[116]

With the adjustments, the Pueblo facility will employ a chemical neutralization (hydrolysis) operation, followed by secondary bio-treatment of the hydrolysate (the byproduct of neutralization).[117] In (partial) contrast, Lexington will use neutralization followed by supercritical water oxidation.[118] Although these two

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Demilitarization Work at Blue Grass Estimated to Cost $5.3B, GLOBAL SEC. NEWSWIRE, June 18, 2012, http://www.nti.org/gsn/article/chemical-demilitarization-work-blue-grass-estimated-cost-53b.

114. Letter from Ashton B. Carter, Under Sec'y of Def., to Joseph R. Biden, Jr., President of the Senate (June 14, 2011). The letter addresses the five elements that must be resolved in a Nunn-McCurdy justification, arguing a) that the destruction of the remaining CW arsenal was essential to U.S. security because it was necessary to comply with the federal law and the CWC; b) that detailed metrics were examined to determine that no other program could accomplish the mission more successfully; c) that the adjusted cost estimates were based on a 50% confidence level; d) that the high priority for this program had been affirmed by both Congress and the executive branch; and e) that the management structure was evaluated in eight primary areas to facilitate evaluation. *See also* BYUN, ET. AL., *supra* note 113, at 9 (noting that the CW destruction program had triggered a previous Nunn-McCurdy violation in 2006).

115. For example, if, following the neutralization operations at Pueblo or Lexington, problems are encountered in the on-site treatment of the hydrolysate, the restructured program could turn to off-site treatment or disposal. Likewise, a supplementary Explosive Destruction Technology could be employed at Lexington to deal with selected problematic mustard munitions. QUICK FACTS, *supra* note 102.

116. *New Cost and Schedule Estimates*, *supra* note 103.

117. U.S. ARMY, PUEBLO CHEMICAL AGENT DESTRUCTION PILOT PLANT, FACT SHEET: NEUTRALIZATION FOLLOWED BY BIOTREATMENT (Mar. 2012), *available at* https://www.peoacwa.army.mil/info/dl/PCAPP_Neut-Bio_Fact_Sheet.pdf. In this process, the first stage uses hot water to neutralize the agent, destroying the mustard molecules. The second stage uses bacteria to consume the remaining organic components. Some of the weapons at Pueblo will be destroyed by controlled detonation in a portable chamber, because they are so unstable that the standard method is unsuitable (and also to speed up the process). *Pentagon Trims Plan for Detonating Pueblo Mustard Munitions,* GLOBAL SEC. NEWSWIRE, Sept. 14, 2010, http://www.nti.org/gsn/article/pentagon-trims-plan-for-detonating-pueblo-mustard-munitions/; Jeffrey Wolf, *Army Cuts Back Plan to Blow up Colo. Chemical Arms*, DENVER POST, Sept. 14, 2010, http://www.denverpost.com/breakingnews/ci_16073498.

118. U.S. ARMY, BLUE GRASS CHEMICAL AGENT DESTRUCTION PILOT PLANT, FACT SHEET: NEUTRALIZATION FOLLOWED BY SUPERCRITICAL WATER OXIDATION (Sept. 2012), *available at* https://www.peoacwa.army.mil/

sites contain only a small fraction of the original U.S. CW inventory, they include some of the most troublesome types of munitions (always more difficult to deal with than bulk containers, because of the presence of the explosive components), and the risks of designing, erecting, and operating first-of-a-kind systems and equipment are profound.

In sum, by April 29, 2012, the U.S. CW demilitarization program had accomplished a heroic task, completing the destruction of 24,923.671 tonnes of CW – all the inventory held at the incineration sites – some 89.75 percent of the original total American inventory.[119] Moreover, progress in the construction of the final two facilities (the neutralization sites at Lexington and Pueblo) has been proceeding apace, and full financial support for the operation has been retained to date, despite the national economic difficulties.[120] Still, the United States will run well past the CWC's full obligation – complete destruction of the inventory – by at least eleven years.

III. SOVIET, RUSSIAN, AND OTHER PARTIES' CHEMICAL WEAPONS PROGRAMS

The story of the rise and fall of the chemical weapons program in the Soviet Union (and Russia) is distressingly similar to that described above.[121] Like the United States, the U.S.S.R. willingly invested time, technology, talent, and treasure in developing, refining, and producing a massive, varied CW armada. In fact, by the 1990s, Moscow commanded an unparalleled CW infrastructure, having developed even more types of chemical weapons and having integrated them into the national military planning and training even more fully than did

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info/dl/BG_neut_scwo_FINAL_2010.pdf. In this process, hot water first neutralizes the agent, and then the resulting material is exposed to very high temperatures and pressures, breaking it down into common compounds.

119. Üzümcü May 22, 2012, *supra* note 104, at 2; *CMA News*, U.S. ARMY, CHEMICAL MATERIALS AGENCY, Feb. 2012; *Army Agency Wraps Up Chemical Weapons Disposal Campaign*, GLOBAL SEC. NEWSWIRE, Jan. 24, 2012, http://www.nti.org/gsn/article/army-chemical-materials-agency-wraps-disposal-work.

120. Chris Schneidmiller, *Pentagon Eyes $1.6B for Chemical Weapons Disposal Amid Budget Tightening*, GLOBAL SEC. NEWSWIRE, Feb. 22, 2011, http://www.nti.org/gsn/article/pentagon-eyes-16b-for-chemical-weapons-disposal-amid-budget-tightening/; Rachel Oswald, *Last Two U.S. Chemical Weapons Disposal Sites Funded at $550M*, GLOBAL SEC. NEWSWIRE, Jan. 26, 2010, http://www.nti.org/gsn/article/last-two-us-chemical-weapons-disposal-sites-funded-at-550m/; *Budget Gives Major Boost to U.S. Chemical Agent Disposal Effort*, GLOBAL SEC. NEWSWIRE, Feb. 15, 2012, http://www.nti.org/gsn/article/obama-budget-gives-major-boost-kentucky-chemical-agent-disposal-effort/. *But see* Greg Kocher, *Work Is Temporarily Halted on Plant to Destroy Chemical Weapons at Blue Grass Army Depot*, LEXINGTON HERALD-LEADER, May 3, 2012 (reporting that construction activity was halted after several incidents and "near misses" to review safety procedures and practices).

121. *See generally* CHEMICAL WEAPON DESTRUCTION IN RUSSIA: POLITICAL, LEGAL AND TECHNICAL ASPECTS (John Hart & Cynthia D. Miller eds., 1998) [hereinafter Hart & Miller]; Nikita Smidovich, *The Russian and Other Perspectives*, in Morel & Olson, *supra* note 6, at 55; *Chemical Disarmament*, RUSSIAN MUNITIONS AGENCY, http://www.munition.gov.ru/eng/zapasho.html.

Russia joined the CWC on May 12, 1997, two weeks after the United States. DG 2011 Statement, *supra* note 65, ¶¶41-44.

the United States.[122] In 1989, the U.S.S.R. declared an inventory of 40,000 metric tonnes of lethal CW, including the nerve agents sarin, soman and VX, as well as mustard, lewisite, phosgene, and other horrors, at seven sites. It estimated at that time that $5-6 billion would be required to destroy that inventory.[123]

The fact that Soviet and Russian military forces had not used modern chemical weapons in combat did not mean that it was easy to surrender that capability. Indeed, defectors alleged that even in the era of Presidents Mikhail Gorbachev and Boris Yeltsin, secret research and development continued unabated, to create entire new categories of novel chemical agents, possessing increased lethality and the ability to circumvent existing Western detection and protection equipment.[124] Moreover, severe national financial restrictions in the immediate post-Cold War era hobbled Russia's ability to undertake the expensive operations necessary to destroy its mountainous CW stockpiles and the associated production and storage facilities.[125]

To help mitigate the continuing threat posed by this looming Russian CW legacy, the United States and other developed Western nations volunteered significant financial, technological, and managerial assistance. The U.S. Nunn-Lugar Cooperative Threat Reduction Program provided the largest support, totaling $1 billion in aid toward the planning and construction of a CW

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122. U.S. DEP'T OF DEF., DEF. INTELLIGENCE AGENCY, SOVIET CHEMICAL WEAPONS THREAT, DST-1620F-051-85 (1985); U.S. DEP'T OF DEF., CONTINUING DEVELOPMENT OF CHEMICAL WEAPONS CAPABILITIES IN THE USSR (Oct. 1983); AMORETTA M. HOEBER, THE CHEMISTRY OF DEFEAT: ASYMMETRIES IN U.S. AND SOVIET CHEMICAL WARFARE POSTURES (Special Report Dec. 1981); JOACHIM KRAUSE & CHARLES K. MALLORY, CHEMICAL WEAPONS IN SOVIET MILITARY DOCTRINE: MILITARY AND HISTORICAL EXPERIENCE, 1915-1991 (1992).

123. STATUS OF U.S.-RUSSIAN AGREEMENTS, *supra* note 20, at 14; Walker, *supra* note 2; Alexander Chimiskyan, *Russia on the Path Towards Chemical Demilitarization*, *in* Hart & Miller, *supra* note 121, at 14; s*ee also Russia CW Disposal Delay Linked to Curtailed Foreign Aid*, GLOBAL SEC. NEWSWIRE, May 29, 2012, http://www.nti.org/gsn/article/russia-cw-disposal-delay-linked-curtailed-foreign-aid (stating that Russia estimates it has spent $5.7 billion to date to prepare and operate its seven CW disposal facilities).

124. *See* Report 104-33, *supra* note 2, at 200-202 (discussing the revelations of Russian scientist Vil Mirzayanov regarding ongoing CW work in Russia); *see generally* VIL S. MIRZAYANOV, STATE SECRETS: AN INSIDER'S CHRONICLE OF THE RUSSIAN CHEMICAL WEAPONS PROGRAM (2009); Bill Gertz, *Russia Dodges Chemical Arms Ban*, WASH. TIMES, Feb. 4, 1997, at A1; KEN ALIBEK & STEVEN HANDELMAN, BIOHAZARD: THE CHILLING TRUE STORY OF THE LARGEST COVERT BIOLOGICAL WEAPONS PROGRAM IN THE WORLD – TOLD FROM INSIDE BY THE MAN WHO RAN IT (1999); JONATHAN B. TUCKER, WAR OF NERVES: CHEMICAL WARFARE FROM WORLD WAR I TO AL-QAEDA 315-324 (2006).

125. *See* Report 104-33, *supra* note 2, at 189-190 (noting the financial difficulties and inadequate management structures that inhibit Russia's ability to meet the CWC timetables), 205 (commenting that "[t]he administration believes that Russia will have trouble meeting the 10 year destruction deadline. The Russians made it clear to the United States during the final months of chemical negotiations in the Conference on Disarmament that this might be the case. Therefore, the Convention contains provisions that allow for a State Party to request and have approved under certain conditions, an extension of the destruction period of up to five years."); Natalya Kalinina, *The Problems of Russian Chemical Weapon Destruction*, *in* Hart & Miller, *supra* note 121, at 1-3 (noting that the main obstacle to Russia's initial implementation of the CWC was the country's severe economic deterioration following the dissolution of the USSR).

neutralization plant at Shchuch'ye.[126] Others in the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (established by the Group of Eight at Kananaskis, Canada in 2002) also contributed greatly: Germany ($475 million), Canada ($82 million) and the United Kingdom ($39 million).[127]

These cooperative ventures were not without perturbations; controversies about the relative size of the respective contributions by Russia and its partner nations, about allocation of legal liabilities for possible mishaps, and about the continuing Russian penchant for secrecy in the demilitarization operations were continuous irritants.[128] Still, funding for Russia's CW destruction program now seems to have stabilized at last, and progress toward complete destruction has accelerated.[129]

Unlike the United States, Russia avoided incineration as a disposal mechanism, considering it a "primitive" solution – unsafe, costly and politically unsustainable – and opted instead for a variety of chemical neutralization processes.[130]

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126. Walker, *supra* note 2; Amy E. Smithson, *US Assistance to Russia's Chemical Weapon Destruction Programme*, *in* Hart & Miller, *supra* note 121, at 122; Statement by Andrew C. Weber, U.S. Delegation to the OPCW, at the 14th Session of the Conference of the States Parties, C-14/NAT.7, November 30, 2009, at 6.

127. Walker, *supra* note 2; CHIMISKYAN, *supra* note 123, at 26-28; *Germany to Contribute $26.1M for Eliminating Russian Chemical Arms*, GLOBAL SEC. NEWSWIRE, Mar. 14, 2012, http://www.nti.org/gsn/article/germany-could-contribute-261m-eliminating-russian-chemical-arms (reporting that Germany has spent $443.7 million to assist Russian CW destruction over the past ten years, and has committed $26.1 million more for 2012). *But see Russia CW Disposal Delay Linked to Curtailed Foreign Aid*, GLOBAL SEC. NEWSWIRE, May 29, 2012, http://www.nti.org/gsn/article/russia-cw-disposal-delay-linked-curtailed-foreign-aid (noting that Russia estimates that other countries have provided a total of only $970 million in assistance to its CW destruction operations, roughly 48% of the amount previously pledged).

128. U.S. GEN. ACCOUNTING OFFICE, GAO-03-482, WEAPONS OF MASS DESTRUCTION: ADDITIONAL RUSSIAN COOPERATION NEEDED TO FACILITATE U.S. EFFORTS TO IMPROVE SECURITY AT RUSSIAN SITES *passim*, 12 (2003) [hereinafter ADDITIONAL COOPERATION NEEDED] (describing U.S. programs to assist Russia in securing its nerve agents and in constructing a destruction facility, but observing that some aspects of the program "face significant resistance and lack of cooperation from the Russian government"); *id.* at 6 (estimating that it may take 40 years to completely destroy Russia's CW stockpile); Martin Matishak, *Russia Restricts Transparency at Major Chemical Weapons Site, Group Says*, GLOBAL SEC. NEWSWIRE, Aug. 14, 2009, http://www.nti.org/gsn/article/russia-restricts-transparency-at-major-chemical-weapons-site-group-says.

129. *See* Opening Statement by the Director-General to the 2nd Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention, OPCW, RC-2/DG.2, Apr. 7, 2008, ¶46, http://www.opcw.org/index.php?eID=dam_frontend_push&docID=1874 (opining that "in the Russian Federation destruction has gained momentum and the plan concerning new destruction facilities is well on track"); *see also* ADDITIONAL COOPERATION NEEDED, *supra* note 128, at 62 (reporting "good access and cooperation from the Russian government" in implementing security upgrades at CW storage sites); *Work on Sixth Russian CW Disposal Site Almost Done*, GLOBAL SEC. NEWSWIRE, Sept. 28, 2010, http://www.nti.org/gsn/article/work-on-sixth-russian-cw-disposal-site-almost-done (reporting progress in constructing and operating the CW destruction facilities); *Russia CW Disposal Delay Linked to Curtailed Foreign Aid*, GLOBAL SEC. NEWSWIRE, May 29, 2012, http://www.nti.org/gsn/article/russia-cw-disposal-delay-linked-curtailed-foreign-aid (noting that Russia estimates it has spent $5.7 billion to date to prepare and operate its seven CW disposal facilities).

130. Walker, *supra* note 2. Essentially, Russia will chemically neutralize the lethal agents and then dispose of the reaction biproducts through incineration or bituminization (converting it into a tar-like mass). OPCW, *Destruction Technologies*, http://www.opcw.org/our-work/demilitarisation/destruction-

These technologies generated their own controversies, including a debate about how much chemical processing of the lethal agent would be required to meet the CWC standard of destroying the CW "in an essentially irreversible way,"[131] to ensure that the residue could not readily be "reverse engineered" back into chemical weapons form.[132]

The current status of the Russian CW destruction program depicts an enterprise that is still running well behind that of the United States on the track toward total elimination of the stockpiles, but that is projected to catch up and surpass the American level of success in the coming years. Seven destruction facilities have been built (again, as with the United States, one at each of the CW storage sites, to minimize transportation). Russia did not begin CW destruction operations until December 2002, and the country reached the CWC's first milestone (for eliminating one percent of the inventory) in April 2003, almost three years late.[133]

On October 26, 2001, Russia requested, and on December 8, 2006, the OPCW Conference of the States Parties granted, the single treaty-allowed five-year extension of the original ten-year deadline for complete destruction of the stockpile, creating for Russia the parallel April 29, 2012 deadline applicable for the United States.[134] On May 30, 2011, Russia declared that it had destroyed

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technologies/; *CW Destruction Technologies*, RUSSIAN MUNITIONS AGENCY, http://www.munition.gov.ru/eng/tchdel.html; Irian P. Beletskaya, *The Russian-US Joint Evaluation of the Russian Two-Stage Process for the Destruction of Nerve Agents*, *in* Hart & Miller, *supra* note 121, at 103; Vladislav Sheluchenko & Anton Utkin, *The Role of GosNIIOKhT in the Russian Chemical Weapon Destruction Programme*, *in* Hart & Miller, *supra* note 121, at 113.

131. CWC, *supra* note 1, Annex on Implementation and Verification, Part IV(A).C.12. *See* KRUTZSCH & TRAPP, *supra* note 19, at 343 (commenting that the implication of the irreversibility criterion is that the process of reconverting the residual products back into functional chemical weapons must be at least as costly and difficult as a new synthesis of new CW from raw products would be).

132. *See* STATE COMPLIANCE REPORT OF 2010, *supra* note 60, at 50 (noting that the United States and others are concerned that even after the first step in Russia's planned two-step process for destroying some of its nerve agent stocks, it might be possible to recapture useable chemical agent); CWC PROHIBITION REPORT, *supra* note 60, at 13-16.

133. SUSTAINED LEADERSHIP, *supra* note 85, at 7.

134. OPCW, Conference of the States Parties, *Decision: Proposal by the Russian Federation on Setting a Specific Date for Completion of the Destruction of Its Stockpiles of Category 1 Chemical Weapons*, C-11/DEC.18 (Dec. 8, 2006), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=1193 (granting Russia's request for an extension of the final destruction deadline to April 29, 2012); STATUS REPORT 2011, *supra* note 75, ¶¶12-25; OPCW, Conference of the States Parties, *Extension of the Intermediate and Final Deadlines for the Destruction by the Russian Federation of Its Category 1 Chemical Weapons*, C-8/DEC.13 (Oct. 24, 2003), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=4689.

Like the United States, Russia has hosted OPCW visits to its CW destruction sites, to confirm its progress toward CWC obligations. OPCW, *OPCW Executive Council and Director-General Visit Russia to Review Chemical Weapons Destruction Activities* (Mar. 23, 2012), http://www.opcw.org/news/article/opcw-executive-council-and-director-general-visit-russia-to-review-chemical-weapons-destruction-acti/; OPCW, Conference of the States Parties, *Decision: Visits by Representatives of the Executive Council*, C-11/DEC.20 (Dec. 8, 2006); *Russia Touts Progress in Chem-Weapon Disposal*, GLOBAL SEC. NEWSWIRE, Mar. 22, 2012, http://www.nti.org/gsn/article/russia-touts-milestone-chemical-weapons-disposal.

fifty percent of its inventory,[135] and at the April 29, 2012 deadline, it announced that it had reached the sixty-two percent level, having destroyed 24,961 tonnes of CW.[136]

Russia also projected that it would reach complete destruction by the end of 2015, some three years later than permissible, but still eight years ahead of the current U.S. timetable.[137] However, some doubt those projections, predicting that Russia's program may require until 2017 or 2018 to finish the task.[138]

In addition, it is instructive to note that five other countries, too, have contributed their own lethal drops into the CWC bucket of chemical weapons destruction.[139] South Korea eliminated its modest declared inventory of approximately 2000 tonnes by July 2008 (having received an extension of its original deadline).[140] Likewise, India destroyed its 2000 tonnes by March 16, 2009, pursuant to an extension.[141] Both those states have been quite secretive regarding their CW activities, and little is known about the size, composition, or location of their inventories, or about the process through which they were eliminated. In fact, South Korea is so sensitive about this whole matter that, at

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135. *Russia Eliminates 50% of Chemical Arsenal*, GLOBAL SEC. NEWSWIRE, May 31, 2011, http://www.nti.org/gsn/article/russia-eliminates-50-of-chemical-arsenal/.

136. *Russia Destroys 62% of Its Chemical Weapons*, RIA/Novosti, Apr. 29, 2012, http://en.ria.ru/russia/20120429/173121387.html; *Russia Destroys Over 60 PRC of Chemical Weapons*, ITAR-TASS NEWS AGENCY, Mar. 21, 2012, http://www.itar-tass.com/en/c154/371949_print.html; *Russia Touts Progress*, *supra* note 134; Üzümcü May 22, 2012, *supra* note 104, at 3.

137. Daniel Horner, *Russia Revises Chemical Arms Deadline*, 40.6 ARMS CONTROL TODAY, July/Aug. 2010; *Russia Authorizes $1.5 Billion More for Chemical Arms Destruction*, GLOBAL SEC. NEWSWIRE, Jan. 6, 2012, http://www.nti.org/gsn/article/russia-authorizes-15b-more-chemical-arms-destruction/.

138. Walker, *supra* note 2; *Thousands of Sites Could Be Altered to Produce Chemical Weapons, Expert Says*, GLOBAL SEC. NEWSWIRE, Mar. 5, 2012, http://www.nti.org/gsn/article/thousands-sites-are-creating-substances-chemical-weapon-applications-expert-says (quoting Russian scientist Alexander Gorbovsky as estimating that Russia will not complete its CW destruction until between 2017 and 2019); Schneidmiller, *supra* note 104 (quoting Paul Walker as estimating that the Russian CW destruction program "might drag out to 2017-18"); *Russia CW Disposal Delay Linked to Curtailed Foreign Aid*, GLOBAL SEC. NEWSWIRE, May 29, 2012, http://www.nti.org/gsn/article/russia-cw-disposal-delay-linked-curtailed-foreign-aid.

139. *See generally* OPCW, Executive Council, *Draft Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2011*, EC-69/3 (July 11, 2012) at 5-6; OPCW, Conference of the States Parties, *Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2009*, C-15/4 (Nov. 30, 2010); OPCW, Conference of the States Parties, *Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2010*, C-16/4 (Nov. 30, 2011).

140. OPCW, Conference of the States Parties, *Decision: Request by a State Party for an Extension of the Final Deadline for Destroying All of its Category 1 Chemical Weapons*, C-11/DEC.12 (Dec. 8, 2006) (granting South Korea's anonymous request for an extension of the final destruction deadline to December 31, 2008), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=1187; Walker, *supra* note 2.

141. OPCW, Conference of the States Parties, *Decision: Request by India for an Extension of the Deadline for Destroying All of Its Category 1 Chemical Weapons*, C-11/DEC.16, Dec. 8, 2006, (granting India's request for an extension of the final destruction deadline to Apr. 28, 2009), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=1191; Walker, *supra* note 2.

its insistence, in all official OPCW documents, South Korea is not even identified by name as having possessed and destroyed CW, but is referred to obliquely as "a State Party."[142]

Albania experienced more difficulty; it initially possessed only sixteen tonnes of CW, the smallest of any declared national inventory, and a destruction deadline was set for April 29, 2007. In the two months before that date, however, Albania indicated that it would have difficulty meeting the schedule, and on April 27, 2007, it formally notified the OPCW Executive Council that it would be unable to complete the task on time – but it never submitted an actual request for an extension. Albania did continue to make frequent reports to the OPCW about its progress in destroying the weapons, and the Executive Council noted that the country was quite close to finishing the process. The Conference of the States Parties did not address the issue. On July 4 and 11, 2007, the Technical Secretariat notified the Executive Council that Albania had accomplished the destruction – about ten weeks late, with no formal extension or other legal approval from the OPCW.[143] Albania thereby became the first country to complete the destruction of its CW inventory,[144] and the first to violate its obligations – and there was no overt, formal OPCW response to this tardiness.

Libya, too, presents a somewhat anomalous situation: under Muammar Gaddafi, Libya had attempted to construct a significant indigenous CW production infrastructure, and it had succeeded in acquiring a noteworthy arsenal of weaponized and bulk mustard agent. Following a major reversal of its foreign policy in 2003, Libya joined the CWC in 2004, and declared a CW inventory of twenty-three tonnes.[145] Libya was then largely on track for timely destruction

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142. *See, e.g.*, OPCW, Conference of the States Parties, *Decision: Request by a State Party for an Extension of the Final Deadline for Destroying All of its Category 1 Chemical Weapons*, C-11/DEC.12, (Dec. 8, 2006) (granting South Korea's anonymous request for an extension of the final destruction deadline to December 31, 2008), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=1187; Walker, *supra* note 2.

143. Albania was an early adopter of the CWC, ratifying the treaty on May 11, 1994, but the government there apparently did not realize, until 2003, that it possessed any chemical weapons. When the undocumented cache (mustard agent, lewisite, and other toxins, probably supplied by China in the mid-1970s) was discovered in a small, remote nondescript bunker in the mountains, Albania and its international partners quickly moved to secure the site and commence incineration operations. The original intention was to complete the task by the April 29, 2007 deadline, but a technical error prevented timely completion. Joby Warrick, *Albania's Chemical Cache Raises Fears About Others*, WASH. POST, Jan. 10, 2005, at A1; Walker, *supra* note 2; OPCW, Conference of the States Parties, *Decision: Extensions of the Intermediate Deadlines for the Destruction by Albania of Its Category 1 Chemical Weapons*, C-11/DEC.19 (Dec. 8, 2006) (establishing deadlines for Albania's CW destruction); OPCW, Executive Council, *Report of the Executive Council on the Performance of Its Activities in the Period from 8 July 2006 to 29 June 2007*, EC-50/3, C-12/3 (Sept. 26, 2007), ¶¶2.14-17. *But see* Matthew V. Tompkins, *Albania's Chemical Weapons Con*, 16 NONPROLIFERATION REV. 65 (2009) (arguing that Albania's leadership probably knew about the hidden CW stockpile, and decided strategically first to retain it, and then to announce and destroy it).

144. OPCW, *Albania the First Country to Destroy All Its Chemical Weapons* (July 12, 2007), http://www.opcw.org/news/article/albania-the-first-country-to-destroy-all-its-chemical-weapons/.

145. Jonathan B. Tucker, *The Rollback of Libya's Chemical Weapons Program*, 16 NONPROLIFERATION REV. 363 (2009). Libya also declared 1300 metric tonnes of precursor chemicals and 3563 unfilled

(pursuant to an extension from the OPCW), until the "Arab Spring" outbreak of fighting in the country in February, 2011 froze the operation.[146] The OPCW immediately underscored Libya's continuing responsibility for safeguarding the CW stocks during the insurrection and for resuming verified destruction procedures as soon as possible, and the organization extended the country's deadline for destruction.[147]

When the fighting abated, the new government of Libya suddenly discovered and announced that the Gaddafi regime had acquired and retained several hundred additional, undeclared CW munitions loaded with sulfur mustard agent and hundreds of kilograms of additional agent stored in plastic containers that it

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aerial CW bombs. A U.S.-Italy partnership undertook to assist Libya in destroying these items. Walker, *supra* note 2; STATUS REPORT 2011, *supra* note 75, ¶¶6-11; STATE COMPLIANCE REPORT OF 2010, *supra* note 60, at 46-49; *Libya Seen Delaying Chemical Agent Destruction*, GLOBAL SEC. NEWSWIRE, Feb. 2, 2011; Arthur Max, *Watchdog Says Libya Destroys Chemical Weapons*, WASH. POST, Feb. 23, 2011; Jean Pascal Zanders, *Destroying Libya's Chemical Weapons: Deadlines and Delays*, WMD JUNCTION, May 19, 2011, http://wmdjunction.com/110519_destroying_libya_cw.htm; Jean Pascal Zanders, *Uprising in Libya: The False Specter of Chemical Warfare*, WMD JUNCTION, May 19, 2011, http://wmdjunction.com/110519_libya_false_cw.htm; SHARON A. SQUASSONI & ANDREW FEICKERT, CONG. RESEARCH SERV., RS21823, DISARMING LIBYA: WEAPONS OF MASS DESTRUCTION (Apr. 22, 2004).

146. OPCW, Conference of the States Parties, *Decision: Extension of the Intermediate and Final Deadlines for the Destruction by the Libyan Arab Jamahiriya of its Category 1 Chemical Weapons*, C-14/DEC.3 (Dec. 2, 2009), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=13625 (revising an earlier extension granted to Libya by C-11/DEC.15, December 8, 2006, and fixing May 15, 2011 as the final date for destruction of all Libyan CW). Libya's CW destruction operations began in October 2010; they were temporarily halted in February 2011 because of the failure of a heating component in the plant's mobile neutralization unit. The outbreak of violence, and the enforcement of subsequent United Nations sanctions, then prohibited the delivery of necessary replacement parts. Daniel Horner, *Accord Reached on CWC's 2012 Deadline*, 42.1 ARMS CONTROL TODAY, Jan/Feb. 2012, at 38; DG 2011 Statement, *supra* note 65, ¶34; OPCW, Executive Council, *Draft Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2011*, EC-69/3 (July 11, 2012), at 5; OPCW, Conference of the States Parties, *Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2010*, C-16/4 (Nov. 30, 2011), ¶1.8.

147. Note by the OPCW Technical Secretariat, *Update on the Destruction by the Libyan Jamahiriya of Its Chemical Weapons Stockpiles*, EC-64/S/2 (Apr. 1, 2009) (including letter from Libyan authorities and response from the Director-General of the OPCW); *The OPCW and Libya*, OPCW WEBSITE, http://www.opcw.org/the-opcw-and-libya/; OPCW, Conference of the States Parties, *Decision: Extension of the Final Deadline for the Destruction by Libya of Its Category 1 Chemical Weapons*, C-16/DEC.3 (Nov. 29, 2011), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15212.

During this period there was also significant concern that the Gaddafi regime might attempt to use its stockpile of CW against the insurgents, or might fail to secure the inventory, allowing weapons to be stolen. Jay Solomon, *U.S. Fears Tripoli May Deploy Gas as Chaos Mounts*, WALL ST. J., Feb. 24, 2011, at 15; *Rebels Increasingly Fear Qadhafi May Use Toxins*, GLOBAL SEC. NEWSWIRE, Jan. 6, 2012, http://www.nti.org/gsn/article/rebels-increasingly-fear-qadhafi-may-use-toxins; R. Jeffrey Smith, *Gaddafi Could Turn to Libya's Mustard Gas Stockpile, Some Officials Fear*, WASH. POST, Mar. 19, 2011, at A16; Jean Pascal Zanders, *Uprising in Libya: The False Specter of Chemical Warfare,* WMD JUNCTION, May 19, 2011, http://wmdjunction.com/110519_libya_false_cw.htm; Martin Matishak, *Libyan Chemical Materials a Proliferation Threat, U.S. Commander Says*, GLOBAL SEC. NEWSWIRE, Sept. 15, 2011, http://www.nti.org/gsn/article/libyan-chemical-materials-a-proliferation-threat-us-commander-says.

had illegally secreted away from OPCW authorities.[148]

The original CW destruction facility has now been repaired, and additional work on improving the infrastructure and security arrangements is underway; destruction operations should resume in March 2013, to deal with both the original residual and the newly discovered detritus, under OPCW monitoring. But it is clear that the April 29, 2012 deadline was not met, and the current projections indicate that the new government of Libya will not finish the job until December 2016.[149]

Finally, Iraq, which did not join the CWC until February 12, 2009, declared possession of an unspecified quantity of CW, entombed in two large underground bunkers at Muthanna that had been bombed by U.S. and coalition forces during the 1991 Gulf War. Because of the highly unstable condition of the bunkers, no inventory of the CW remains has been undertaken, and it is still undetermined how, when, or even whether, orderly excavation, recovery and destruction operations may be safely initiated.[150]

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148. Chris Schneidmiller, *Libya Sets Schedule for Eliminating Chemical Weapons*, GLOBAL SEC. NEWSWIRE, May 31, 2012, http://www.nti.org/gsn/article/libya-sets-schedule-for-completing-chemical-weapons-disposal; Daniel Horner, *Libya Sets Date to Destroy Chemical Arms*, 42.5 ARMS CONTROL TODAY, June 2012; *Details Emerge About Undeclared Libyan Chemical Arms*, GLOBAL SEC. NEWSWIRE, NOV. 2, 2011, http://www.nti.org/gsn/article/details-emerge-about-undeclared-libyan-chemical-arms; Chris Schneidmiller, *OPCW Verifies Secret Libyan Chemical Arms*, GLOBAL SEC. NEWSWIRE, Jan. 20, 2012, http://www.nti.org/gsn/article/opcw-verifies-secret-libyan-chemical-arms; CWC PROHIBITION REPORT, *supra* note 60, at 10-13.

149. Chris Schneidmiller, *Libya Sets Schedule for Eliminating Chemical Weapons*, GLOBAL SEC. NEWSWIRE, May 31, 2012, http://www.nti.org/gsn/article/libya-sets-schedule-for-completing-chemical-weapons-disposal/; Üzümcü May 22, 2012, *supra* note 104, at 3-4; Chris Schneidmiller, *Libya Moves to Resume Chemical Weapons Disposal*, GLOBAL SEC. NEWSWIRE, Apr. 24, 2012, http://www.nti.org/gsn/article/un-probing-2009-north-korean-attempt-export-reagents-syria; Statement by the Libyan Delegation at the 66th Session of the Executive Council, OPCW, EC-66/NAT.17, Oct. 4, 2011, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15168; Xiaodon Liang, *OPCW Chief Eyes Libyan Chemical Stocks*, 41.8 ARMS CONTROL TODAY, Oct. 2011, at 30; Daniel Horner, *OPCW Prepares for More Libya Inspections*, 41.10 ARMS CONTROL TODAY, Dec. 2011, at 32; S.C. Res. 2017, U.N. Doc. S/RES/2017 (Oct. 31, 2011); DG 2011 Statement, *supra* note 65, ¶13 (reporting that OPCW inspectors reentered Libya in November 2011 and that all declared CW stocks were secure).

150. Jonathan B. Tucker, *Iraq Faces Major Challenges in Destroying Its Legacy Chemical Weapons*, CENTER FOR NONPROLIFERATION STUDIES (Mar. 4, 2010), http://cns.miis.edu/stories/100304_iraq_cw_legacy.htm (stating that Bunker 13 contains thousands of sarin-filled rockets, which are damaged, unstable, and leaking; Bunker 41 is in better condition; it was used to entomb contaminated materials and artillery shells; there are no complete records about exactly what is contained in the two bunkers, and any assessment and destruction operations would be difficult, expensive, and hazardous); John Hart & Peter Clevestig, *Reducing Security Threats from Chemical and Biological Materials*, SIPRI YEARBOOK 2010, STOCKHOLM INT'L PEACE RESEARCH INST., ch. 10, at 389, 397 (2010), http://www.sipri.org/yearbook/2010/10; Walker, *supra* note 2; *Chemical-Weapon Destruction Plan Proceeding in Iraq*, GLOBAL SEC. NEWSWIRE, Sept. 8, 2011, http://www.nti.org/gsn/article/chemical-weapon-destruction-plan-proceeding-in-iraq/; *Iraq to Receive British Aid in Eliminating Chemical Arms Leftovers*, GLOBAL SEC. NEWSWIRE, July 31, 2012, http://www.nti.org/gsn/article/iraq-get-british-aid-eliminating-chemical-arms-remnants/; Statement by H.E. Ahmed Bamerni, Head of the Dep't of Int'l Orgs. and Cooperation in the Iraqi Ministry of Foreign Affairs, at the 16th Session of the Conference of the States Parties, OPCW, C-16/NAT.26, Nov. 28, 2011, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15240; DG 2011 Statement, *supra* note 65, ¶¶48-49; CWC PROHIBITION REPORT, *supra* note 60, at 9-10; OPCW, Executive Council, *Draft Report of the OPCW on the Implementation of the*

In addition, U.S. and U.K. forces in Iraq recovered 4530 olden (pre-1991) Iraqi chemical weapons during the interval between the end of major combat operations in 2003 and Iraq's accession to the CWC in 2009. These included degraded artillery projectiles loaded with sarin and mustard, which the occupying forces took custody of, examined, and destroyed, in order to preclude their use by insurgents or terrorists. These operations were eventually disclosed to the Iraqi authorities and to the OPCW, but the CWC provisions for transparency in CW destruction operations were not followed – the U.S. position was that the treaty was simply inapplicable to combat-related recovery operations of this sort undertaken on the territory of a non-party. Iran, on the other hand, has charged the United States and United Kingdom with violating their treaty commitments – citing a party's obligation to declare CW "located in any place under its jurisdiction and control"[151] – and has invoked the CWC's procedures for clarification and dispute-resolution.[152]

Beyond all this, it should be noted that other CWC-related chemical weapons

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Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2011, EC-69/3 (July 11, 2012) at 5, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15580; OPCW, Conference of the States Parties, *Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2010*, C-16/4 (Nov. 30, 2011) ¶1.7, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15278.

Because Iraq joined the CWC after the treaty's initial ten-year destruction period had expired, it is obligated to destroy its CW "as soon as possible," pursuant to an order of destruction determined by the Executive Council. CWC, *supra* note 1, art. IV.8; Statement by Robert P. Mikulak, U.S. Ambassador, at 56th Session of the Executive Council, OPCW, EC56/DG10, Apr. 21, 2009, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=12961 (referring to the "uncharted territory" the Executive Council must enter, in establishing a destruction timetable for Iraq's CW).

151. CWC, *supra* note 1, arts. III.1.a.i.; IV.1; IV.9.

152. OPCW, Conference of the States Parties, *The Islamic Republic of Iran's View and Concern Over the Discovery and Destruction of Chemical Weapons by the United States and the United Kingdom in Iraq*, C-15/NAT.1 (Nov. 29, 2010), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=14263; OPCW, Conference of the States Parties, *Statement by Iran at the 15th Session of the Conference of the States*, C-15/NAT.15, (Nov. 29, 2010), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=14264; OPCW, Conference of the States Parties, United States of America, Response to the Communication of a Member State, C-15/NAT.7 (Nov. 30, 2010); Statement by Robert P. Mikulak, U.S. Ambassador, at 69th Session of the Executive Council, OPCW, EC-69/NAT.15, at 3, July 11, 2012; Jonathan B. Tucker, *Iraq Faces Major Challenges in Destroying Its Legacy Chemical Weapons*, CENTER FOR NONPROLIFERATION STUDIES (Mar. 4, 2010), http://cns.miis.edu/stories/100304_iraq_cw_legacy.htm; Letter from John D. Negroponte, Dir. of Nat'l Intelligence, to the Hon. Peter Hoekstra, Chairman, Permanent Select Comm. on Intelligence, U.S. House of Representatives, providing declassified "Key Points" from a National Ground Intelligence Center report on the recovery of chemical munitions in Iraq (June 21, 2006); Mikulak July 12, 2011 Statement, *supra* note 99, at 5 (noting that Iran has alleged that the U.S. and U.K. actions were inconsistent with the CWC, but in the U.S. view, the prompt seizure, analysis and destruction of these weapons were necessary to support the object and purpose of the Convention. Extensive exchanges of communications between Iran and the United States and United Kingdom have not resolved the issue); U.S. DEP'T OF STATE, *U.S. EXERCISES THE RIGHT OF REPLY TO IRAN REGARDING THE RECOVERY AND DESTRUCTION OF PRE-1991 CHEMICAL WEAPONS IN IRAQ* (Dec. 23, 2011), http://www.state.gov/t/avc/rls/179692.htm; John Hart & Peter Clevestig, *Reducing Security Threats from Chemical and Biological Materials*, SIPRI YEARBOOK 2011, STOCKHOLM INT'L PEACE RESEARCH INST., at 389, 398 (2011), http://www.sipri.org/yearbook/2011/09.

destruction operations are ongoing, but are beyond the scope of this article. Old, abandoned, obsolete, and deteriorated chemical weapons and their components routinely turn up in unrecognized land and water dump sites in Europe, Australia, the United States, and elsewhere and are disposed of as toxic waste.[153] Likewise, Japan has accepted the responsibility for finding, recovering, and destroying hundreds of thousands of chemical weapons it abandoned in China during and after World War II.[154] This is an undertaking of monumental scope, and China has complained that Japan has fallen far behind the promised schedule.[155] Disquiet over this unfulfilled commitment may become politically linked to any OPCW resolution of the U.S. and Russian CW destruction deadline.[156] However, because the CWC treats these two kinds of issues separately[157] – the obligation to destroy current inventories of functional chemical weapons is an even more urgent task than the obligation to deal with old and abandoned weapons, which pose a serious safety and environmental danger, but not a risk of use in chemical warfare – this article will not substantively address the latter set of issues.

In sum, the CWC's global "box score" to date indicates that as of April 29, 2012, about 51,128 metric tonnes of CW agent stocks had been destroyed,

153. Walker, *supra* note 2 (noting that in 2009, thirteen states had reported recovery of 87,000 old chemical weapons awaiting destruction); Bob Drogin, *Digging Up Chemical Weapons in D.C.*, L.A. TIMES, May 10, 2010, at 1 (discussing World War I era chemical weapons unearthed in the Spring Valley area of Washington, D.C.); Stuart Cumming, *Mustard Gas Shells to Be Destroyed*, THE CHRONICLE, June 9, 2010, at 11 (144 mustard gas shells recovered near U.S. military base in Australia); Paul Walker, *Sea-Dumped Chemical Munitions*, GLOBAL GREEN, Nov. 11, 2010, (describing tons of CW dumped after World War II in ocean areas around the world), http://globalgreen.org/docs/publication-168-1.pdf.

154. Walker, *supra* note 2 (calling Japan's actions in China "the most serious case of abandoned chemical weapons"); STATUS REPORT 2009, *supra* note 102, ¶¶31-36; OPCW, Executive Council, *Decision: Arrangement for the Destruction at the Abandoned Chemical Weapons Mobile Destruction Facility of Chemical Weapons Abandoned by Japan on the Territory of the People's Republic of China*, EC-61/DEC.2 (June 29, 2010), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=13876; OPCW, *Ceremony Marks Start of Destruction of Chemical Weapons Abandoned by Japan in China* (Sept. 8, 2010), http://www.opcw.org/news/article/ceremony-marks-start-of-destruction-of-chemical-weapons-abandoned-by-japan-in-china/; DG 2011 Statement, *supra* note 65, ¶50 (noting that Japan has destroyed 35,203 chemical weapons abandoned in Nanjing, China, 74.6% of the total identified there).

155. Üzümcü May 22, 2012, *supra* note 104, at 5-6; Mike Brombach, *Abandoned Chemical Weapons in China: The Unresolved Japanese Legacy*, GLOBAL GREEN (May 2011), http://globalgreen.org/docs/publication-183-1.pdf; Shari Oliver & Stephanie Lieggi, *Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly*, WMD INSIGHTS (June 2008), http://cns.miis.edu/wmd_insights/WMDInsights_2008_06.pdf; *Japan on Abandoned Chemical Weapons*, GLOBAL SEC. NEWSWIRE, Jan. 23, 2009, http://www.nti.org/gsn/article/china-presses-japan-on-abandoned-chemical-weapons/; *OPCW Council Backs Deadline Extension for Destroying Japanese Chemical Weapons in China*, GLOBAL SEC. NEWSWIRE, Feb. 16, 2012, http://www.nti.org/gsn/article/opcw-backs-deadline-extension-destroying-chemical-arms-china/.

156. Brombach, *supra* note 155, at 25.

157. *See* CWC, *supra* note 1, art. I.2 (obligation to destroy all CW a party owns or possesses or located at a place under its jurisdiction and control) and I.3 (obligation to destroy CW abandoned on the territory of another party) and Annex on Implementation and Verification, Part IV(A) (destruction of chemical weapons) and Part IV(B) (destruction of old and abandoned CW).

reaching 73.64 percent of the worldwide goal. This also amounts to 3.95 million of the 8.67 million declared CW munitions and containers subject to the treaty (45.56 percent).[158] Three of the seven declared "possessor states" had completed the process of destroying their inventories (two of them doing so on time). The other four are, and will continue for some time to be, in arrears.

IV. POLITICAL REMEDIATION EFFORTS TO DATE

For several years, the basic U.S. strategy for dealing with the "2012 problem" was fairly low-key; the effort was generally to deflect attention from the forthcoming inevitability, and to display the ugly projections about the future CW destruction timetable mostly via "unofficial" or "informal" presentations.[159] Some of this modesty in public affairs sprang from a simple desire not to trigger international political controversy before it was unavoidable (why deal with tomorrow's problems today?) and some of it emerged from apprehension that premature clarity about the coming failure to meet the 2012 deadline could be interpreted as an "anticipatory breach"[160] of the treaty, immediately triggering other parties' responsive rights, as elaborated in Part V below.

More recently, in more overt recognition of its plight, the United States has instituted several noteworthy efforts at political course correction (or at least transparency), to reassure its treaty partners of its continuing good faith and principled commitment to the CWC,[161] including:

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158. Üzümcü May 22, 2012, *supra* note 104, at 2; OPCW, *Demilitarisation*, http://www.opcw.org/our-work/demilitarisation; OPCW, Executive Council, *Draft Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2011*, EC-69/3, July 11, 2012, at 48, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15580 (summarizing, by type of chemical agent, the amount of CW destroyed by the end of 2011).

159. *Supra* notes 99-100 (citing U.S. statements to OPCW organs regarding the anticipated timetable for U.S. CW destruction operations in 2006 and thereafter). The June 28, 2011 letter from Secretary of Defense Robert M. Gates was the first "official" top level statement of the U.S. inability to meet the 2012 deadline. *See* Gates Letter, *infra* note 165.

160. The Vienna Convention on the Law of Treaties, discussed *infra*, text accompanying notes 192 *et seq*. does not explicitly employ the concept of "anticipatory breach," but includes within the definition of "material breach" a "repudiation" of a treaty. Vienna Convention on the Law of Treaties, May 23, 1969, 1155 U.N.T.S. 331 [hereinafter Vienna Convention], art. 60.3.a. It is unclear whether under international law, a treaty party's announcement of a forthcoming inability to perform the obligations of a treaty, accompanied by a commitment to pursue the treaty's ultimate objective, would amount to a "repudiation" of the agreement. *See* MOHAMMED M. GOMAA, SUSPENSION OR TERMINATION OF TREATIES ON GROUNDS OF BREACH 26-28, 123 (1996) (arguing that article 60 "does not accommodate preemptive or preventive measures," so only any actual breach, not a potential breach, is relevant); THE VIENNA CONVENTIONS ON THE LAW OF TREATIES 1358 (Olivier Corten & Pierre Klein eds., 2011) [hereinafter Corten & Klein].

In domestic U.S. contract law, the cognate concept of anticipatory breach by repudiation does include a statement by the obligor that it will not or cannot perform the contract without breach, or a voluntary act that renders the obligor unable or apparently unable to perform without breach. RESTATEMENT (SECOND) OF CONTRACTS §250 (1979).

161. *See generally* Mikulak November 29, 2011 Statement, *supra* note 94, at 2 (outlining U.S. practices over the prior five and one-half years in keeping the OPCW and CWC parties aware of its

- accelerating the destruction process, by leveraging the successful experiences from the earliest sites and applying them to the later locations, and by providing additional financial incentives to corporations that are building and operating the facilities;
- sustaining full funding for the construction of the final two sites, even in an era of extreme financial austerity, enabling the program to proceed apace;[162]
- providing frequent, detailed reporting to the OPCW about the progress and problems in the demilitarization process, including quarterly presentations in The Hague by U.S. governmental officials responsible for oversight of the activities;[163]
- hosting OPCW visitors (including the chair and selected members of the Executive Council, the Director-General, and representatives of the Technical Secretariat) for briefings and tours at the sites where CW destruction was occurring and at the sites where construction of the final two facilities was underway, to display first-hand the immense challenges, the efforts to overcome them, and the engagement of local Citizens Advisory Committees in the process;[164] and
- reaffirming at the most senior levels the absolute U.S. commitment to achieving complete destruction of the CW inventory. Secretary of Defense Robert M. Gates,[165] Secretary of State Hillary Rodham Clinton,[166] and other senior officials[167] have made this point with crystalline clarity.

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progress and difficulties in meeting the destruction obligations); Mikulak July 12, 2011 Statement, *supra* note 99, at 2.

162. QUICK FACTS, *supra* note 102; Carter letter, *supra* note 114.

163. Mikulak November 29, 2011 Statement, *supra* note 94, at 2; Mikulak July 12, 2011 Statement, *supra* note 99, at 2; Note by the OPCW Dir.-Gen., *Modalities for Implementation of the Obligation of States Parties to Report on Their Destruction Activities During the Extension Period After 29 April 2007*, EC-49/DG.1 (Mar. 8, 2007) (requiring reports to the Executive Council every 90 days).

164. *OPCW Delegation Visits U.S Chemical Weapons Destruction Facilities and Holds High-Level Meetings in Washington D.C.*, OPCW (Mar. 4, 2011), http://www.opcw.org/news/article/opcw-delegation-visits-us-chemical-weapons-destruction-facilities-and-holds-high-level-meetings-in/; OPCW, Conference of the States Parties, *Decision: Visits by Representatives of the Executive Council*, C-11/DEC.20 (Dec. 8, 2006), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=1196 (establishing the program for OPCW officials to visit the Russian and U.S. CW destruction facilities); s*ee also* National Defense Authorization Act for Fiscal Year 1993, Pub. L. No. 102-484, §172 (legislation directing the Army to establish Citizens' Advisory Commissions).

165. Robert M. Gates, Letter to Ahmet Üzümcü, OPCW Dir.-Gen. (June 28, 2011).

166. Press Statement, Hillary Rodham Clinton, Sec'y of State, U.S.' Commitment to the Complete Destruction of U.S. Chemical Weapons Stockpiles (Oct. 3, 2011), *available at* http://www.state.gov/secretary/rm/2011/10/174890.htm.

167. Laura E. Kennedy, U.S. Ambassador to the Conference on Disarmament, Remarks at the IISS Global Strategic Review Meeting (Sept. 12, 2010), http://geneva.usmission.gov/2010/09/12/remarks-by-ambassador-kennedy-at-the-iiss-meeting; Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 2; Mikulak July 12, 2011 Statement, *supra* note 99, at 2; Statement by Robert P. Mikulak, U.S. Ambassador, at 66th Session of the Executive Council, OPCW, EC-66/NAT.19, at 1-2, Oct. 4, 2011 [hereinafter Mikulak Oct. 4. Statement]; Statement by Ambassador Robert P. Mikulak, United States Delegation to the OPCW at the 64th Session of the Executive Council, EC-64/NAT.5, May 3, 2011, at 1.

The United States has explained that its inability to meet the treaty deadline is due to the delays (perhaps foreseeable in principle, but impossible to circumvent nonetheless) in incorporating the novel, untried neutralization technologies at the final two sites.[168] Compounding the difficulty, the United States adds, is the CWC's completely appropriate insistence that a party's chosen destruction methodology must "assign the highest priority to ensuring the safety of people and to protecting the environment,"[169] and must be undertaken in full international transparency, with punctilious monitoring by OPCW experts.[170] Despite a commitment of over $38 billion, developing a viable method for solving that multi-variant equation has simply taken longer than anticipated, and now, unfortunately, cannot reasonably be accelerated sooner than 2023.

To date, the strongest resistance to the U. S. approach has come from Iran. Iranian authorities have not blinked at labeling the United States and Russia as moving into "non-compliance" and "blatant contradiction with the obligations" of the CWC, and have argued that those countries "should be held accountable."[171] Teheran has asserted that it is not acceptable to conclude simply that those CW possessor states are "well-intentioned"; the rest of the treaty parties cannot "take it lightly, and forget about recognizing non-compliance."[172] Iran has rejected the effort to resolve the problem through a low-key "political" process, but insisted upon invoking the "legal" remedies of the CWC, including the judgment that such a "breach" of the convention should be brought formally

168. Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 2, 5; Mikulak July 12, 2011 Statement, *supra* note 99, at 2; Mikulak Nov. 29, 2010 Statement, *supra* note 100, at 3-4.

169. CWC, *supra* note 1, art. IV.10. The importance of this provision is underscored by the fact that the treaty essentially repeats it two more times: in article V.11 (regarding destruction of CW production facilities) and article VII.3 (concerning national implementation of CWC obligations). Notably, the CWC specifies that in conducting the destruction operations, each party is to conform to "its national standards for safety and emissions." *Id*. arts. IV.10, V.11; *see also* KRUTZSCH & TRAPP, *supra* note 19 at 119 (summarizing numerous CWC provisions regarding environmental protection).

170. CWC, *supra* note 1, art. IV.3,4,5.

171. Statement by H.E. Mr. Kazem Gharib Abadi, Ambassador and Permanent Representative of the Islamic Republic of Iran, at the 64th Session of the Executive Council, OPCW, EC-64/NAT.10, May 3, 2011 [hereafter Abadi Statement]; *see also* Statement by H.E. Mr. Kazem Gharib Abadi, Ambassador and Permanent Representative of the Islamic Republic of Iran, at the 65th Session of the Executive Council, OPCW, EC-65/NAT.13, July 12, 2011, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15022.

172. Abadi Statement, *supra* note 171, at 2; Statement by Iran at the 15th Session of the Conference of the States, OPCW, C-15/NAT.15, Nov. 29, 2010, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=14264 (asserting that timely destruction of the CW stocks could be accomplished, if the United States and Russia allocate "required funds, good will and strong determination," because "[a]s the saying goes, if there is a will, there is a way"); *see also* Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 5 (rejecting Iran's accusation that the United States is deliberately violating the CWC).

to the attention of the United Nations Security Council and General Assembly.[173]

Iran has reminded the parties that it was the victim of widespread CW use not that long ago (during its 1980s war with Iraq), and warned that, "The continued existence of even one chemical bomb will compromise the international peace and security and the nightmare of employment of such destructive and lethal weapons will be perpetuated."[174] Iran calls its position one of "principle," founded in respect for the credibility and integrity of the CWC.[175] Similar critical sentiments – although perhaps more muted rhetoric – might also be expected from countries such as India, Pakistan, China, and Cuba, although observers anticipated that Iran would be "quite isolated" if it sought to impose meaningful sanctions.[176]

One important climax to these debates came in the November-December 2011 meeting of the Conference of the States Parties, which adopted a "Decision" regarding the impending April 29, 2012 deadline.[177] That instrument failed to attract "consensus," the Conference's preferred mode of decision-making, but won a 101-1 vote, with Iran as the sole nay-sayer.[178] It followed more than two years of intense consultations under the aegis of successive chairs of the Executive Council, with informal negotiations and meticulous

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173. Daniel Horner, *CWC Parties Wrestle with 2012 Deadline*, 41.8 ARMS CONTROL TODAY, Oct. 2011, at 38; *U.N. Should Address Chemical Weapons Disposal Deadline Busting: Iran*, GLOBAL SEC. NEWSWIRE, Oct. 6, 2011, http://www.nti.org/gsn/article/un-should-address-chemical-weapons-disposal-deadline-busting-iran/.

174. Abadi Statement, *supra* note 171, at 2.

175. *Id*.

176. *See* Statement by Kenya on Behalf of African Group of States at the 66th Session of the Executive Council, OPCW, EC-66/NAT.9, Oct. 4, 2011, *available at* http://www.opcw.org/fileadmin/OPCW/EC/66/ec66nat09_e__African_States.pdf; Statement by Aizaz Ahmad Chaudhry, Permanent Representative of Pakistan at the 66 th Session of the Executive Council, OPCW, EC-66/NAT.15, Oct. 4, 2011, *available at* http://www.opcw.org/fileadmin/OPCW/EC/66/ec66nat15_e__Pakistan.pdf (generally endorsing what became the December 1 Decision). Notably, Iran's statements on this point do not mention Russia or Libya, but focus entirely on the United States. *See also* OPCW, Executive Council, Statement by Kenya on Behalf of African Group of States at the 66th Session of the Executive Council, EC-66/NAT.9, October 4, 2011, and OPCW, Executive Council, Statement by Aizaz Ahmad Chaudhry, Permanent Representative of Pakistan at the 66th Session of the Executive Council, EC-66/NAT.15, October 4, 2011 (generally endorsing what became the December 1 Decision).

177. OPCW, Conference of the States Parties, *Decision: Final Extended Deadline of 29 April 2012*, C-16/DEC.11 (Dec. 1, 2011), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15220 [hereinafter OPCW December 1 Decision]; OPCW, Conference of the States Parties, *Report of the 16th Session of the Conference of the States Parties, 28 Nov.–2 Dec. 2011*, C-16/5 (Dec. 2, 2011), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15231.

178. Daniel Horner, *Accord Reached on CWC's 2012 Deadline*, 42.1 ARMS CONTROL TODAY, Jan./Feb. 2012, at 38; Kelle, *supra* note 109; *see* Explanation of Vote on the Draft Decision on Final Extended Deadline of 29 April 2012, Statement by H.E. Mr. Kazem Gharib Abadi, Ambassador and Permanent Representative of the Islamic Republic of Iran, at the 16th Session of the Conference of the States Parties to the CWC, Nov. 28–Dec. 2, 2011 (no OPCW document designator yet issued) (expressing Iran's opposition to the December 1 Decision, explaining that Iran is "profoundly doubtful of the political will of the US administration," urging that the OPCW document should recognize "the situation of non-compliance," and contending that the Conference's decision will undermine the credibility of the CWC).

wordsmithing to balance the competing national interests and perspectives.[179]

The December 1 Decision:

- recalled the evolution of the problem, with some states timely meeting their treaty obligations for destruction of the CW stocks, but the United States, Russia and Libya not meeting even the extended final April 29, 2012 deadline;[180]
- noted statements from those three possessor states "underlining their unequivocal commitment to their Obligations" under the Convention, and "taking note that the inability to fully meet the final extended deadline of 29 April 2012 would come about due to reasons that are unrelated to the commitment of these States Parties to the General Obligations for the destruction of chemical weapons established under Article I of the Convention";[181]
- decided that the destruction of the remaining CW "shall be completed in the shortest time possible,"[182] in accordance with the Convention's provisions, and that the costs of verifying the destruction shall be borne by the possessor states;[183]
- decided that each possessor state will submit a detailed plan for the destruction of its remaining CW, specifying a planned completion date, a schedule for destruction, and a description of the destruction facilities, and that each state shall report quarterly to the Executive Council in closed session on its progress;[184]

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179. In October 2009, the Executive Council requested its chair "to engage in informal consultations with interested delegations on how and when to initiate discussion by the Council on issues related to meeting the final extended deadlines for the destruction of chemical weapons and to keep the Council informed of these consultations." Subsequent Conference sessions welcomed these discussions and urged that they continue. OPCW, Conference of the States Parties, *Report of the 14th Session of the Conference of the States Parties*, C-14/5 (Dec. 4, 2009), ¶9.7, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=13641 (welcoming the EC request "to engage in informal consultations on how and when to initiate discussion by the Council on issues related to meeting the final extended deadlines for the destruction of chemical weapons"); OPCW, Conference of the States Parties, *Report of the 15th Session of the Conference of the States Parties,* C-15/5 (Dec. 3, 2010), ¶9.10, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=14276 (encouraging the EC to continue the informal consultations); *see also* Statement of Kenya on Behalf of African Group of States at the 66th Session of the Executive Council, OPCW, EC-66/NAT.9 (Oct. 4, 2011), *available at* http://www.opcw.org/fileadmin/OPCW/EC/66/ec66nat09_e_African_States.pdf (African parties to the Convention largely endorse negotiations on what became the December 1 Decision).

180. OPCW December 1 Decision, *supra* note 177, pmbl. Notably, the document does not employ the terms "violate," "breach," or even "fail to comply."

181. *Id*., pmbl.

182. *Id.* ¶3(a).

183. *Id.* ¶3(b).

184. *Id.* ¶3(c)-(d).

Notably, the key provisions of paragraph 3 of the December 1 Decision do not employ the verb "shall" (which is normally used in connection with legally binding provisions) in describing the forthcoming actions of the possessor states, but uses language that is less rigorous, stating what those parties "will" do.

- decided that the Conference of the States Parties will undertake annual reviews of the implementation of this agreement, with a special session at the annual meeting in 2017;[185]
- decided that the Director-General will prepare written reports about the destruction process to the Executive Council and the Conference, based on independent information obtained by the Technical Secretariat from OPCW inspectors;[186]
- decided that the issue will be comprehensively addressed at the next Review Conference for the Convention;[187] and
- decided that the possessor states will invite OPCW leadership officials to conduct biannual on-site visits at the destruction facilities and to meet with parliamentarians and government officials in capitals.[188]

This decision hardly "resolves" the problem – the organization and the parties will be grappling with the predicament of lingering CW stocks for years to come, including at the treaty's Third Review Conference, April 8-19, 2013.[189] Nonetheless, it does provide the United States and Russia with quite a favorable benchmark: it is a pragmatic, non-confrontational, almost-unanimous posture, avoiding stark legal sanctions and harsh political rhetoric. It enables the United States and the OPCW to "declare victory" (or at least "success") based upon a judgment about the United States "unwavering commitment" to complete the task.[190] The organization's Director-General, Ahmet Üzümcü, concluded that:

> States Parties have dealt with this issue with characteristic wisdom and sagacity. Their decision to enable the major possessor States to complete the task within a reasonable period of time confirms the reputation of the OPCW as a cooperative and purposeful multilateral body. Our members have remained focused on the mission and what is best to accomplish it.[191]

But is this, overall, the best way to address the problem?

V. TREATY BREACH

This part invokes "black letter" international law standards to assess U.S. behavior regarding the CWC. The primary document in this area is the 1969

185. *Id.* ¶3(f).
186. *Id.* ¶3(e)–(g).
187. *Id.* ¶3(h).
188. *Id.* ¶3(j).
189. Kelle, *supra* note 109.
190. Ahmet Üzümcü, OPCW Dir.-Gen., Closing Ceremony Remarks at the Chemical Materials Agency (May 17, 2012), http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15410.
191. Statement by Ahmet Üzümcü, OPCW Dir.-Gen., at Remembrance Day for All Victims of Chemical Warfare, Apr. 26, 2012, http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15379.

Vienna Convention on the Law of Treaties (VCLT),[192] widely accepted as the authoritative international law source regarding the negotiation, implementation, interpretation, and termination of international agreements. Four primary questions are presented: (1) Does U.S. behavior amount to a "material breach" of the CWC?; (2) If so, may the U.S. actions nonetheless be excusable under any of several plausible doctrines available under general international law?; (3) In the alternative, is any relief available due to a peculiar tension between disparate obligations of the CWC?; and (4) If there is a breach, what remedies or responses may be available to other states who regard themselves as injured by the American failure to meet the treaty deadline?

The analysis begins with observance of the time-honored principle of *pacta sunt servanda,* requiring that agreements must be kept; binding treaty commitments must be honored.[193] This maxim is perhaps the most fundamental proposition of the international community; the Restatement of the Law of Foreign Relations concludes that it "lies at the core of the law of international agreements and is perhaps the most important principle of international law."[194]

In furtherance of this notion, the Vienna Convention asserts that a treaty must be performed "in good faith"[195] and that "[a] party may not invoke the provisions of its internal law as justification for its failure to perform a treaty."[196] Excuses for non-performance, largely akin to the excuses for non-performance of a contract under the domestic law of many states, are few and rarely invoked.[197]

Of particular note, the longstanding official American position regarding compliance with arms control agreements in general, and with the CWC in particular, stakes out an appropriately "high road": "The United States believes

192. Vienna Convention, *supra* note 160. The United States has signed, but not ratified, the Vienna Convention, and has accepted many of its provisions as reflective of customary international law, binding even upon non-party states. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW: Int'l Agreements, Intro. Note (1987); *see also* Gabcikovo-Nagymaros Project (Hung. v. Slovak.), 1997 I.C.J. 7, ¶46 (Sept. 25) (the International Court of Justice accepts key provisions of the Vienna Convention as statements of customary international law).

193. Vienna Convention, *supra* note 160, art. 26; *see also id.* pmbl. ¶3 (noting that the rule of *pacta sunt servanda* is "universally recognized"); MARK E. VILLIGER, COMMENTARY ON THE 1969 VIENNA CONVENTION ON THE LAW OF TREATIES 361-368 (2009); ANTHONY AUST, MODERN TREATY LAW AND PRACTICE 178-181 (2d ed. 2007); Kirsten Schmalenbach, *Pacta Sunt Servanda*, *in* VIENNA CONVENTION: ON THE LAW OF TREATIES: A COMMENTARY 427-451 (Oliver Dörr & Kirsten Schmalenbach eds., 2012) [hereinafter Dörr & Schmalenbach] (noting that the norm is "of paramount importance in international relations," at 430); Corten & Klein, *supra* note 160, at 659-685.

194. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 192, §321, cmt. a.

195. Vienna Convention, *supra* note160, art. 26. *See* Corten & Klein, *supra* note 160, at 677-681; VILLIGER, *supra* note 193, at 367; Schmalenbach, *supra* note 193, at 548-549.

196. Vienna Convention, *supra* note 160, art. 27. Corten & Klein, *supra* note 160, at 688-701; VILLIGER, *supra* note 193, at 369-375; Kirsten Schmalenbach, *Internal Law and Observance of Treaties*, *in* Dörr & Schmalenbach, *supra* note 193, at 453-473. The CWC, however, does incorporate (in articles IV.10 and V.11) each party's domestic law in requiring conformity to the highest national standards for safety of persons and protection of the environment. See *infra* text accompanying notes 241-247.

197. Vienna Convention, *supra* note 160, pt. V, §2.

that States Parties should be held to their obligations under the CWC, and places a high premium upon their compliance both with specific detailed declaration and implementation provisions (e.g., Articles III, IV, V, and VII) and with the 'general obligations' of Article I."[198]

A. Is the United States in "material breach" of the CWC? The United States has consistently declined to characterize its CWC behavior as a breach, violation, or failure to comply, favoring instead more gentle (and diplomatic) vocabulary such as simple inability to meet the deadline.[199] Likewise, the other CWC parties (with the conspicuous exception of Iran) have avoided critical or conclusory language, including dodging the issue in the December 1 Decision. No competent international authority – the International Court of Justice (ICJ), U.N. Security Council, or any organ of the OPCW – has reached a judgment on the applicability of the term "breach."

Despite these verbal gymnastics, however, nothing could be clearer than this prominent transgression: the Convention requires that all chemical weapons must be destroyed by April 29, 2012; the United States nonetheless continues to possess chemical weapons after that date – ipso facto, there is an ongoing violation.

International law, however, differentiates between a "material breach" of a treaty and other, less consequential violations; which variety is present here? The VCLT defines the relevant legal term with only a parsimonious measure of clarity: a material breach of a treaty consists in "[t]he violation of a provision essential to the accomplishment of the object or purpose of the treaty."[200] The

198. STATE COMPLIANCE REPORT OF 2010, *supra* note 60, at 4.

199. *See, e.g.*, Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 2 (noting "the likelihood that the United States and Russia will miss the 29 April 2012 final extended deadline for the complete destruction of their chemical weapons stockpiles"); Mikulak July 12, 2011 Statement, *supra* note 99, at 2 (noting that "the United States does not expect to complete destruction by 29 April 2012").

200. Vienna Convention, *supra* note 160, art. 60.3(b); *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 192, §335; GOMAA, *supra* note 160, *passim*; IAN SINCLAIR, THE VIENNA CONVENTION ON THE LAW OF TREATIES 190 (2d ed. 1984) (explaining that to be "material," the breach must concern a matter of fundamental importance to the treaty, but need not necessarily touch upon its "central" purposes); Frederic L. Kirgis, Jr., *Some Lingering Questions about Article 60 of the Vienna Convention on the Law of Treaties*, 22 CORNELL INT'L L.J. 549, 552 (1989) (stating that The International Law Commission concluded that a provision considered by a party to be essential to the effective execution of the treaty may have been material in inducing that state to join the treaty, even if the provision was of an ancillary character); David S. Jonas & Thomas N. Saunders, *The Object and Purpose of a Treaty: Three Interpretive Methods*, 43 VAND. J. TRANSNAT'L L. 565 (2010); Corten & Klein, *supra* note 160, at 1350-1378; VILLIGER, *supra* note 193, at 742-746; AUST, *supra* note 193, at 295-296; Schmalenbach, *supra* note 193, at 545-549; Thomas Giegerich, *Termination or suspension of the operation of a treaty as a consequence of its breach*, *in* Dörr & Schmalenbach, *supra* note 193, at 1029; ULF LINDERFALK, ON THE INTERPRETATION OF TREATIES: THE MODERN INTERNATIONAL LAW AS EXPRESSED IN THE 1969 VIENNA CONVENTION ON THE LAW OF TREATIES 203-234 (2007); RICHARD K. GARDINER, TREATY INTERPRETATION 189-202 (2008); Application of Interim Accord of 13 Sept. 1995 (Maced. v. Greece), Judgment, ¶¶162-163 (Dec. 5, 2011), http://www.icj-cij.org/docket/files/142/16827.pdf (finding that Macedonia's violation of the agreement with Greece did not amount to a material breach); Kirgis, *supra* note 200, at 550 (treating article 60 as a reflection of customary international law).

VCLT offers no further elaboration of the term "object or purpose."

Certainly, not every manifest or serious breach of a treaty rises to the level of "material"; it is an intensely fact-based judgment. The United States, for example, has criticized other CWC parties for failing to comply with the Convention's mandates to designate a "National Authority" as the responsible point of contact for the Organization; to adopt necessary domestic legislation to implement the Convention as part of their internal law; and to emplace appropriate administrative measures to control international transfers of regulated chemicals.[201] Still, the United States has not applied the "breach" or "material breach" designators to these violations, and has not sought to enforce the corresponding remedies. This self-restraint reflects both political and legal strategy, but does not much inform a judgment about whether a persistent failure to meet the fundamental CW destruction deadline would appropriately be deemed "material." (The consequences of the distinction between a material breach and a lesser violation, in terms of the legally available remedies, are considered further in section d, *infra*.)

It is important to observe at this point that the United States and Russia are behaving in good faith, and are not seeking or attaining any military advantage by exceeding the 2012 deadline. The two states are not being sneaky, are not attempting to nullify the CWC by subterfuge or evasion, and are not trying to retain operational CW arsenals for any longer than necessary (although Iran has expressed doubts about U.S. bona fides in this regard).[202] In this sense, their behavior is much less threatening and legally offensive than that of Libya's Gaddafi, who deliberately concealed militarily significant quantities of functional chemical weapons, with the intention of retaining a covert, illicit capability.

But "good faith" alone is not a complete escape; indeed, no *mens rea* concept is included in the VCLT definition of "material breach." The fact that a treaty party is not being deliberately malicious, and is neither seeking nor achieving a

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Domestic U.S. contract law incorporates a similar distinction. A "material breach" of a contract consists of a failure of performance that is sufficiently substantial to discharge the contract; a lesser violation would leave the contract intact, and afford the injured party a claim for damages or other compensation due to the shortcomings. RESTATEMENT (SECOND) OF CONTRACTS §237, cmt. d, §241 (1981).

201. STATE COMPLIANCE REPORT OF 2010, *supra* note 60, at 4; *see also* OPCW TODAY, Vol. 1, No. 1, Apr. 2012, p. 28 (reporting numbers and percentages of CWC parties who had not yet completed the required implementation steps); Statement by Robert P. Mikulak, U.S. Ambassador, at 68th Session of the Executive Council, OPCW, EC-68/NAT.15, May 1, 2012 [hereinafter Mikulak May 1, 2012 Statement] (saying the United States is "seriously concerned" that CWC requirements for national implementation have not been met by all parties). Arguably, these violations could legitimately be characterized as "material," especially if they resulted in behavior that contravened a central purpose of the CWC, such as by allowing a state to evade its treaty obligations through the subterfuge of operating through a private citizen or corporation, or by interfering with the OPCW's ability to exercise its functions inside the territory of that state. Moreover, these breaches are entirely within the political control of the state; there are no technical impediments that complicate compliance with these CWC obligations, as there are with the requirement to destroy the CW on time.

202. *See* Iran's statements, *supra* notes 171-75.

significant benefit from its violation, is surely relevant. But its behavior may nonetheless amount to material breach, where it is sufficiently important, persistent, and large scale to defeat the original interests and legitimate negotiating expectations of its treaty partners.[203]

Looking first to the importance of the provision in question, as directed by the Vienna Convention, the negotiators' goals in creating the CWC, to preclude forever the possibility of use of CW by ensuring the complete elimination of all parties' CW stocks, are manifest by:

a) the title of the treaty ("Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction"[204];

b) the inclusion in the treaty's preamble of a concluding paragraph explaining that the parties are "[c]onvinced that the complete and effective prohibition of the development, production, acquisition, stockpiling, retention, transfer and use of chemical weapons, and their destruction, represent a necessary step towards the achievement of these common objectives,"[205]; and

c) the treaty's very blunt mandate for,[206] and the elaborate and detailed mechanisms governing, the destruction of parties' CW,[207] including the precise interim deadlines specified in the above-noted "order of destruction,"[208] and the insistence that the final deadline for elimination of CW may be extended one time, but "in no case" any further.[209]

In the same vein, the OPCW, responsible for implementing the CWC, has unambiguously affirmed that "[t]he most important obligation under the Convention is the destruction of chemical weapons."[210] Even the United States has

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203. Commentators have noted a drafting anomaly in the VCLT definition of material breach. That is, the concept is applicable, on its face, to a violation of a provision essential to the treaty – it appears that the critical element is not necessarily how important or fundamental the breach is, but whether it contravenes an especially important or fundamental portion of the treaty. However, this oddity may not reflect the drafters' true intentions, and has not proven to affect the outcome of any reported cases or controversies. *See* Kirgis, *supra* note 200, at 552-555; Corten & Klein, *supra* note 160, at 1358-1360; Giegerich, *supra* note 200, at 1031 (stating that not only "central" provisions of a treaty, but also "ancillary" provisions, could be deemed "essential" for this purpose, and noting that an obstruction of the CWC's inspection obligations could therefore qualify as a "material" breach).

204. CWC, *supra* note 1, tit (emphasis added).

205. *Id.* pmbl ¶10 (emphasis added); *see also* Report 104-33, *supra* note 2, at 2 (asserting that "The goals of the CWC are to eliminate the possession of chemical weapons, to reverse chemical weapons proliferation, and to preclude any future use of these weapons.").

206. CWC, *supra* note 1, art. I, ¶¶1-5.

207. *Id.* pt. IV(A), Annex on Implementation and Verification,

208. *Id.* art. IV(A)6.

209. *Id.* pt. IV(A).C.26, Annex on Implementation and Verification.

210. OPCW, *Our Work: Demilitarization* (Oct. 4, 2012), http://www.opcw.org/our-work/demilitarisation; *see also* OPCW, Conference of the States Parties, *Report of the 2nd Special Session of the Conference of the States Parties to Review the Operation of the CWC,* ¶9.4 (2008), http://www.opcw.org/index.php?eID=dam_frontend_push&docID=1837 (Review Conference reaffirms that "complete de-

confirmed that "[t]he destruction of chemical weapons is fundamental to the Convention."[211]

It might be argued, however, that the parties' true intention was simply to accomplish the "elimination" of CW, not necessarily their "timely elimination." Under this view, the specifics of the "order of destruction" would be of secondary importance – they are merely a metric, not the goal. From this perspective, the principal "object and purpose" of the CWC is to ensure that CW destruction is complete; dilatory performance may be accounted as a "breach" of the CWC, but not necessarily a "material breach."[212]

Certainly, the parties could have based the Convention on that sort of proposition. They could have exhibited a less fastidious concern with timing, and been more relaxed about compliance with a final deadline for CW destruction. But in reality, the negotiators devoted considerable energy and text to specifying a schedule. They deliberately combined elements of rigidity (with precise benchmarks at the three, five, seven, and ten-year points) with elements of flexibility (allowing extensions of specified duration, pursuant to prescribed justifications.) They did as much as they could have to demonstrate that the cadence was fundamental to their bargain – it could "in no case" run beyond fifteen years.[213]

In this regard, even ninety percent compliance (which the United States achieved before April 29, 2012, and which Russia will reach some time thereafter) is insufficient. Especially in the vital realm of arms control and national security, merely getting "close" to full conformity is inadequate, and the United States, in particular, has long been a vigorous leader in insisting

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struction of chemical weapons . . . is essential for the realisation of the object and purpose of the Convention" and reaffirms "the importance of the obligation of the possessor States Parties to complete the destruction of their chemical weapons stockpiles within the final extended deadlines."); John Freeman, *The Experience of the Chemical Weapons Convention: Lessons for the Elimination of Nuclear Weapons*, in ELEMENTS OF A NUCLEAR DISARMAMENT TREATY 117, 140 (Barry M. Blechman & Alexander K. Bollfrass eds., 2010) (observing that among CWC parties "there has been a general, continuing and unsurprising preoccupation with the core objective of destruction (in terms of both verifiability and the prescribed timeframe for completion)").

211. Statement of Eric M. Javits, U.S. Ambassador, to the 2nd Review Conference of the Chemical Weapons Convention, OPCW Apr. 7, 2008, http://2001-2009.state.gov/t/isn/rls/rm/103312.htm.

212. *See* Oliver Meier, *OPCW Chiefs Ponder Chemical Arms Deadlines*, 40.1 ARMS CONTROL TODAY, Jan./Feb. 2010 (quoting Rogelio Pfirter, then Director-General of the OPCW, saying that the CWC's core purpose is to ensure the full, irreversible, complete and universal destruction of existing stockpiles by possessor states; but that "we need not . . . make the ultimate success of the treaty dependent on any particular date.").

Domestic U.S. contract law incorporates a similar concept: parties to a contract may stipulate that "time is of the essence," meaning that a failure to perform on time constitutes a material breach, allowing the aggrieved party to rescind the contract. RICHARD A. LORD, A TREATISE ON CONTRACTS §44:9 (Samuel Williston, ed., 4th ed. 2012).

213. *See* KRUTZSCH & TRAPP, *supra* note 19, at 347, n.34 (noting that a party may request only one extension of the ten-year deadline, to a maximum of five additional years; if a party requested, say, only a three-year extension, it could not thereafter request an additional two-year extension. If such a state failed to meet the 13-year deadline, "it will become non-compliant with the Convention, which could trigger mechanisms under Article XII.").

upon the highest standards of fidelity to international weapons-related obligations.[214] Imagine, for comparison, how the United States would respond if, say, North Korea or Iran were to reply to complaints about their illegal nuclear weapons programs by explaining that they possessed only very small numbers of the contraband weapons – less than ten percent or even one percent of the nuclear stockpiles retained by the United States or Russia.[215]

Moreover, even the last ten percent of the initial stockpile held by the United States and the last forty percent or so of Russia's original holdings – the overages by which they are now violating the treaty – are greater than the initially reported CW inventories of any other CWC party. And as noted, the infraction here is not a "near miss" – in the case of the United States, the violation will persist for eleven and a half years.

In short, this is surely a case of a continuous "breach" of the CWC, even though only one state, Iran, and no OPCW organ or international court, has labeled it as such. The better view, moreover, is that it rises to the level of "material breach," based upon the violence that the violation does to the accomplishment of an essential feature of the Convention.

B. Are there applicable legal excuses under general international law for the U.S. material breach of the CWC? If the failure to meet the April 2012 deadline must be accounted as a breach or material breach of the CWC, can any constructive use be made of the traditional excuses for non-performance of treaty obligations? Three related mitigation doctrines are considered: impossibility, changed circumstances, and *force majeure*.

The Vienna Convention establishes "supervening impossibility of performance" as a valid basis for terminating or withdrawing from a treaty.[216] But the

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214. *See generally* STATE COMPLIANCE REPORT OF 2010, *supra* note 60; U.S. DEP'T OF STATE, COMPLIANCE WITH THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION, STOCKPILING AND USE OF CHEMICAL WEAPONS AND ON THEIR DESTRUCTION (2011), *available at* http://www.state.gov/documents/organization/170653.pdf.

215. Under the Treaty on the Nonproliferation of Nuclear Weapons, July 1, 1968, 21 U.S.T. 483, 729 U.N.T.S. 161 [hereinafter NPT], some countries (including the United States) are legally allowed to continue to possess nuclear weapons, while others (including Iran and North Korea) are not. *See* STATE COMPLIANCE REPORT OF 2010, *supra* note 60, at 62-67 (Iran's violations of NPT), 72-76 (North Korea's violations).

216. Vienna Convention on the Law of Treaties, *supra* note 160, art. 61. In the Vienna Convention, the doctrine is expressed as a basis for a permissible termination or withdrawal from a treaty, but the same concept would also be available as a justifying excuse for non-performance of a treaty obligation, in defense against an allegation of breach. *Cf* Gabcikovo-Nagymaros, *supra* note 192, ¶51, 101; Thomas Giegerich, *Termination or suspension of the operation of a treaty as a consequence of its breach*, *in* Dörr & Schmalenbach, *supra* note 193 at 1249-1254 (relationship between VCLT and rules of state responsibility); *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 192, §§336, cmt. C, reporters' note 3, 337-338; Corten & Klein, *supra* note 160, at 1382-1408; SINCLAIR, *supra* note 200, at 190-192; Thomas Giegerich, *Supervening impossibility of performance*, *in* Dörr & Schmalenbach, *supra* note 193, at 1051-1065; Kirgis, *supra* note 200, at 566; Vienna Convention, *supra* note 160, art. 73 (specifying that provisions of the VCLT are without prejudice to the international law of state responsibility). Int'l Law Commission, *Draft Articles on Responsibility of States for Internationally Wrongful Acts* pt. I, ch. V (Nov. 2001), http://untreaty.un.org/ilc/texts/instruments/english/commentaries/9_6_2001.pdf [hereinafter ILC *Draft Articles*] present six circumstances that preclude

conditions for invoking this doctrine are quite restrictive: the central concept is applicable when an impossibility arises from "the permanent disappearance or destruction of an object indispensable for the execution of the treaty."[217] Nothing of that sort is relevant here. Moreover, a treaty party is not privileged to invoke impossibility when the situation is the result of that party's own violation of the treaty or of another international law obligation.[218]

In the leading ICJ[219] case in the field, concerning the Gabcikovo-Nagymaros Project (Hungary vs. Slovakia) in 1997,[220] the Court established a very high standard for claims of "impossibility." Ruling that Hungary was not justified in withdrawing from a joint project to construct an elaborate system of locks on the Danube River, the ICJ conceded that the project's economic viability had greatly diminished over the years and that a new environmental consciousness had altered the prior appreciation of the desirability of the changes in navigation and flood control. Nonetheless, the Court held that increased costliness did not make the project "practically impossible," as Hungary had asserted, and the heightened environmental sensitivity did not provide an easy escape hatch, either.[221] The ICJ also noted that the underlying agreement between Hungary and Slovakia had incorporated a provision dealing explicitly with changes or revisions that might become necessary in the life of the project. The existence of this clause demonstrated that the parties had originally envisioned the possibility for some alterations, but had deliberately determined not to allow others.[222]

Likewise, in the CWC context, the text of the treaty already contemplates a concept akin to impossibility and incorporates what the negotiating states considered an adequate response. The standard for granting an extension of the early phases (for destroying one, twenty, and forty-five percent of a party's CW) is that "a State Party, due to exceptional circumstances beyond its control, believes that it cannot achieve the level of destruction specified."[223] The Executive Council and the Conference of the States Parties may then agree to modulate these intermediate deadlines, as long as the ultimate deadline (to

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the wrongfulness of conduct that would otherwise amount to a breach of an international legal obligation; several of these are considered, infra. The United States has no interest in terminating or withdrawing from the CWC – quite the contrary; the United States seeks to sustain and support the treaty, while resisting allegations that it is unjustifiably breaching it.

217. Vienna Convention, *supra* note 160, art. 61, ¶1; *see* Corten & Klein, *supra* note 160, at 1387-1394; VILLIGER, *supra* note 193, at 755-758; AUST, *supra* note 193, at 296-297; Giegerich, *supra* note 216, at 1055-1059 (considering concepts of "absolute" and "relative" impossibility, and "objective" and "subjective" impossibility).

218. Vienna Convention, *supra* note 160, art. 61, ¶2; *see* Corten & Klein, *supra* note 160, at 1401-1402; VILLIGER, *supra* note 193, at 758-759; Giegerich, *supra* note 216, at 1060-1061.

219. The ICJ (sometimes referred to as the World Court) is the principal judicial organ of the United Nations. All U.N. members are parties to the treaty that creates the ICJ. U.N. Charter art. 93.

220. Gabcikovo-Nagymaros, *supra* note 192.

221. *Id.* ¶94, 102-103.

222. *Id.* ¶¶103,104.

223. CWC, *supra* note 1, pt. IV(A).C.21 Annex on Implementation and Verification.

destroy all CW within ten years) remains intact.[224] The criteria for requesting the one allowable extension of the ten-year standard is that the party "will be unable to ensure the destruction" as originally contemplated.[225] In granting no more than five years of relief, the Executive Council and the Conference of the States Parties shall set "specific actions to be taken by the State Party to overcome problems in its destruction programme."[226] Thus, the treaty-makers expressly anticipated that the process of fulfilling the goal of destroying CW on schedule could be difficult, expensive, and time-consuming, and that a state's initial estimates of its ability to do the job could become inaccurate. They agreed to provide a limited amount of wiggle room, but were unreceptive to any notion that rising costs or other emerging challenges might provide a valid basis for lengthier or repeated delay.[227]

In tacit acknowledgement of this reality, American officials in the past have been constrained not to assert that the United States is destroying the remaining chemical weapons "as quickly as possible" (because it would, in fact, have been quite possible to proceed even more quickly, if the United States were to devote additional funding to the task, to improve the management and oversight of the program, and/or to remove the self-imposed legislative barriers against employing the established incineration technology at the final two sites or against transporting the remaining CW inventory to already-functioning locations). They have, instead, resorted to more vague formulations, such as the insistence that the destruction is occurring as rapidly as "feasible" or "practicable."[228] In

224. *Id.* pt. IV(A).C.22-23.

225. *Id.* pt. IV(A).C.24.

226. *Id.* pt. IV(A).C.26.

227. *See* Report 104-33, *supra* note 2, at 7 (noting that the CWC "does allow flexibility in the destruction process, permitting extension of the 10-year timeframe for up to 5 years."). The CWC negotiators also included another provision through which a party could indicate, at the early stage of submitting its "general plan for destruction of chemical weapons" that there might be "issues which could adversely impact on the national destruction programme." CWC, *supra* note 1, pt. IV(A)A.6(h), Annex on Implementation and Verification.

A slightly different jurisprudential theory would assert that the timetable provisions of the CWC should be deemed invalid due to "error" or mistake. VCLT article 48 confirms this remedy when "the error relates to a fact or situation which was assumed by that State to exist at the time when the treaty was concluded and formed an essential basis of its consent to be bound by the treaty." Vienna Convention, *supra* note 160, art. 48, ¶1. Perhaps the United States could contend that its projected (but ultimately mistaken) ability to destroy the CW stockpile within ten (or fifteen) years was a "fact or situation" within the meaning of this provision. However, the VCLT also specifies that this escape is unavailable "if the State in question contributed by its own conduct to the error or if the circumstances were such as to put that State on notice of a possible error." *Id.* art. 48.2; *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 192, §331(1)(a), cmt. b. This doctrine would therefore be inapplicable to the CWC deadline, for the same reasons discussed in the accompanying text.

228. *See, e.g.*, Mikulak July 12, 2011 Statement, *supra* note 99, at 1-2 (saying that the United States is committed to destroying its CW "as rapidly as practicable" and "as soon as practicable"); Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 2, 5 (employing the phrase "as rapidly as practicable"); Mikulak May 1, 2012 Statement, *supra* note 201, at 1 (same); *see also* Vienna Convention, *supra* note 160, art. 27 ("A party may not invoke the provisions of its internal law as justification for its failure to perform a treaty.").

short, this is not an "impossibility" situation.

A second kind of justification for non-performance, changed circumstances or *rebus sic stantibus*, is conceptually something of a "special case" of the impossibility argument. It asserts that where something important and fundamental has altered the viability of an original agreement, a party may be allowed to vitiate its now-unappealing bargain.[229]

The Vienna Convention validates this concept, but confines it to situations in which: (1) the change "was not foreseen by the parties";[230] (2) the original circumstances "constituted an essential basis of the consent of the parties to be bound by the treaty";[231] and (3) "[t]he effect of the change is radically to transform the extent of the obligations still to be performed under the treaty."[232]

Here, regarding "foreseeability," the negotiating states certainly did anticipate that unfavorable conditions might lead to the CW elimination process requiring more time than contemplated in a party's original order of destruction. They explicitly provided for the possibility of extension of the three-, five-, and seven-year interim deadlines, and even of the final ten-year period. But when the negotiators stared at the possibility that a party might request more than even the allowable fifteen years, they balked. They did "foresee" that hypothetical contingency, and they explicitly rejected it, writing that "in no case" could more than fifteen years be tolerated.[233]

Likewise, what circumstances that "constituted an essential basis" for the treaty have changed? Costs have certainly risen, but when the ICJ addressed changed circumstances in the Gabcikovo-Nagymaros case, it concluded that even a stark diminution of the originally estimated economic feasibility of the project was insufficient to vitiate the original consent to be bound.[234] Here, satisfactory chemical neutralization technologies proved more elusive than

229. Corten & Klein, *supra* note 160, at 1411-1433; Thomas Giegerich, *Fundamental change of circumstances*, *in* Dörr & Schmalenbach, *supra* note 193, at 1067-1104.

230. Vienna Convention, *supra* note 160, art. 62, ¶1; *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 192, §336 and reporters' note 1 (identifying the "chief example of resort to *rebus sic stantibus* in United States practice" as the suspension of the 1930 International Load Line Convention due to the outbreak of World War II); SINCLAIR, *supra* note 200, at 192-196 (recounting negotiators' apprehensions about the concept of *rebus sic stantibus,* and the limits upon it that they inserted into the Vienna Convention); AUST, *supra* note 193, at 297-300 (noting that the doctrine has routinely been recognized by international authorities and frequently invoked by states, but never applied by an international tribunal); VILLIGER, *supra* note 193, at 766-781; Richard D. Kearney & Robert E. Dalton, *The Treaty on Treaties*, 64 AM. J. INT'L L. 495, 542-544 (1970).

231. Vienna Convention, *supra* note 160, art. 62.1(a).

232. *Id.* art. 62.1(b). The Vienna Convention also specifies that the doctrine cannot be invoked to withdraw from a treaty that establishes an international boundary or where the changed circumstances are the result of the party's own prior violation of its international legal obligations. *Id.* art. 62.2; *see also* VILLIGER, *supra* note 193, at 776; Giegerich, *supra* note 229, at 1078-1097 (identifying five conditions for invocation of the doctrine).

233. CWC, *supra* note 1, pt. IV(A).C.26 Annex on Implementation and Verification; Giegerich, *supra* note 229, at 1086 (noting that it would be "manifestly unreasonable" to invoke the doctrine of changed circumstances when the parties had foreseen the possible change of circumstances).

234. Gabcikovo-Nagymaros, *supra* note 192, ¶104.

originally hoped, but they were certainly in contemplation when the treaty was concluded in 1993. At that point, incineration was almost the entire focus of the U.S. program, but Congress had already begun to require examination of alternatives. The belated switch to new methods was wholly a unilateral U.S. choice, not one forced upon it by the Convention, by nature, or by any other exogenous circumstances.[235]

Similarly, the "extent of the obligations still to be performed" by the United States under the CWC has not been "radically transformed" (except in the sense that the United States has already disposed of ninety percent of its stocks). For example, there have been no new discoveries of additional operational chemical weapons that were surprisingly added to the pile to be destroyed (as did occur in both Libya and Albania). So an argument about changed circumstances as a valid exoneration for the United States missing the CWC deadline is also unavailing.

Finally, the third related argument about legitimate non-performance of a treaty is *force majeure*. Here, too, the notion is a variant of impossibility, but the focus is specifically on the intervention of an "irresistible force or of an unforeseen event," beyond the control of the state, such as a major earthquake or tsunami, or the outbreak of a war, that suddenly renders the state physically unable to fulfill its legal commitments.[236] This mitigation doctrine is also well-established in international law, but it has important limits, too – in particular the condition that it is not applicable if the situation of *force majeure* is due to the conduct or neglect of the state attempting to invoke it, or if that state has assumed the risk of the situation occurring.[237] There must be "no element of free choice" in the defaulting state's behavior.[238]

In the CWC case, the United States, unfortunately, brought most of the compliance trouble upon itself. The belated decision to employ neutralization technology at two sites, the earlier decision not to consolidate the CW inventories at fewer locations, and the questionable management and oversight prac-

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235. *See* legislation, *supra*, note 91, mandating pursuit of alternative technologies for CW destruction.

236. The Vienna Convention on the Law of Treaties does not employ the term "*force majeure*," but the concept is familiar in international law, as recognized by the ILC Draft Articles, *supra* note 216, art. 23. The ILC states that the doctrine is applicable when there is an "irresistible force" that is beyond the control of the state concerned and that makes it "materially impossible" to perform its obligations. It is not available where the performance has simply become more difficult, as, for example, due to a political or economic crisis. *Id.* ¶¶2-3 Commentary; *see also* Corten & Klein, *supra* note 160, at 1396-1398; Rainbow Warrior (N.Z. v. Fr.), vol. XX R.I.A.A. 215, 217, 253 (1990), http://untreaty.un.org/cod/riaa/cases/vol_XX/215-284.pdf (establishing a high standard for a claim of *force majeure*, "absolute and material impossibility," not including circumstances that simply render performance "more difficult or burdensome").

237. ILC *Draft Articles*, *supra* note 216, art. 23, ¶2. The doctrine of *force majeure* is inapplicable in situations created by the neglect or default of the breaching state, even if the resulting injury was accidental or unintended. *Id.* art. 23, ¶¶3, 9 (stating that the doctrine might be applicable where a state "may have unwittingly contributed to the occurrence of material impossibility by something which, in hindsight, might have been done differently but which was done in good faith").

238. *Id.* art. 23, ¶1.

tices at the sites were not inherent in the treaty. Those are self-inflicted wounds, not ascribable to any external, uncontrollable agent, and not falling within the purview of the doctrine of *force majeure*.

Thus, the most plausible candidate excuses for mitigating U.S. non-performance of the CWC destruction obligations will not suffice.[239] More importantly, the United States should not want them to suffice. If the CWC, and treaties in general, were so malleable, so subject to escape whenever conditions changed, they would not be worth very much. It is decidedly not in the U.S. interest to cheapen the notion of *pacta sunt servanda*[240] in international obligations in that way – even if doing so might help escape liability in this particular instance. In the long run, the United States depends upon the reliability of international legal instruments and should endeavor to make them more secure, not enabling wrongdoers to slide blithely out of accountability.

C. Does the CWC provide another kind of relief, due to its unusual combination of obligations? Even if the excuses for non-performance found in general international law are unavailing, one peculiar feature of the CWC may seem to offer yet another possible legal strategy.

That is, it might be suggested that the 2012 deadline is soft, and that running well past it should not be deemed culpable because the excess time is due to fastidious adherence to other CWC obligations, namely the requirement to "assign the highest priority to ensuring the safety of people and to protecting the environment"[241] and the requirement to conduct the destruction and other treaty-mandated operations with full transparency, open to OPCW inspection and accountability.[242]

This argument has a certain facial attractiveness, and to some extent is grounded in the reality that safety, security, and verifiability take time and carry costs. But there is treachery in the concept that one treaty obligation may be traded off against others and that a party has liberty to decide on its own which legal obligations to fulfill and which to skimp or defer. The system of international law requires that a party to a treaty comply with all the obligations, even when there may be some unrecognized tension between them. If the negotiators improvidently embrace genuinely conflicting obligations, so they cannot be

239. The ILC *Draft Articles*, *supra* note 216, discuss some additional circumstances precluding the wrongfulness of a state's act that might be considered briefly. Under articles 20 and 45, for example, a state may "consent" to the act of another state, or may waive any objection to that act. In the CWC case, however, the parties have expressly not agreed to or accepted the U.S. and Russian violations of the destruction timetable; the December 1 Decision, *supra* note 177, reflects no such release or waiver of objection. Likewise, ILC article 25, regarding the defense of "necessity," establishes a very stringent benchmark, related to an act that "is the only way for the State to safeguard an essential interest against a grave and imminent peril; and does not seriously impair an essential interest of the State or States towards which the obligation exists, or of the international community as a whole"; the CWC case does not fit that description.

240. Vienna Convention, *supra* note 160.

241. CWC, *supra* note 1, art. IV.10.

242. *Id*. art. IV.3.

simultaneously honored, then wise states should not join the treaty, should join subject to limiting reservations, or should pursue amendments to it. But once a state has consented to a treaty such as the CWC, it must be obligated to find some way – difficult as it may be – to reconcile the obligations, not unilaterally cherry-picking the easiest among them.[243]

Still, the CWC requires carrying this analysis one step further, because the treaty explicitly imports national standards about safety and environmental protection into the international obligations. Article IV.10 specifies that "[e]ach State Party shall transport, sample, store and destroy chemical weapons in accordance with its national standards for safety and emissions."[244] Conformity with the full array of relevant federal and state laws, regulations, and judicial decisions is therefore built into the CWC. If the applicable U.S. national standards simply do not allow the destruction to be accomplished within the time frame articulated in the order of destruction, then perhaps the general reference in Article IV could be said to trump the specifics of the treaty's Verification Annex.

That sort of outcome, however, should be inadmissible; standard maxims of treaty interpretation require parties to attempt to effectuate all provisions in a treaty simultaneously, to avoid constructions that contrapose different sections against each other.[245] The different articles in the CWC – as with any lengthy and complicated treaty – establish mandates that are cumulative, not alternative. The treaty-makers should be understood to require each party to reconcile its various obligations – to find a way, somehow, to implement both the time-limited destruction and the adherence to national safety and environmental standards.[246] The United States would certainly not tolerate some other CWC party's attempt to evade its fundamental treaty obligations via the simple expedient of drafting very restrictive national "safety" or "emissions" standards

243. *See* CWC, *supra* note 1, art. VII.1 ("Each State Party shall, in accordance with its constitutional processes, adopt the necessary measures to implement its obligations under this Convention."); *see also* Mikulak July 11, 2012 Statement, *supra* note 103 (arguing against "[C]ontentious and pointless arguments about whether one provision or another [of the CWC] is most important . . . . All the provisions of the Convention must be effectively implemented.").

244. CWC, *supra* note 1, art. IV.10.

245. LINDERFALK, *supra* note 200, at 107-108 (stating that treaty interpretation should assume that different parts of a treaty were intended to be logically compatible); RESTATEMENT OF THE LAW (SECOND) CONTRACTS §203(b) (1979) (noting that under domestic U.S. contract law, "where an integrated agreement has been negotiated with care and in detail and has been expertly drafted for the particular transaction, an interpretation is very strongly [rejected] if it would render some provisions superfluous"); *id*. at §203(a) ("an interpretation which gives a reasonable, lawful and effective meaning to all the terms is preferred to an interpretation which leaves a part unreasonable, unlawful, or of no effect.").

246. *See* KRUTZSCH & TRAPP, *supra* note 19, at 75, 109 (agreeing that the CWC allows each party considerable discretion regarding the specific measures that will have to be adopted to fulfill its treaty commitments, but concluding that a party lives up to its obligations only "when its national measures ensure the implementation of the rather broad and complex field of diverse obligations contained in all parts of the Convention, especially those in the complex verification mechanism").

that, as a practical matter, succeeded in obliterating an underlying object and purpose of the treaty.[247]

D. What are the available responses to a breach of the CWC? If the U.S. failure to destroy its CW stockpile by the final extended April 29, 2012 deadline constitutes a breach of the treaty – indeed, a material breach – and if none of the putative excuses offers a sufficient defense, what recourse is available to the aggrieved other parties to the treaty? A leading criticism of the efficacy of the system of international law focuses on the paucity of effective restorative or compensatory remedies for violation,[248] but both legal and political responses must be evaluated.

First, consider the avenues specified in the CWC itself. Here, the assessment is somewhat complicated by the fact that the treaty-makers did not expressly confer upon the OPCW organs any clear authority to make official findings about treaty compliance (as, for example, the Board of Governors of the International Atomic Energy Agency is empowered to do).[249] Indeed, during the CWC negotiations, the United States championed the concept that only individual states – not the organization as a whole or the Executive Council or the Conference of the States Parties within it – should exercise that important legal and political power.[250] On the other hand, the CWC does contain numerous

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247. *See* ILC *Draft Articles*, *supra* note 216, art. 3, 32 (compliance with domestic law is irrelevant to a determination about compliance with international law); *see also* Vienna Convention, *supra* note 160, art. 27 ("A party may not invoke the provisions of its internal law as justification for its failure to perform a treaty."); Corten & Klein, *supra* note 160, at 692-695.

248. *See generally* DAVID LUBAN ET AL., INTERNATIONAL AND TRANSNATIONAL CRIMINAL LAW 48-50 (2010); BARRY E. CARTER & ALLEN S. WEINER, INTERNATIONAL LAW 22-44 (6th ed. 2011).

249. Statute of the International Atomic Energy Agency, art. V.E, VI , Oct. 26, 1956, 8 U.S.T. 1093; T.I.A.S. 3873; 276 U.N.T.S. 3 (entered into force July 29, 1957) *available at* http://www.iaea.org/About/statute_text.html (powers of General Counsel and powers of Board of Governors); Int'l Atomic Energy Agency [IAEA], *Implementation of the NPT Safeguards Agreement and Relevant Provisions of Security Council Resolutions in the Islamic Republic of Iran, Report of the Dir. Gen. to the Bd. of Governors*, GOV/2011/65 (Nov. 8, 2011), *available at* http://www.iaea.org/Publications/Documents/Board/2011/gov2011-65.pdf (noting that the IAEA Board of Governors has adopted ten resolutions regarding the implementation of nuclear safeguards in Iran); IAEA, *Resolution on Implementation of the NPT Safeguards Agreement and Relevant Provisions of United Nations Security Council Resolutions in the Islamic Republic of Iran*, Bd. of Governors, GOV/2011/69 (Nov. 18, 2011), *available at* http://www.iaea.org/Publications/Documents/Board/2011/gov2011-69.pdf; IAEA, *Resolution on Implementation of the NPT Safeguards Agreement Between the Agency and the Democratic People's Republic of Korea*, General Council, GC(52)/21 (Oct. 4, 2008); IAEA, *Verifying Compliance with Nuclear Non-Proliferation Undertakings* (Sept. 2011), *available at* http://www.iaea.org/Publications/Booklets/Safeguards3/safeguards0408.pdf.

250. DEP'T OF STATE, ARTICLE-BY-ARTICLE ANALYSIS OF CHEMICAL WEAPONS CONVENTION, Treaty Doc. 103-21, *available at* http://dtirp.dtra.mil/TIC/treatyinfo/cwc.aspx (explaining article VIII.35-36 and observing that the Executive Council should address concerns and situations related to compliance, as opposed to actually deciding whether or not there has been compliance with the Convention); *see* Report 104-33, *supra* note 2, 228 (recalling that "[t]he United States insisted during the negotiations that the decision on determining a state's compliance was a sovereign right of individual state parties"); *see also* KRUTZSCH & TRAPP, *supra* note 19, at 220-221 (noting impasse among the CWC negotiators on the question of whether the Conference should be empowered to find a violation, and observing that "[t]he actual wording [of article XII] does not require such a formal decision" as part of a determination

passages related to ensuring compliance with the treaty, redressing situations contravening its provisions, and settling disputes under it, which implicitly presume an ability to take official actions in deliberate response to recognized breaches.

The first, most basic, power the CWC confers upon its parties and the treaty organs is the ability simply to discuss compliance matters of any sort. Article IX contemplates "consultations" "on any matter" that may affect the object and purpose, or the implementation . . . of [the] Convention.[251] The U.S. Department of State reports that "[t]he United States has successfully used bilateral consultations under Article IX to clarify and resolve concerns about the compliance of various States Party."[252] In addition to those "direct" consultations, both the Executive Council and the Conference of the States Parties have the authority, in "regular" or "special" sessions to raise and debate issues affecting the life of the organization and the CWC.[253] Conversely, no one has the automatic right to shut off debate arbitrarily, sweeping uncomfortable issues under the rug.

For example, CWC Article XII ("Measures to redress a situation and to ensure compliance, including sanctions") empowers the Conference of the States Parties to "take the necessary measures . . . to ensure compliance . . . and to redress and remedy any situation which contravenes the provisions of this Convention."[254] If a party fails to take measures to "redress a situation raising problems with regard to its compliance," the Conference may "restrict or suspend the State Party's rights and privileges under this Convention until it undertakes the necessary action to conform with its obligations under this

about appropriate responsive measures). *But see* BUREAU OF VERIFICATION, COMPLIANCE, AND IMPLEMENTATION, U.S. DEP'T OF STATE, FACT SHEET: VERIFICATION AND COMPLIANCE WITH THE CHEMICAL WEAPONS CONVENTION (Oct. 1, 2005) [hereinafter VERIFICATION AND COMPLIANCE FACT SHEET], *available at* http://2001-2009.state.gov/t/vci/rls/prsrl/57328.htm (The U.S. Dep't of State acknowledges that the Conference of the States Parties "is authorized to 'review compliance' with the CWC, and is to '[t]ake the necessary measures to ensure compliance with this Convention and to redress and remedy any situation which contravenes the provisions of this Convention . . .'" (quoting CWC, *supra* note 1, art. XII.1)); *see generally* DEP'T OF STATE, ARTICLE-BY-ARTICLE ANALYSIS OF CHEMICAL WEAPONS CONVENTION, Treaty Doc. 103-21, *available at* http://dtirp.dtra.mil/TIC/treatyinfo/cwc.aspx ("[T]he Executive Council is not given any special powers in regard to determining compliance or non–compliance . . . . The language in paragraph 22 is a compromise between certain developing countries that wanted an international body to decide whether a violation had occurred, and other negotiating states, including the U.S., that wanted decisions on violations to be left up to each State Party itself to determine.") (citing CWC, *supra* note 1, art. IX.22).").

251. CWC, *supra* note 1, art. IX.1; *see* KRUTZSCH & TRAPP, *supra* note 19, at 171-198 (discussing consultations features of CWC).

252. VERIFICATION AND COMPLIANCE FACT SHEET, *supra* note 250.

253. CWC, *supra* note 1, art. VIII.36, IX.4.f.

254. *Id.* art. XII.1; *see also* Report 104-33, *supra* note 2, at 184-185 (rebutting critics who argued that the Convention's regime for sanctions and penalties for non-compliance was too vague to constitute an effective deterrent, asserting that "the Convention's sanctions and provisions are more comprehensive than those of any other similar agreement"); KRUTZSCH & TRAPP, *supra* note 19, at 218-228.

Convention."[255] Furthermore, in "cases where serious damage to the object and purpose" of the Convention may result, the Conference "may recommend collective measures" to the parties,[256] and "in cases of particular gravity," the Conference may bring the issue to the attention of the United Nations General Assembly and Security Council.[257]

In addition, under Article XIV ("Settlement of disputes") parties to a disagreement about the interpretation or application of the treaty shall consult "with a view to the expeditious settlement of the dispute"[258] and the Executive Council may contribute its good offices or other support to that effort.[259] The Executive Council and the Conference are also empowered to request an advisory opinion from the ICJ on any legal question within the scope of the OPCW activities.[260]

Each party has the right to request the Executive Council "to assist in clarifying any situation which may be considered ambiguous or which gives rise to a concern about the possible non-compliance of another State Party."[261] A series of short deadlines applies to communications and responses between the Executive Council and the party whose behavior is questioned.[262] The concerned state may also call upon the Director-General to establish a "group of experts," from within the Technical Secretariat or outside it, "to examine all available information and data relevant to the situation causing concern."[263]

Finally, any party has the right to request a "challenge inspection" – an on-site observation of a facility or location in another state, for the purpose of "clarifying and resolving any questions concerning possible non-compliance."[264] Any such inspection would be conducted by the Technical Secretariat, and the CWC elaborates the procedures for authorizing and conducting the inspection.[265] (To date, no challenge inspections have ever been requested or conducted under the CWC.) Notably, a requested challenge inspection may be blocked only by a three-quarters vote of the Executive Council, on the grounds

255. CWC, *supra* note 1, art. XII.2.

256. *Id.* art. XII.3.

257. *Id*. art. XII.4.

258. *Id.* art. XIV.2; *see also* KRUTZSCH & TRAPP, *supra* note 19, at 231-238.

259. CWC, *supra* note 1, art. XIV.3.

260. *Id.* art. XIV.5. Pursuant to the Agreement Concerning the Relationship Between the United Nations and the Organization for the Prohibition of Chemical Weapons, concluded in 2000 and entered into force in 2001, the Conference of the States Parties and the Executive Council are Authorized to Transmit to the General Assembly of the United Nations a Request for an Advisory Opinion from the ICJ, art. VII, *available at* http://www.opcw.org/about-opcw/un-opcw-relationship/#c4064.

261. CWC, *supra* note 1, art. IX.3. Iran has invoked this set of procedures to challenge the United States and United Kingdom regarding the validity under the CWC of those parties' actions to recover, examine, and destroy older CW items recovered in Iraq in 2003-09, without application of the Convention's transparency provisions. *See supra*, text accompanying notes 151-52. Jonathan B. Tucker, *Iraq Faces Major Challenges in Destroying Its Legacy Chemical Weapons*, CENTER FOR NONPROLIFERATION STUDIES (Mar. 4, 2010), *available at* http://cns.miis.edu/stories/100304_iraq_cw_legacy.htm.

262. CWC, *supra* note 1, art. IX.4.

263. *Id.* art. IX.4(e).

264. *Id*. art. IX.8.

265. *Id*. art. IX.8-25 and Verification Annex, Part X.

that it would be "frivolous, abusive or clearly beyond the scope" of the CWC.[266] In the case of the missed U.S. destruction deadline, there would be little that an inspection could reveal, beyond all the information that the United States has been self-reporting.

Beyond the avenues specified in the CWC itself, treaty parties may also take advantage of options available under general international law. The most conspicuous category of these remedies is codified in Article 60 of the Vienna Convention, which deals with responses to a material breach. This, therefore, constitutes the most important consequence of a determination that the failure to destroy the CW on time constitutes a "material breach," as opposed to a lesser transgression.[267]

Under the VCLT, three strands of response are available regarding a multilateral treaty such as the CWC:

- the other treaty parties may, by unanimous consent, suspend the operation of the treaty in whole or in part, or terminate it (either among all the parties, or just with respect to the defaulting state);[268]
- a party that is "specially affected" by the breach may suspend the operation of the treaty, in whole or in part, in its dealings with the breaching state;[269] and
- if the treaty is "of such a character that a material breach of its provisions by one party radically changes the position of every other party with respect to the further performance of its obligations," then any party is entitled to suspend the treaty in whole or in part.[270]

There has been little operational experience in construing the key terms in these provisions.[271] We cannot be confident, therefore, whether any individual CWC party could legitimately contend that it was "specially affected" by the U.S. delay in destroying its CW or that the CWC is of such a character that this particular violation "radically changes the position" of each of the other parties.

Commentators have suggested that these provisions might be particularly

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266. *Id*. art. IX.17 (if the Executive Council determines that the request for a challenge inspection is abusive, it may require the requesting party to bear the costs of the inspection) *id*. art. IX.22(c), 23.

267. *See* ILC *Draft Articles*, *supra* note 216, art. 42, 48 GOMAA, *supra* note 160, at 90-106; Corten & Klein, *supra* note 160, at 1361-1366; Giegerich, *supra* note 200, at 1021-1041 (under the Vienna Convention, a material breach may be invoked by a party to suspend or terminate a treaty, but the breach does not automatically accomplish those effects by itself); Kearney, *supra* note 230, at 540.

268. *See* Vienna Convention, *supra* note 160, art. 60.2(a).

269. *Id*. art. 60.2(b).

270. *Id*. art. 60.2(c).

271. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 192, §335; Corten & Klein, *supra* note 160, at 1360; VILLIGER, *supra* note 193, at 749; Giegerich, *in* Dörr & Schmalenbach, *supra* note 229, at 1071 (referring to the "scarcity of affirmative decisions" regarding the doctrine of changed circumstances, note that there is no requirement that a party's response to a breach must be "proportional" to the provocation); *see also* Kearney & Dalton, *supra* note 230, at 540; GOMAA, *supra* note 160, at 120-121; Corten & Klein, *supra* note 160, at 1373-1375.

applicable to arms control treaties, where a breach by any party might undermine the entire treaty regime, even if the violation was not targeted at any particular state and none of them was deliberately "specially affected."[272] Moreover, Iran, for example, might assert that under the current conditions of political tension between itself and the United States, it is "specially affected" by its adversary's retention, for an additional decade or more, of CW.[273]

The VCLT establishes obligatory procedures for a country wishing to vindicate its Article 60 rights, including requirements for written notice of its intention,[274] a "cooling off" period of at least three months,[275] and recourse to the full panoply of U.N. conciliation and dispute resolution facilities.[276] In the current instance, no CWC party has initiated any such procedures; indeed, the December 1 Decision represents precisely the opposite tack, reflecting the parties' near-consensus determination to sustain and strengthen the CWC, not to suspend or terminate it.

Aside from the VCLT, another category of legal response to a breach – material or otherwise – arises from the general concept of "countermeasures." Under this unusual self-help rubric, a state may legitimately initiate an action that would otherwise be illegal, if its step is a timely, temporary response to another state's prior violation of a legal obligation. The countermeasure must be intended to induce that other state to return to compliance with the original obligation, and must be proportional to the gravity of the initial offense.[277] Notably, a countermeasure need not be confined to responding to a "material" breach (even a non-material violation can provide an adequate predicate) and the responding state is not restricted to actions within the scope of the same treaty that was the subject of the triggering breach (the responding state may opt to derogate from some wholly different treaty or some other type of international legal obligation, so long as the effort is to motivate the first state to reform its behavior.)[278] A countermeasure must be non-forceful and directed

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272. Corten & Klein, *supra* note 160, at 1365; VILLIGER, *supra* note 193, at 745; ILC *Draft Articles*, *supra* note 216, art. 42, cmt 13; AUST, *supra* note 193, at 294; GOMAA, *supra* note 160, at 104-105; SINCLAIR, *supra* note 200, at 189.

273. In this sort of situation, it is not clear what it would mean for Iran or any other state to suspend or terminate its CWC obligations only with respect to the United States, if its CWC obligations would nonetheless remain intact with respect to all the other parties.

274. VCLT, *supra* note 160, arts. 65.1, 67.1.

275. VCLT, *supra* note 160, art. 65.2.

276. *See* VCLT, *supra* note 160, arts. 65.3, 66; Judgment in Application of the Interim Accord of 13 September 1995 (Former Yugo. Rep. of Maced. v. Greece), 2011 I.C.J. para. 164 (Dec. 5, 2011) (finding that Greece's response to Macedonia's violation of their treaty was not justified under the doctrine countermeasures), *available at* http://www.icj-cij.org/docket/files/142/16827.pdf; *see also* ILC *Draft Articles*, *supra* note 216, art. 43; Corten & Klein, *supra* note 160, at 1483-1568; VILLIGER, *supra* note 193, at 799-850; AUST, *supra* note 193, at 300-302; GOMAA, *supra* note 160, at 157-173; Revocation of notifications and instruments provided for in articles 65 and 67, *in* Dörr & Schmalenbach, *supra* note 193, at 1131-1176; Kirgis, *supra* note 200, at 555-558.

277. ILC *Draft Articles*, *supra* note 216, art. 22, pt. 3, ch. 2; Gabcikovo-Nagymaros, *supra* note 192, ¶¶82-87; AUST, *supra* note 193, at 362-366.

278. Corten & Klein, *supra* note 160, at 1376.

solely at the state guilty of the original breach – the concept is that the responding state may attempt to induce the breaching state to right the wrong, but may not aim merely at inflicting retribution or imposing a penalty. Ordinarily, a state seeking to exercise countermeasures must implement good faith negotiation and dispute resolution procedures.[279]

Again, it is largely speculation to contemplate what countermeasures might be undertaken by CWC parties who were attempting to put additional pressure on the United States to accelerate its CW destruction. But almost the entire realm of international legal responsibilities, including trade concessions, law enforcement cooperation, diplomatic relations, status of forces agreements, and other arms control accords might legitimately be put onto the table.[280]

Finally, it is worth noting that an aggrieved party could also respond to the U.S. breach via a host of random political, as opposed to legal, measures and policies.[281] It may be difficult to imagine the United States being the target, instead of the protagonist, of economic or trade sanctions, or other types of political punishments, but at least in principle, something of that sort could be available. In a different vein, it is likely that the gravest ramifications of the U.S. breach may emerge in the form of diminished respect by other countries for the United States, for the CWC, for arms control efforts more broadly, and for international law in general. It may become harder for the United States to champion effectively the cause of scrupulous adherence to other vital disarmament and non-proliferation treaties. Other states could more readily dismiss as hypocrisy the exhortations and demands they may receive from Washington, D.C. about the 1968 Nuclear Non-Proliferation Treaty (NPT),[282] the 1972 Biological Weapons Convention,[283] the 1967 Outer Space Treaty,[284] or the

279. ILC *Draft Articles*, *supra* note 216, arts. 52-53.

280. *Id*. art. 50 (specifying that countermeasures shall not affect certain types of obligations, such as to refrain from the use of force or to protect fundamental human rights); *see, e.g.*, Press Statement, Victoria Nuland, Spokesperson for Dep't of State, *Implementation of the Treaty on Conventional Armed Forces in Europe* (Nov. 22, 2011), *available at* http://www.state.gov/r/pa/prs/ps/2011/11/177630.htm (describing the U.S. announcement that it will cease carrying out certain obligations under the Conventional Forces in Europe Treaty, with regard to Russia, in response to Russia's unjustified unilateral suspension of its performance under that treaty).

281. ILC *Draft Articles*, *supra* note 216, pt. III, ch. II (using the term "countermeasure," instead of "reprisal" [which refers to actions undertaken during armed conflict] and "retorsion" [which refers to unfriendly conduct that is not inconsistent with a legal obligation]).

282. NPT is the most important instrument regulating the dissemination of nuclear weapons, the use of nuclear energy for peaceful purposes, and a cap on the nuclear arms race. NPT, *supra* note 215.

283. The BWC, *supra* note 18, was the first international agreement to outlaw an entire category of weapons of mass destruction and remains the single most important multilateral instrument regarding biological weapons.

284. 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, *opened for signature* Jan. 27, 1967, 18 U.S.T. 2410, T.I.A.S No. 6347, 610 U.N.T.S 205 (entered into force Oct. 10, 1967) (incorporates the foundational principles regarding arms control in outer space and peaceful exploration and use of space) [hereinafter Outer Space Treaty].

CWC itself,[285] when the United States has been so egregiously unable to keep its own house in order regarding the destruction demands of the CWC.

Indeed, Iran has already seized the moment to excoriate the United States for its CWC violation, in a transparent attempt to deflect attention from the U.S. charges that Iran is violating the NPT by pursuing a nuclear weapons program.[286] Iran's apparent "offset" strategy has to date failed to gain any traction with the other CWC parties and remains largely an isolated irritant to the OPCW's attempt to deal with the 2012 issue in a businesslike fashion. Still, the danger to the Convention, and to the integrity of arms control efforts in general, lingers ominously.

VI. WEAPONS DESTRUCTION OBLIGATIONS UNDER OTHER ARMS CONTROL TREATIES

How unusual is the CWC's rigid insistence that a relatively short deadline for destruction of regulated weapons may be extended only once? How have other arms control treaties dealt with the balance between flexibility (to accommodate legitimate reasons for delay) versus finality (to ensure that the job does, in fact, get done on a meaningful timetable)?

Many (but not all[287]) arms control treaties do numerically limit or totally ban parties' possession of particular types of weapons – that is, after all, often the

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285. *See* Rademaker statement, *supra* note 67 (asserting that over a dozen countries possess or are actively pursuing chemical weapons, and exhorting that "If this Organization [the OPCW] is to fulfill its promise, it must not shrink from the task of confronting those States Parties that are violating the Convention.").

286. *See supra* notes 151-52, 171-75 (regarding Iran's complaints about the U.S. violating CWC); Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 5 (linking Iran's attitude on nuclear and chemical treaties); STATE COMPLIANCE REPORT OF 2010, *supra* note 60, at 62-67 (regarding U.S. allegations that Iran is violating the NPT by pursuing a nuclear weapons capability); U.S. DEP'T OF STATE, ADHERENCE TO AND COMPLIANCE WITH ARMS CONTROL, NONPROLIFERATION AND DISARMAMENT AGREEMENTS AND COMMITMENTS, 20-21 (Aug. 2011); STATE COMPLIANCE REPORT OF 2005, *supra* note 61, at 72-80.

287. Many arms control treaties are designed largely to regulate the testing, use or deployment locations, rather than the possession, of the regulated arms, and do not require any destruction operations. For example, the 1963 Limited Test Ban Treaty (Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water, Aug. 5, 1963, 14 U.S.T. 1313, T.I.A.S. 5433, 480 U.N.T.S. 43 (entered into force Oct. 10, 1963) and the 1996 Comprehensive Test Ban Treaty, (Comprehensive Nuclear Test Ban Treaty, Sept. 24, 1996, 35 I.L.M. 1439 (not in force)) restrict the conduct of nuclear weapons test explosions, but do not restrict continued possession of those weapons. Likewise, the 1967 Outer Space Treaty, *supra* note 284, and the 1971 Seabeds Arms Control Treaty (Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof, Feb. 11, 1971, 23 U.S.T. 701, T.I.A.S. No. 7337, 955 U.N.T.S. 115, 10 I.L.M. 146 (entered into force May 18, 1972) restrict parties' deployment of weapons in outer space or under water, but do not require destruction of the weapons. Other related non-legally-binding agreements are basically "confidence-building measures," intended to reassure nervous countries that a neighbor's ambiguous military deployment, training or other activities are not a prelude to a surprise attack; again, these instruments do not mandate actual cuts in weaponry. *See*, *e.g.*, Final Act of the Conference on Security and Cooperation in Europe, Aug. 1, 1975, 14 I.L.M. 1292; Document of the Stockholm Conference on Confidence-and Security-Building Measures and Disarmament in Europe, Sept. 19, 1986, 26 I.L.M. 190; Concluding Document of the Vienna Meeting of the Conference on Security and Cooperation in Europe, Jan. 17, 1989, 28 I.L.M. 527.

whole point of the exercise. Surprisingly, however, many of the most important treaties do not incorporate any specifications about the weapons-destruction process: some do not contain explicit mandates that countries must rid themselves of excess armaments, and some do not affix particular timetables for the necessary reductions. Even when a particular destruction schedule is required, typically the "glide path" toward the obligatory end point is so gradual that no problems have emerged for countries that adhere.

For example, the NPT, the cornerstone of the global effort to preclude the proliferation of nuclear weapons, forbids its non-nuclear weapon state parties from receiving, manufacturing, or otherwise acquiring nuclear weapons,[288] but it does not explicitly address the question of what should happen if one of these countries is nonetheless discovered to possess a nuclear weapon.[289] Presumably, that state should destroy the device immediately (consistent with safety and security considerations), but the treaty is silent on the timing. In contrast, the BWC, the most important instrument in the resistance to the scourge of biological weapons, requires parties never to "develop, produce, stockpile or otherwise acquire or retain"[290] the relevant devices and agents. The treaty includes a commitment to destroy or convert the contraband items "as soon as possible but not later than nine months after the entry into force of the Convention,"[291] and an injunction that in effectuating that process "all necessary safety precautions shall be observed to protect populations and the environment."[292] Notably, there is no specification of verification measures or of an international authority to oversee the destruction process, despite the fact that at the time the BWC was concluded, several states were known to possess the newly contraband items. No country publicly reported any difficulties in meeting the nine-month destruction deadline.[293]

The 1981 Convention on Certain Conventional Weapons[294] offers a diverse

288. NPT, *supra* note 215, art. II.

289. The NPT allows "nuclear-weapon States Parties" to continue to possess nuclear weapons, while "non-nuclear-weapon States Parties" are prohibited from doing so. NPT, *supra* note 215, art. IX.3. ("Nuclear-weapon State" is defined as a country that manufactured and exploded a nuclear weapon before January 1, 1967. Therefore, states such as India and Pakistan, which came to possess nuclear weapons after January 1, 1967, could not join the NPT as nuclear-weapon States Parties. They would presumably have to abandon their nuclear weapons in order to join the NPT, but the treaty has no provisions for dealing with this scenario).

290. BWC, *supra* note 18, art. I.

291. *Id*. art. II.

292. *Id*. art. II.

293. Defectors later revealed that the Soviet Union secretly violated the BWC by retaining and continuing to develop biological weapons. *See* ALIBEK, *supra* note 124.

294. Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, Oct. 10, 1980, 1342 U.N.T.S. 137,19 ILM 1523 (1980) (entered into force Dec. 2, 1983, entered into force for the U.S. Sept. 24, 1995) [hereinafter CCW].

menu of illustrations here.[295] Its Protocol 1 (dealing with weapons that produce fragments that are not detectable in the human body by x-rays),[296] Protocol 3 (on incendiary weapons),[297] and Protocol 4 (concerning blinding lasers)[298] ban the use (or particular types of uses) of the regulated armaments, but do not proscribe mere possession, and therefore do not address destruction. Meanwhile, amended Protocol 2 (regulating anti-personnel land mines)[299] and Protocol 5 (about explosive remnants of war),[300] although primarily concerned with use, also contain obligations to clear, remove, destroy or maintain the mines "[w]ithout delay after the cessation of active hostilities"[301] and to clear, remove, or destroy the explosive remnants of war "[a]fter the cessation of active hostilities and as soon as feasible."[302] But they do not describe any mandatory destruction process or specific timetable.

Numerous bilateral agreements between the United States and the Soviet Union or Russia regarding nuclear weapons have established numerical caps on various categories of treaty-limited items:

- The first such effort, the 1969 SALT I Interim Agreement on Strategic Offensive Arms[303] was mostly a "freeze" on existing arsenals of Intercontinental Ballistic Missiles (ICBMs) and Submarine-Launched Ballistic Missiles (SLBMs), without any requirement for elimination of existing systems.[304] The companion Anti-Ballistic Missile (ABM) Treaty[305] likewise capped, rather than reducing, ABM systems, but it did spawn a Protocol on Procedures Governing Replacement, Dismantling or Destruction, and Notification Thereof, for ABM Systems and Their Components, and a series of exacting subsidiary agreements and statements. These did not establish overall timetables or deadlines, but did contain some time-bounded steps for the dismantling procedures.[306]

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295. The CCW has an unusual structure. The main treaty itself contains only basic administrative provisions, as a chapeau for a series of five attached protocols dealing with selected topics; each state may decide to join any or all of the protocols independently.

296. CCW, *supra* note 294, Protocol 1.

297. *Id*. Protocol 3.

298. *Id*. Protocol 4.

299. *Id*. amended Protocol 2.

300. *Id*. Protocol 5.

301. *Id*. amended Protocol II, art.10.1.

302. *Id*. Protocol 5, art. 3.2.

303. Interim Agreement on Certain Measures with Respect to the Limitation of Strategic Offensive Arms, U.S.-U.S.S.R., May 26, 1972, 23 U.S.T. 3462 (entered into force Oct. 3, 1972).

304. *Id*. art. I, III.

305. Treaty on the Limitation of Anti-Ballistic Missile Systems, U.S.-U.S.S.R., May 26, 1972, 23 U.S.T. 3435 (entered into force Oct. 3, 1972, no longer in force) [hereinafter ABM Treaty].

306. Article VIII of the ABM Treaty, *supra* note 305, specifies that ABM systems and components in excess of those allowed "shall be destroyed or dismantled under agreed procedures within the shortest possible agreed period of time." Thereafter, the parties concluded a July 3, 1974 Protocol on Procedures Governing Replacement, Dismantling or Destruction, and Notification Thereof, for ABM Systems and Their Components, and an October 28, 1976 Supplementary Protocol to establish certain timing

- The 1987 Intermediate-range Nuclear Forces Treaty[307] abolished the entire category of land-based ballistic and cruise missiles in the 500–5500 kilometer range; it required each party to eliminate all such missiles and their launchers and all related support structures and equipment within three years.[308]
- The 1991 START I Treaty[309] obligated the two parties to reduce their holdings to no more than 1600 deployed ICBMs, SLBMs and heavy bombers and no more than 6000 warheads attributed to those weapons, in three sequential phases, with interim levels to be reached after three, five and seven years.[310] The 2002 Moscow Treaty[311] then lowered the ceiling on strategic warheads to 1700–2200 within another ten years.[312]
- The 2010 New START Treaty[313] reduced the number of deployed ICBMs, SLBMs and heavy bombers to 700 and the number of associated warheads to 1550, within seven years.[314]

Meeting these generous targets on time never proved especially burdensome for either superpower. For example, Russia's strategic nuclear inventory was already almost at the desired end-state when New START entered into force on February 5, 2011,[315] and further reductions have continued on both sides.[316] In

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standards, such as a requirement that destruction of excess missile launchers shall be completed within three months after its initiation, ABM Treaty, *supra* note 305, Protocol, Procedures Governing Dismantling or Destruction, and Notification Thereof, for ABM Systems and Their Components, art. I.3., and a requirement that destruction of ABM facilities at Malmstrom Air Force Base was to be completed within six months of the agreement on procedures, *id*. art. II.5, *available at* http://www.acq.osd.mil/tc/treaties/abm/dord.htm.

307. Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles, U.S.-U.S.S.R., Dec. 8, 1987, 27 I.L.M. 84 [hereinafter INF Treaty].

308. INF Treaty, *supra* note 307, arts. I, II, IV. There is also an interim deadline, requiring destruction of a significant fraction of the banned weapons within the first twenty-nine months after the treaty entered into force. *Id*. art. IV.2(a). All the eliminations were completed by both countries on time. U.S. GEN. ACCOUNTING OFFICE, ARMS CONTROL: INTERMEDIATE-RANGE NUCLEAR FORCES TREATY IMPLEMENTATION 3, (1991); *see* JOSEPH P. HARAHAN, ON-SITE INSPECTIONS UNDER THE INF TREATY: A HISTORY OF THE ON-SITE INSPECTION AGENCY AND INF TREATY IMPLEMENTATION, 1988-1991, at 225-228 (1993).

309. Treaty on the Reduction and Limitation of Strategic Offensive Arms, U.S.-U.S.S.R., July 31, 1991, S. Treaty Doc. No. 102-20 [hereinafter START I Treaty].

310. *Id*. art. II. START I also included numerous other sub-limits on categories such as warheads attributable to deployed mobile ICBMs, deployed heavy ICBMs, and warheads on deployed heavy ICBMs, with fixed destruction timetables for each. *Id.*

311. Treaty on Strategic Offensive Reductions, U.S.-Russ., May 24, 2002, S. Treaty Doc. No. 107-8 [hereinafter Moscow Treaty].

312. Moscow Treaty, *supra* note 311, art. I. This treaty did not require actual destruction of the excess warheads; they could be removed from deployment and sent to storage.

313. Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, U.S.-Russ., Apr. 8, 2010, S. Treaty Doc. No. 111-5 (entered into force Feb. 5, 2011) [hereinafter New START Treaty].

314. *Id*. art. II.

315. The New START Treaty parties' initial exchange of data revealed that as of February 5, 2011, when the treaty entered into force, Russia possessed 521 deployed strategic delivery systems (700 are

fact, one of the perceived problems with the original START I accord had been that the treaty-established procedures for eliminating the weapons, to remove them from accountability, were so exacting, and therefore so expensive, that each country avoided performing them. Instead, each state carried on its books numerous treaty-accountable items that were obsolete, unarmed, and non-functional, because each was comfortably below its allowable ceilings, and it was considerably cheaper to sustain these so-called "phantom weapons" than to complete the prescribed elimination steps.[317] (The New START treaty considerably simplified the mandatory dismantling standards, ameliorating the problem.)

The multilateral 1990 Conventional Forces in Europe (CFE) Treaty[318] and its associated instruments[319] may incorporate more separate numerical limits than any other arms control system. They establish individual caps for each of the thirty parties, and for various combinations of them, on each of five categories of weaponry: tanks, armored combat vehicles, artillery, combat aircraft, and combat helicopters, all to be reached within forty months.[320] Most of the

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allowed by the treaty), 865 deployed and non-deployed systems (800 are allowed) and 1537 warheads on deployed systems (1550 are allowed). The United States data were, respectively, 882, 1124, and 1800. U.S. DEP'T OF STATE, FACT SHEET: NEW START TREATY AGGREGATE NUMBERS OF STRATEGIC OFFENSIVE ARMS, (2011).

316. By March 1, 2012, the numbers were: for deployed strategic delivery systems, U.S. 812, Russia 494; for deployed and non-deployed systems, U.S. 1040, Russia 881; for deployed warheads, U.S. 1737, Russia 1492. U.S. DEPARTMENT OF STATE, FACT SHEET: NEW START TREATY AGGREGATE NUMBERS OF STRATEGIC OFFENSIVE ARMS, (2012); Kingston Reif, *New START: One Year Later*, BULL. OF THE ATOMIC SCIENTISTS, Feb. 2, 2012, *available at* http://www.thebulletin.org/web-edition/columnists/kingston-reif/new-start-one-year-later; Tom Z. Collina, *Russia Back Below Treaty's Warhead Limits*, 42.4 ARMS CONTROL TODAY, May 2012, at 39, *available at* http://www.armscontrol.org/act/2012_05/Russia_Back_Below_Treaty_Warhead_Limits (noting that reported numbers of weapons can fluctuate, as individual systems are removed from deployed status for maintenance or repair operations).

317. *See* AMY F. WOOLF, CONG. RESEARCH SERV., R41219, THE NEW START TREATY: CENTRAL LIMITS AND KEY PROVISIONS, 6-9, 25 (Feb. 14, 2012) (describing how the United States and Russia had avoided the difficulty and expense of complying with the exacting START I procedures for eliminating weapons from accountability, by continuing to count under the treaty many systems that were no longer operational). *Compare* START I Treaty *supra* note 309, Protocol on Procedures Governing the Conversion or Elimination of Items Subject to the Treaty *with* New START Treaty, *supra* note 313, Protocol to the Treaty, Part Three, Conversion or Elimination Procedures.

318. Treaty on Conventional Armed Forces in Europe, Nov. 19, 1990, 30 I.L.M. 1 (entered into force July 17, 1992) [hereinafter CFE Treaty].

319. The CFE Treaty was negotiated on a bloc-to-bloc (NATO and Warsaw Pact) basis, and defined a series of concentric zones with specified numerical ceilings for each type of equipment. In addition, an associated non-legally-binding instrument provided national limitations on military manpower. This original structure became outmoded when the Cold War ended; a 1999 Adaptation Agreement focused on national, rather than bloc, limitations, but it has not entered into force. *The Conventional Armed Forces in Europe (CFE) Treaty and the Adapted CFE Treaty at a Glance,* ARMS CONTROL ASS'N (2012), http://www.armscontrol.org/factsheet/cfe [hereinafter CFE Treaty at a Glance]; Tom Z. Colllina, *CFE Treaty Talks Stall*, 41.7 ARMS CONTROL TODAY, Sept. 2011, at 30, *available at* http://www.armscontrol.org/2011_09/CFE_Treaty_Talks_Stall; *Treaty on Conventional Armed Forces in Europe*, GLOBALSECURITY.ORG, http://www.globalsecurity.org/military/world/russia/cfe-treaty.htm [hereinafter GlobalSecurity.org].

320. CFE Treaty, *supra* note 318 arts. I-VII. Reductions to meet the specified ceilings on military equipment are to be carried out in three phases, with interim deadlines at sixteen, twenty-eight and forty months after the treaty entered into force. *Id*. art. VIII.4.

reductions were readily accomplished on time (where Russia failed to do so, it was not because of financial or other impediments to the destruction process, but because of political dissatisfaction with the operation of the treaty in the post-Cold War environment, when the prior military bloc structure had unraveled).[321] Some of the CFE reductions in treaty-limited items were accomplished not through physical dismantling of excess systems, but through the simple expedient of moving them out of the treaty's geographic area, such as Russia's abrupt transfer of some 70,000 items to its military districts east of the Ural Mountains, and thus out of Europe.[322] Still, the treaty incorporates excruciatingly detailed procedures for severing, welding, removing, explosively detonating, deforming, smashing, or otherwise disabling each type of limited equipment,[323] and has accounted for the destruction of some 52,000 pieces of military hardware.[324]

The most conspicuous example of a recent treaty for which the mandatory dismantling timetable has proven problematic is the 1997 Ottawa Convention on Anti-Personnel Land Mines (APL).[325] The Ottawa Convention has 160 parties, including most members of NATO, but not the United States.[326] It incorporates two different destruction obligations, with interestingly different schedules. First, regarding stockpiled mines (those held in a warehouse, not yet deployed into an operational minefield), each party is obligated to destroy all the APL that it owns or possesses, or that are under its jurisdiction or control, "as soon as possible but not later than four years after the entry into force of this Convention for that State Party."[327] There is no provision for extension of that four-year period. Second, regarding mines already emplaced in minefields, each party must destroy all mines in mined areas under its jurisdiction or control as soon as possible, but no later than ten years after the treaty becomes opera-

321. Russia has objected to sustaining the original limitations on military equipment in the various zones, now that the Warsaw Pact has collapsed and many of the Soviet Union's former allies have joined NATO. The 1999 Adaptation Agreement was designed to provide the necessary adjustments, but it has not entered into force. *See* STATE COMPLIANCE REPORT OF 2005, *supra* note 61, at 32, 38-47 (regarding CFE generally and regarding Russian activity under the CFE Treaty); U.S. DEP'T OF STATE, CONDITION (5)(C) REPORT: COMPLIANCE WITH THE TREATY ON CONVENTIONAL ARMED FORCES IN EUROPE 11-13 (2011) (regarding Russian response in 2010).

322. While the CFE Treaty negotiations were being concluded, Russia suddenly moved a large quantity of soon-to-be-regulated military equipment from its European bases to Asian locations east of the Ural Mountains, and therefore out of the treaty's geographic coverage. Many considered this to be a dangerous circumvention of the treaty (since the equipment could presumably be returned to the European theater just as quickly); much of it was later destroyed. GlobalSecurity.org, *supra* note 319.

323. CFE Treaty, *supra* note 318, Protocol on Procedures Governing the Reduction of Conventional Armaments and Equipment Limited by the Treaty.

324. CFE Treaty at a Glance, *supra* note 319.

325. Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, Sept. 18, 1997, 2056 U.N.T.S. 211 [hereinafter Ottawa Convention].

326. *Mine Ban Treaty – States Parties*, INT'L. CAMPAIGN TO BAN LANDMINES, http://www.icbl.org/index.php/icbl/Universal/MBT/States-Parties.

327. Ottawa Convention, *supra* note 325, art. 4.

tional.[328] If a party "believes that it will be unable" to accomplish that objective, it may request an extension for up to another ten years, and a Meeting of the States Parties may vote (by simple majority) to grant the request.[329] Moreover, such an extension may be renewed, via the same process, apparently without limit.[330]

The Ottawa Convention specifies that a request for an extension shall contain: (1) the duration of the proposed extension; (2) a detailed explanation of the reasons for it, including the status of the work already conducted, the financial and technical means available to the country to conduct the necessary destruction activities, and the "[c]ircumstances which impede the ability" of the state to complete the process; (3) the "humanitarian, social, economic, and environmental implications of the extension"; and (4) any other relevant information.[331]

To date, compliance with these two deadlines has been inconsistent. Most Ottawa parties do not currently possess stockpiles of APL (sixty-four parties declared that they had never owned any such mines). But four states – Belarus, Greece, Turkey, and Ukraine – are in violation of their Ottawa obligations, due to failure to meet the four-year timetable, and only Turkey appears to be moving close to compliance. (For Belarus, Greece, and Turkey, the deadline was March 1, 2008; Ukraine joined the treaty later, and started violating this provision on June 1, 2010.)[332]

Regarding destruction of mines fielded in mined areas, forty-four states have declared themselves to be (or are otherwise considered to be) subject to the treaty's obligation to clear the mines within ten years, but twenty-two of these have already requested and received one or more extensions, and several additional petitions are pending.[333] Many of these countries are registering precious little progress in the clearance task, and are falling behind their own generous schedules.[334] At the treaty's second Review Conference, in 2009, the parties adopted the Cartagena Action Plan, which included Point 13, urging states to work toward rapid implementation of their obligations to clear mines within ten years (plus extensions), but little acceleration in the pace has been noted.[335] The International Campaign to Ban Landmines, responsible for monitoring implementation of the Ottawa Convention, concludes that even the states that have been granted extensions have made "disappointing progress,"[336] and that "deadline extension requests are becoming the norm rather than the exception."[337]

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328. *Id*. art. 5.1.
329. *Id.* art. 5.3, 5.5.
330. *Id.* art. 5.6.
331. *Id*. art. 5.4.
332. INTERNATIONAL CAMPAIGN TO BAN LANDMINES, LANDMINE MONITOR 2011, at 4-5 (2011).
333. *Id*. at 22.
334. *Id*. at 23.
335. *Id*. at 22.
336. *Id*. at 22.
337. *Id*. at 30.

The bifurcated Ottawa Convention structure was adapted in the 2008 Oslo Convention on Cluster Munitions.[338] There, each party undertakes, first, to destroy all its stockpiled cluster munitions as soon as possible and no later than within eight years (and "to ensure that destruction methods comply with applicable international standards for protecting public health and the environment.")[339] Unlike the Ottawa Convention, the stockpile destruction deadline under the Oslo Convention may be extended, upon request to a Meeting of States Parties, for four years, and "in exceptional circumstances," for additional periods of four years, where doing so is "strictly necessary" to complete the destruction.[340]

Second, regarding the cluster munition remnants in the field, the Oslo Convention requires each party to clear and destroy all such items within ten years; that period may be renewed for successive five-year increments.[341]

What are the lessons to be learned from all this collective experience with different forms of destruction obligations under arms control agreements? How could conscientious treaty-makers find the "sweet spot" that avoids both: (1) the excessive rigidity of an immoveable deadline that throws into a situation of breach a country that behaves in good faith but simply cannot meet a projected calendar that may have seemed perfectly reasonable when it was originally established; and (2) the opposite danger of a too-squishy timetable that cavalierly allows recalcitrant countries to defer indefinitely their obligations, cynically appearing to honor the treaty while not truly pursuing one of its key desiderata?

The answer cannot be an automatic preference for either long deadlines or short ones, or for waivable or immutable targets. Likewise, it is too simplistic merely to call for negotiators to be "more realistic" in setting their timetables or for countries to be "more responsible" in carrying out their destruction obligations. With hindsight, it is abundantly clear that a ten- or even fifteen-year target for destroying all U.S. and Russian chemical weapons was ambitious, perhaps foolishly so. But in the early 1990s, when the time frame was picked, the experts were confident; they regarded the single five-year extension as a prob-

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338. Convention on Cluster Munitions, May 30, 2008, 33 pt. 2 U.N. Disarmament Y.B. 251, *available at* http://www.clusterconvention.org/files/2010/12/CCM-Text1.pdf [hereinafter CCM] (entered into force Aug. 1, 2010). A cluster munition is an explosive weapon that releases or disperses multiple, small sub-munitions, allowing it to strike numerous targets simultaneously over a wider area. *Id.* art. 2.2; ANDREW FEICKERT & PAUL K. KERR, CONG. RESEARCH SERV., RS22907, CLUSTER MUNITIONS: BACKGROUND AND ISSUES FOR CONGRESS 1 (June 27, 2012).

339. CCM, *supra* note 338, art. 3.2.

340. *Id*. art. 3.3. The request for an extension is to specify the duration of the requested extension, the exceptional circumstances justifying it, the plan for destroying the cluster munitions, the financial and technical resources available to the party to complete the destruction, and the quantity of munitions and sub-munitions to be destroyed. *Id*. art. 3.4.

341. *Id.* art. 4. The request for an extension is to specify the proposed duration, the reasons for the extension, the work already conducted under national clearance programs, the total area remaining to be cleared, the circumstances that have impeded the party's ability to complete the clearance, and the humanitarian, social, economic, and environmental implications of the proposed extension. *Id*. art. 4.6.

ably unnecessary, extra margin of safety. What they apparently did not adequately take into account was the inevitability that political factors, as well as technical factors, would come into play. If NIMBY had not intervened, the deadline could probably have been met.

It is clear that the political dynamics of modern arms control will not tolerate asymmetric deadlines. It would not be generally acceptable to require countries with relatively small inventories of the regulated weapons to destroy them immediately, while providing a significantly longer period for those laboring under a larger legacy of now-excess armaments. Whatever freedom of action is available to one will probably have to be extended to all.[342]

Perhaps part of the solution may lie in drafting standards that allow extensions, and renewals of extensions, but that specify the particular criteria that the requester must satisfy, as well as procedures to ensure that applications are well-vetted. Some may view the Ottawa and Oslo Conventions as providing useful models here, but others are less sanguine, concluding that even strict-sounding language may be susceptible to exploitation and endless delay.

VII. POSSIBLE PATHS FORWARD ON THE CWC

Returning now to the analysis of the CWC destruction mandate, what tools and tactics may be available for resolving the U.S. and Russian 2012 violations? Five clusters of options are considered.

A. Change the treaty obligations. The first obvious kind of response would be to alter the mandate of the treaty – if the leading parties are unable to change their behavior to conform to the treaty's terms, then possibly they could change the treaty's terms to match better what those two chemical leviathans could actually accomplish. The CWC provides three possible avenues.

First, the formal amendment provisions of the CWC outline the "front door" mechanism for altering the text. Article XV of the treaty provides that any party may propose an amendment, which is circulated to all parties.[343] If one-third of the parties support it, an Amendment Conference is convened.[344] To be adopted, the proposal must receive "a positive vote of a majority of all States Parties with no State Party casting a negative vote."[345] It must then be ratified by all the parties who voted in favor of it at the Amendment Conference; thirty days later, the amendment enters into force for all treaty parties.[346]

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342. The NPT, regulating nuclear weapons, is "discriminatory," in that it allows the five states that tested nuclear weapons first (the United States, Russia, China, France and the United Kingdom) to retain nuclear weapons, while outlawing possession for all other parties. NPT, *supra* note 215, arts. I, II, VI, IX.3. In contrast, the treaties regulating chemical and biological weapons are "non-discriminatory," treating all states identically, regardless of their history as possessors (or not) of the regulated weapons. BWC, *supra* note 18, art. I; CWC, *supra* note1, art. I.

343. CWC, *supra* note 1, art. XV.1 and 2; KRUTZSCH & TRAPP, *supra* note 19, at 239-47.

344. CWC, *supra* note 1, art. XV.2. With 188 states party to the treaty, 63 would have to support the convening of an Amendment Conference.

345. *Id*. art. XV.3(a). A majority vote would require ninety-five parties.

346. *Id.* art. XV.3.

As a formal matter, this procedure carries the notable virtue that an amendment supported by a majority (and not opposed by any party) can enter into force for all parties simultaneously. It avoids the irregularity that might occur if a state that does nothing (neither supporting nor opposing the amendment) would not be bound by it, while other parties would be. However, as a practical matter, this mechanism makes amendments extremely difficult; it provides each party two separate opportunities to veto any proposal – it may vote against the amendment at the Amendment Conference, or it may vote in favor, but then decline to ratify. Moreover, as a political matter, the United States and like-minded parties have been reluctant to propose any amendments to the CWC, fearing that if the treaty text were opened up to alteration, other parties might take the occasion to propound their own ideas for refinement of the obligations, many of which would be unwelcome. The CWC has never been amended.

The second potential mechanism for modifying the treaty is the "changes" procedure, also found in article XV. This provides an expedited mechanism to "ensure the viability and effectiveness"[347] of the CWC, and is applicable only to "matters of an administrative or technical nature."[348] Under it, a proposal is circulated to all parties, with an evaluation by the Director-General of the Technical Secretariat, and the Executive Council makes a recommendation.[349] If the Executive Council's recommendation is favorable, the proposal is considered approved unless a party objects within ninety days,[350] and it enters into force for all parties 180 days later.[351]

This streamlined vehicle allows minor alterations in the CWC to be implemented more quickly (in particular, it does not require an act of "ratification" by the parties, thereby dodging the necessity of returning to national legislatures for consent). But it again relies upon the absence of any objection, and it is applicable only to relatively minor provisions in the Annexes of the CWC, not to the text of the treaty itself.[352]

In the current situation, oddly, the obligation to destroy all chemical weapons within ten years is contained in article IV.6 of the treaty,[353] but the provision for

347. *Id*. art. XV.4.

348. *Id*. art. XV.4.

349. *Id*. art. XV.5(a)-(c).

350. *Id*. art. XV.5(d). If the Executive Council recommends that the proposal be rejected, it is considered rejected unless a party objects within 90 days. If a party disagrees with the recommendation of the Executive Council, the matter is referred to the Conference of the States Parties. *Id*. art. XV.5(d)-(e).

351. *Id*. art. XV.5(g).

352. Some parts of the annexes are also exempt from the changes procedure, reflecting the negotiators' judgment that those particular passages were too important to be subject to the expedited change operations. *Id*. art. XV.4.

353. *Id*. art. IV.6 (destruction "shall finish not later than 10 years after entry into force of this Convention.").

the one limited extension is housed in the Verification Annex, Part IV(A).C.24-26.[354] It is not clear, therefore, whether the expedited procedure could be legitimately implemented to address this matter.

Moreover, in CWC experience, this "viability and effectiveness change" procedure has been employed only twice, regarding quite minor matters: to adapt the timetable for consideration of proposals to "convert" to benign applications, rather than to "destroy," a former chemical weapons production facility, in the case of a state that joins the treaty after the initially-specified timetable for such conversions;[355] and to allow international transfers of very small quantities (five milligrams or less) of saxitoxin for medical diagnostic purposes to proceed with notification at the time of transfer, rather than thirty days in advance.[356]

It seems extremely unlikely that a change to the fifteen-year destruction deadline (even though expressed in the Verification Annex, instead of in the treaty text) would pass muster as an "administrative or technical" question. If even a single party objected to the gambit, the matter – including the question of whether the proposal truly meets the criteria for a "change" – would be referred to the Conference of the States Parties, where it would be addressed as a matter of substance, again affording any party the power to block an amendment.[357]

A third, possibly less onerous or restrictive, option for altering the CWC destruction obligations would rely upon an emergent pattern of practice among the parties in interpreting or implementing the accord. That is, the Vienna Convention contemplates that in construing a treaty text, there shall be taken into account "[a]ny subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation."[358] If the observed "practice" of the leading CWC parties is to careen past the fifteen-year timetable, without strenuous objection from others, perhaps that pattern could, *de facto* amount to a revised understanding of the legal obligations.[359]

Notably, this passage in the Vienna Convention relates to "interpretation" of a treaty, rather to "alterations" in it, but perhaps it may be possible in practice to fuzz the dividing line between ordinary implementation and modification – if

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354. *Id*. Annex on Implementation and Verification, Part IV(A).C.24-26.

355. *Id*. Annex on Implementation and Verification, Part V.D.72bis (added in 2005).

356. *Id*. Annex on Implementation and Verification, Part VI.B.5bis (added in 1999 and corrected in 2000).

357. *Id*. art. XV.5(e).

358. Vienna Convention, *supra* note 160, art. 31.3(b); *see also* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 192, §325, cmt c; GARDINER, *supra* note 200, at 225-49; VILLIGER, *supra* note 193, at 431; Oliver Dörr, *General Rule of Interpretation*, *in* Dörr & Schmalenbach, *supra* note 193, at 1029. It would also be possible for the CWC parties to conclude an overt "subsequent agreement" "regarding the interpretation of the treaty or the application of its provisions" Vienna Convention, *supra* note 160, art. 31.3(a). However, it seems extremely unlikely that all CWC parties would join in the negotiation and conclusion of such an instrument.

359. The Albania case, discussed *supra* text accompanying notes 143-44, could be instructive as a data point in helping to establish a possible pattern of precedents for this approach.

the parties were unanimous in their intentions.[360] However, it is a stretch to describe the December 1 Decision as a tacit "waiver" or forgiveness of the U.S. and Russian violations, or as a consensus to alter the treaty's demands. The December 1 Decision was not labeled or described in those terms, and it seems unlikely that a general loosening of the fifteen-year deadline would have commanded such universal assent. Even if most parties were disinclined to pound the table about the major powers' failures, some, at least, would continue, with reason, to regard this chain of events as simply a "violation" of the CWC, not as a covert consensual "re-interpretation" of one of its key provisions. In that connection, OPCW organs have explicitly stressed that no action should be taken, regarding some parties' difficulties in meeting the revised deadlines for destruction of chemical weapons, that would "lead to the rewriting of or reinterpreting of [the] Convention's provisions."[361]

B. Escape the treaty obligations. A second device for addressing the destruction problem would be to exercise the CWC's withdrawal provision; this approach could be contemplated either by the United States and Russia or by any other party aggrieved by the prolongation of the CW destruction process.

Like many other modern arms control agreements,[362] the CWC allows its parties to escape the obligations in an extreme situation, providing:

> Each State Party shall, in exercising its national sovereignty, have the right to withdraw from this Convention if it decides that extraordinary events, related to the subject-matter of this Convention, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal 90 days in advance to all other States Parties, the Executive Council, the Depositary and the United Nations Security Council. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.[363]

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360. *See* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW, *supra* note 192, §334, reporters' note 4 (concluding that "[t]he question of modification by subsequent practice tends to merge into that of interpretation by subsequent practice"), §102, cmt j, and reporters' note 4 (new rule of customary international law may supersede a prior treaty); GARDINER, *supra* note 200, at 243-245; AUST, *supra* note 193, at 241-243; GEORG NOLTE, THIRD REPORT FOR THE INTERNATIONAL LAW COMMISSION STUDY GROUP ON TREATIES OVER TIME, SUBSEQUENT AGREEMENTS AND SUBSEQUENT PRACTICE OF STATES OUTSIDE OF JUDICIAL OR QUASI-JUDICIAL PROCEEDINGS 43-45 (2012) (common practice among treaty parties can indicate agreement on non-application of the treaty).

361. OPCW, Conference of the States Parties, *Report of the 15th Session*, *Nov. 29-Dec. 3, 2010* ¶¶9.8, C-15/5 (Dec. 3, 2010); *see also* Mikulak Nov. 29, 2011 Statement, *supra* note 94.

362. *Cf.* New START Treaty, *supra* note 313, art. XIV.3; BWC, *supra* note 18, art. XIII.2; ABM Treaty, *supra* note 305, art. XV.2; NPT, *supra* note 215, art. X.1.

363. CWC, *supra* note 1, art. XVI.2. Such a withdrawal would not affect a state's obligations under the Geneva Protocol, *supra* note 13, or under customary international law. CWC, *supra* note 1, art. XVI.3.

Withdrawal from an arms control treaty is rare; the only two instances are North Korea's 2003 withdrawal from the NPT, *see Arms Control and Proliferation Profile: North Korea*, ARMS CONTROL ASSOCIATION (Aug. 2012), http://www.armscontrol.org/factsheets/northkoreaprofile, and the United States' 2002 withdrawal from the ABM Treaty, *see* Wade Boese, *Missile Defense Five Years after the ABM Treaty*, 37.5 ARMS CONTROL TODAY, June 2007, *available at* http://www.armscontrol.org/act/2007_06/MissileDefense.

First, regarding the United States and Russia, it would be a stretch for those states to characterize their own (or each other's) violations of the treaty as events that have jeopardized their supreme interests. A somewhat better rationale might be to cite the unforeseen technical, financial, and organizational difficulties that generated those breaches as "extraordinary events." The United States or Russia could assert that withdrawal was preferable to overtly violating the CWC, because committing a material breach could lead to adverse implications, as described above, casting into disrepute the CWC, other vital arms control agreements, and by extension, all of international law.[364]

Notably, the concept of the withdrawal provision in arms control treaties allows each state to be entirely "self-judging" in evaluating whether its supreme interests have been jeopardized. It must express the reasons why it regards withdrawal as necessary, but as long as it is behaving in good faith, there is no mechanism for the other parties to object effectively or to compel the state to remain inside the treaty regime.[365]

Here, to mitigate the political fallout from a withdrawal, the United States and Russia might negotiate a new bilateral agreement committing themselves to expeditious destruction of their CW inventories (perhaps akin to the 1989-1990 bilateral agreements noted above[366]) and they might conclude some sort of agreement with the OPCW to apply the verification and related measures to their prolonged extra-CWC functions. And they could make clear their intentions to re-join the CWC as soon as their destruction operations reached fruition.

But any such defection, under any terms, would surely shake the CWC to its core. Where the objective is to sustain the concept of an effective international law prohibition against chemical warfare, any decision by the United States and Russia to abandon the leading instrument in the field would hardly be appreciated as a constructive approach.

Conversely, it is possible that other parties, perturbed by the failure of the United States and Russia to comply with the mandatory destruction timetable,

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364. This provision allows only for a complete "withdrawal" from a treaty, not for a temporary "suspension" of its obligations. Russia has asserted an ability to suspend, not terminate, its participation in the Conventional Forces in Europe (CFE) Treaty, and the United States and other parties have resolutely rejected that interpretation. U.S. DEP'T OF STATE, COMPLIANCE WITH THE TREATY ON CONVENTIONAL ARMED FORCES IN EUROPE, CONDITION (5)(C) REPORT, 1, 7-8 (Aug. 2011), http://www.state.gov/t/avc/rls/rpt/170445.htm; Statement by the United States of America to the Joint Consultative Group, Organization for Security and Cooperation in Europe, 682nd Plenary Meeting, Agenda item 2(b), Dec. 9, 2008, http://www.state.gov/documents/organization/138820.pdf; *see also* Press Statement, U.S. Dep't of State, Implementation of the Treaty on Conventional Armed Forces in Europe (Nov. 22, 2011), *available at* http://www.state.gov/r/pa/prs/ps/2011/11/177630.htm (announcing that the United States will cease carrying out CFE obligations with regard to Russia, in response to Russia's suspension).

365. AUST, *supra* note 193, at 281-282. In 2006, after North Korea withdrew from the NPT and conducted a nuclear weapons test explosion, the United Nations Security Council deplored the withdrawal and demanded that North Korea rescind its action and rejoin the NPT. S.C. Res. 1718, ¶¶3-4, U.N. Doc. S/RES/1718 (Oct. 14, 2006). North Korea has not done so.

366. Wyoming Memorandum of Understanding, *supra* note 20.

would exercise the right to withdraw. The exiting state might, or might not, decide to resume production of CW; perhaps it would announce an intention to return to the Convention when the United States and Russia complete their destruction operations. No state has yet insinuated that it might consider such recourse, and in any neutral assessment, the prolonged possession of these quantities of to-be-destroyed munitions and agents by the United States and Russia does not pose any genuine threat to the security or other supreme interests of any other party. The prospect that either the United States or Russia would brandish or use any of these loathsome devices in combat is virtually nil, and even if the U.S. chemical neutralization process consumes another decade or more, no other state is genuinely threatened thereby.

Still, an outlier state may see things differently, and as noted, the operation of the withdrawal power does not afford other states the opportunity to gainsay that option.[367] One or more such defections would hardly "solve" the destruction problem in any sense, but it cannot be dismissed as a possible response by states that wanted to protest the U.S. and Russian dilatory behavior, to punish them for it, or perhaps to incentivize them to improve it.

C. Excuse the violation. A third approach would be to convince the CWC parties to waive or simply overlook the violation. At the most elementary level, this could be a low-key political enterprise, to persuade other states that the United States and Russia were behaving in an eminently reasonable fashion. Even if they were contravening the terms of the CWC, they were devoting so much money, expertise and innovation to the effort, and were not seeking or achieving any military, diplomatic or other benefit from the prolongation, so no one else should care very much. The hoped-for response would be "nothing" – not a whimper of protest or a wiggle of serious contrary action – in recognition that pressing further on this issue would be both futile and unnecessary.

The world might thus appreciate this situation as a variation on the concept of "efficient breach."[368] This is the notion that strict conformity with the exact terms of a binding legal obligation could become wasteful, if the breaching party stands to gain so much by the violation that it could compensate the innocent parties for the loss of their expectations, and still come out ahead. Here, there would be little tangible benefit to the other CWC parties, even if the United States and Russia were now to pour even more billions into a largely futile effort to somehow further accelerate their CW destruction processes. A

367. After North Korea withdrew from the NPT and conducted a nuclear weapons test explosion, the United Nations Security Council deplored the withdrawal and demanded that North Korea rescind its action and rejoin the NPT. S.C. Res. 1718, *supra* note 365. North Korea has not done so.

368. Under the modern "law and economics" theory of "efficient breach," a party may be excused from performing a contract if breach would be economically more efficient – provided that it pays compensatory damages to the injured party. BLACK'S LAW DICTIONARY 592 (9th ed. 2009). In the case of the CWC, there is no specific injured party, and there is no procedure for assessing compensatory damages.

more relaxed, flexible attitude may therefore be deemed more appropriate.

In a more formal vein, the Executive Council, the Conference of the States Parties, or the Director-General of the Technical Secretariat could go overtly on the record with similarly benign conclusions. None of those bodies has any express power to expunge treaty violations, and the CWC dispute resolution provisions do not contemplate a "Good Housekeeping seal of approval" for breaches, but discretion and judgment might lead in that direction. The Executive Council has the general authority to "promote the effective implementation of, and compliance with, this Convention"[369] and to make recommendations "regarding measures to redress the situation and to ensure compliance."[370] The Conference of the States Parties has even broader responsibilities; it may "take decisions on any questions, matters or issues related to this Convention"[371] and "act in order to promote its object and purpose."[372] If those organs determined that little or no response was necessary or appropriate in reaction to the 2012 issue, that wisdom could not be overturned.[373]

The closest precedent for the current situation arose in April 2007 regarding Albania's small CW stockpile. There, the OPCW, in effect, closely monitored Albania's tardiness in meeting the deadline, but took no formal action, despite the facts that Albania had clearly violated the treaty's requirements (albeit, by a very small margin) and that Albania had done so without even bothering to request an extension (which would have easily fixed the problem). A pragmatic "watch and wait" posture by the Executive Council (it "reiterated its concern"[374] about the delays, but never addressed the possibility of any sanctions) seems to have led to a satisfactory outcome.

The resolution of the Albania contretemps was found in the power of the Executive Council to negotiate a viable response plan under article VIII.C.36:

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369. CWC, *supra* note 1, art. VIII.C.31.

370. *Id*. art. VIII.C.36(c).

371. *Id*. art. VIII.B.19.

372. *Id*. art. VIII.B.20.

373. The organs of the OPCW are not themselves parties to the treaty; they are merely the agents of the states parties. Any legally operative determination to waive or forgive a violation would have to be a decision of the parties themselves, perhaps expressed through the Executive Council and the Conference of the States Parties. The Director-General has even less express authority to bind the parties, but has used his "bully pulpit" to try to promote a consensus, low-key solution. *See* Ahmet Üzümcü, Dir.-Gen., Opening Statement to the Exec. Council at Its 61st Session, ¶¶10-11 (June 29, 2010), *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=13851 (saying that the United States and Russia "will not be able to meet the 29 April 2012 deadline," without labeling that failure as a "breach" or "violation," and opining that those two countries have shown an excellent track record and firm commitment to the CWC, so "the key goal of achieving the total and irreversible destruction of their declared stockpiles is, in my view, not in question . . . . I for one have no doubt that they will continue to stay on track."); *see also* NOLTE, *supra* note 360, at 71-88 (surveying different types of treaty implementation bodies and the powers they may wield in treaty interpretation and modification).

374. OPCW, Executive Council, *Report on the Performance of Its Activities in the Period from 8 July 2006 to 29 June 2007*, EC-50/3, C-12/3, ¶2.16 (Sept. 26, 2007) [hereinafter OPCW Exec. Council *Rep.*].

> In its consideration of doubts or concerns regarding compliance and cases of non-compliance, including, inter alia, abuse of the rights provided for under this Convention, the Executive Council shall consult with the States Parties involved and, as appropriate, request the State Party to take measures to redress the situation within a specified time. To the extent that the Executive Council considers further action to be necessary, it shall take, inter alia, one or more of the following measures:
>
> (a) Inform all States Parties of the issue or matter;
>
> (b) Bring the issue or matter to the attention of the Conference;
>
> (c) Make recommendations to the Conference regarding measures to redress the situation and to ensure compliance.[375]

While this passage does not expressly authorize the Executive Council to conclude, on behalf of the OPCW or the parties to the treaty, a binding agreement, still less to waive a serious act of non-compliance, it may be sufficient to provide a practical basis for reconciliation.

The Executive Council, in grappling with the Albania situation, "emphasized the exceptional nature of this case, and stressed that it shall not set a precedent for the future, nor in any other way affect the legally binding obligations of the possessor States Parties to destroy their chemical weapons in accordance with the provisions of the Convention, and within the deadlines extended by the Conference at its Eleventh Session."[376] Of course, the small quantities of CW at stake in Albania, together with the very short duration of that country's overage in missing the deadline, are immensely different from the situations of the United States and Russia. Still, in a context so starved of authoritative legal guidance, even a remote bit of prior state practice may be illuminating.

The Iraq case may also suggest a whiff of similar flexibility. There, because Iraq joined the CWC after the original ten-year period for CW destruction had already expired, it is bound by a different, more indeterminate, set of rules. Under Article IV.8, such a latecomer is to destroy its CW "as soon as possible," pursuant to an order of destruction to be determined by the Executive Council.[377] Iraq has not yet begun, or even created a plan for, the recovery and destruction of its bunkered CW.[378] The United States and Russia are not, of course, in that situation; the analogy suggests both that the concept of flexibility is not entirely alien to the CWC, so perhaps it could be borrowed for application here – and conversely, that the negotiators knew how to modulate the destruction timetable when necessary and they knowingly decided not to do so for states that had joined the treaty at the outset.

A different procedural tack would be to convene a "special session" of the Conference of the States Parties to address the issue. In addition to its annual

375. CWC, *supra* note 1, art. VIII.C.36.
376. OPCW Exec. Council *Rep.*, *supra* note 374, ¶2.17.
377. CWC, *supra* note 1, art. IV.8.
378. *See* discussion of Iraq's damaged CW caches, *supra* note 150.

meetings and its every-five-years review sessions,[379] the Conference may convene at any time in special session to evaluate the operation of the CWC, taking into account "any relevant scientific and technological developments."[380] The powers of a special session do not exceed those of a regular session, but the extraordinary, sole focus may help concentrate the minds of the participants and generate additional possibilities. Likewise, a party may request a special session of the Executive Council;[381] such a conclave would have no greater powers than a regular session, but might carry an extra dollop of political visibility and clout. To date, there have been no CWC special sessions regarding the 2012 deadline, and the United States has resisted that recourse, favoring the more low-key alternatives, but the option remains on the table.

The December 1 Decision has already begun the implementation of this type of strategy. In that instrument, the Conference of the States Parties balanced the competing political, legal, and operational considerations, and determined – nearly unanimously – a path forward. The resolution does not "forgive" the U.S. and Russian transgressions, but neither does it rebuke them or invoke a litigious or enforcement-oriented approach. It demonstrates a strikingly flexible, pragmatic approach to "law as politics," rather than an insistence upon strict compliance with the letter of the law. Whether this act solves the problem, or merely kicks it further down the road, remains to be seen.

D. Go to a higher authority. The CWC contemplates that some especially serious compliance issues may not be amenable to resolution within the context of the treaty itself, but may benefit from referral to outside authorities. Under article XII, "[t]he Conference shall, in cases of particular gravity, bring the issue, including relevant information and conclusions, to the attention of the United Nations General Assembly and the United Nations Security Council."[382] A two-thirds vote of the Conference of the States Parties would be required for any such referral.[383]

Such a referral has never occurred under the CWC, and the experience under the cognate provisions of other treaties is hardly promising. If the matter were sent to the Security Council, the United States and Russia would, of course, be immunized by their veto power against any unwelcome outcomes.[384] In the General Assembly, in contrast, the superpowers are not guaranteed of the ability

379. The CWC provides for special sessions of the Conference of the States Parties at five year intervals to review the operation of the Convention. CWC, *supra* note 1, art. VIII.22; *see generally*, OPCW, Conference of States Parties, *2nd Special Session To Review the Operation of the Chemical Weapons Convention*, RC-2, (Apr. 7-18, 2008); OPCW, *Report of the 2nd Review Conference* (Apr. 18, 2008), http://www.opcw.org/documents-reports/conference-states-parties/second-review-conference.

380. CWC, *supra* note 1, art. VIII.B.22. The Executive Council may request a special session. *Id*. art. VIII.C.33.

381. *Id.* art. IX.4(f).

382. *Id.* art. XII.4.

383. *Id*. art. VIII.18.

384. U.N. Charter, art. 27 (requiring the concurring votes of all permanent members of the Security Council to adopt a substantive decision).

to control the vote, but the General Assembly lacks the power to enforce legally-binding results.[385] The question is whether any useful political gain could be achieved by opening these fora to a discussion – in whatever structured way that could be managed – of the CWC compliance issues.

The other form of "higher authority" is the International Court of Justice. Unlike many treaties,[386] the CWC does not incorporate a direct referral of disputes to the court, and the other avenues for lodging a contentious case seem unlikely.[387] However, the CWC does contemplate a mechanism for seeking an advisory opinion from the ICJ "on any legal question arising within the scope of the activities of the Organization."[388] A variety of such legal questions might be posed in this situation, either mischievously or in an honest attempt to reach consensus – such as whether the U.S. and Russian defaults do rise to the level of "material breach," and whether any of the theoretical excuses surveyed above would provide partial mitigation. The ICJ has recognized that sometimes, resolution of the legal aspects of a controversy can help contribute to a larger political solution.[389]

Additionally, perhaps some creative use could be made of another CWC organ, the Scientific Advisory Board. This Board, a relatively under-exploited feature of the OPCW infrastructure, comprises twenty-five prominent experts, mandated to provide scientific and technical advice to the Conference of the States Parties, the Executive Council, and the Director-General.[390] Perhaps the Scientific Advisory Board could be tasked to study independently the U.S. CW destruction operations, evaluate the progress and problems encountered to date, and provide "red team" analysis and recommendations to the OPCW. Such an "outside" audit might be unlikely to generate revolutionary insights about the U.S. activities, but might nonetheless provide another form of corroborating

385. U.N. Charter, art. 25 (all U.N. members "agree to accept and carry out" decisions of the Security Council; there is no comparable undertaking regarding decisions of the General Assembly).

386. Many treaties do contain provisions referring disputes to the ICJ. *See, e.g.*, Convention on the Elimination of All Forms of Discrimination Against Women, art. 29.1, Dec. 18, 1979, 1249 U.N.T.S. 13; International Convention on the Elimination of All Forms of Racial Discrimination, art. 22, Dec. 21, 1965, S. Treaty Doc. No. 95-18, 660 U.N.T.S. 195; Convention on the Prevention and Punishment of the Crime of Genocide, art. IX, Dec. 9, 1948, 102 Stat. 3045, 78 U.N.T.S. 277.

387. Neither the United States nor Russia currently accepts the "compulsory jurisdiction" of the ICJ pursuant to article 36 of the ICJ Statute, and a specific referral to the court of this matter by those states is also unlikely. *See* Statute of the International Court of Justice, art. 36; *Jurisdiction: Declarations Recognizing the Jurisdiction of the Court as Compulsory*, INTERNATIONAL COURT OF JUSTICE, http://www.icj-cij.org/jurisdiction/index.php?p1=5&p2=1&p3=3.

388. CWC, *supra* note 1, art. XIV.5.

389. Military and Paramilitary Activities in and Against Nicaragua (Nicar. v. U.S.), Preliminary Objections Judgment, 1984 I.C.J. 392, ¶¶93-97 (Nov. 26) (quoting from the ICJ's earlier ruling in the United States Diplomatic and Consular Staff in Teheran case, "resolution of such legal questions by the Court may be an important, and sometimes decisive, factor in promoting the peaceful settlement of the dispute").

390. CWC, *supra* note 1, art. VIII.21(h), VIII.45; *see* OPCW, *Terms of Reference of the Scientific Advisory Board*, http://www.opcw.org/about-opcw/subsidiary-bodies/scientific-advisory-board/terms-of-reference.

reassurance that all avenues for alleviating the problem have been honestly evaluated.

E. Negotiate a plea agreement. The final category of approaches would be for the United States and Russia to "confess error" in missing the CWC deadline, overtly apologize, and attempt to negotiate a package of responses that would be more or less satisfactory to all concerned, even if they involved some pain. Many of the steps noted below have already been incorporated into the U.S. approach and the December 1 Decision; one key item that has been conspicuously missing to date is a certain humility about the nation's failure to comply with its treaty obligations, and a willingness to "pay a price" to help set things straight.

One element in the package, therefore, would be a public recital that forthrightly accepts responsibility for the material breach of the CWC, and commits to do what we can to clean up the current mess and to reform our behavior in the future. This confession/apology/promise could come in the form of a joint statement by the United States and Russia, or separate undertakings from each of them. Valuable elements to stress could include:

A renewed commitment to complete destruction of the remaining CW. The United States and Russia have no interest in retaining chemical weapons; this lagging destruction is not a treacherous abuse of the dismantling operation, designed to lull other states into disarming while the large powers sustain a unique military advantage. Therefore, it should be easy to emphasize the two countries' good will and their unswerving allegiance to the object and purpose of the CWC. They can affirm that they regard the CW as essentially toxic detritus, an unwelcome legacy of an earlier era, providing no military benefit. The June 28, 2011 statement from outgoing Secretary of Defense Robert M. Gates and the equally emphatic October 3, 2011 comments by Secretary of State Hillary Rodham Clinton are solid illustrations of the necessary rhetoric. A presidential statement, even if brief, would be even better. In any event, these are the type of reassurances that will need to be reiterated frequently at senior levels in the decade to come.[391]

A promise to destroy the remaining stockpiles promptly. Of course, the issue remains: how prompt can we realistically be? At this point, it is probably too late to revise the misbegotten decisions about employing the alternative, non-incineration technologies and about not transporting the chemicals to centralized destruction facilities. Reversing those choices now would likely cost more money and take even more time than sticking resolutely to the current still-bumpy course. But the United States should be earnest about avoiding any further delays, and should undertake whatever oversight and management initia-

391. *See* Mikulak May 1, 2012 Statement, *supra* note 201 (reassuring OPCW Executive Council that the U.S. "commitment to complete chemical weapons destruction remains unwavering. We will faithfully implement this treaty obligation, as well as the additional measures contained in [the December 1 Decision].").

tives are necessary to sustain or even accelerate the enterprise. Ironically, it may now be appropriate for the United States to employ, once again, the rhetoric that it is destroying the CW "as rapidly as possible" – because it may now, in fact, not be possible to rearrange things and proceed any more quickly (but it should also avoid the pitfall of going any more slowly).

A commitment to sustained high levels of funding. One obvious way in which the United States could grievously compound its earlier failure would be to relax its financial contribution to the destruction operations.[392] This is a particular danger in the current economic emergency, but to date, the CW demilitarization campaign has been spared the worst ravages of the budget cutting zeal. That immunity needs to continue; otherwise, the promise to meet even the current, quite extended, timetable will quickly prove illusory.

Establishment of realistic, detailed deadlines. The most recurrent feature of the U.S. campaign to destroy its CW has, unfortunately, been repeated delays. If one were making prognostications, the safest (albeit, cynical) bet would be that the current projections, like most of their predecessors, would fall by the wayside. (The one conspicuous exception to this sorry record is the fact that in 2006, when requesting the five-year extension, the United States predicted that it would be able to incinerate approximately two-thirds of its stockpile by April 29, 2012; in fact, the program reached the ninety percent level by that point.) It is hard to mandate that anyone should "be more realistic" in predicting the future. On each occasion, those who issued the projections sincerely believed they were doing the best they could.

At this point, the estimates (that the Pueblo facility will commence CW destruction operations in 2015 and finish in 2019 and that Lexington will start in 2020 and finish in 2023) incorporate a margin of safety, to adapt to currently-unforeseen contingencies. Whether the "fudge factor" is sufficient remains to be seen. Certainly, the long track record of disappointed expectations counsels against trying to establish now a firm or final timetable for completing the destruction – although some have called for such a definitive endpoint, it is simply unrealistic to over-promise. At the same time, it might well be appropriate to publish detailed incremental timetables for the two remaining CW destruction facilities, so the world would receive "early warning" about any additional slippages, not being again blindsided when a major, abrupt revision to the announced schedule is suddenly unveiled.

Submit to enhanced monitoring by the OPCW. The organization is already observing the U.S. and Russian destruction operations closely, but if there are any possibilities for even tighter monitoring, that is a price worth paying. The inspected party is generally responsible for meeting the costs of CWC verifica-

392. *See* SUSTAINED LEADERSHIP, *supra* note 85, at 21 (explaining how the need to meet previously unfunded expenses for augmented community protection equipment at some CW destruction sites resulted in reprogramming funds that had been allocated for systemization and other activities at other sites, delaying work there).

tion operations,[393] and those are costs that the two possessor countries should not try to shuck. Closer monitoring would not, in any practical sense, alter the reality on the ground, but in redressing a situation of messy non-compliance, it is important to look good, as well as to be good. Perhaps a permanent OPCW presence inside the facilities at the two sites, in addition to the episodic leadership visits, would help provide appropriate reassurance to the world community. Perhaps creative use of social media could assist in projecting a favorable image of thorough transparency – a website or Facebook page with live twenty-four hour, closed-circuit television coverage of construction activities, for example. Perhaps a non-adversarial, even friendly, "challenge inspection" of U.S. CW destruction facilities would be in order. It would not illuminate much information that has not already been provided, but it could be a vehicle for exercising one of the treaty's main (and so far, never used) verification mechanisms.[394]

The United States has already demonstrated a firm commitment to this sort of transparency – it would not be accurate to call it "verification" or even "confidence building," because all parties should already enjoy full confidence that the United States is dedicated to authentic compliance with the Convention (just later, rather than now). The U.S. acceptance of the December 1 Decision by the Conference of the States Parties promises even more accommodation. But such good faith measures will assume even greater importance in the decade to come – especially during the "gap year" periods (2012-2015 and 2019-2020). Construction and systemization of the final two neutralization facilities will then be proceeding at Pueblo and Lexington, but no actual destruction operations will yet be underway, and no CW will then be destroyed for years at a stretch.

Protect the security and safety of the remaining CW stocks. Because quantities of these terribly lethal substances will now linger for another decade beyond their originally planned lifespans, it is essential that they be adequately protected against the dangers of leaks, accidents, theft, attack, tornados, and other misfortunes.[395] To date, most of the mishaps at the eight U.S. CW storage and destruction sites have been minor, with minimal harm, but this would be a good occasion to review again the security and safety procedures, to pre-empt potential disasters (of the real, or the public affairs, varieties).

Ensure adequate outreach to affected communities – both international and local. The U.S. program is already quite transparent – the eight local communities around the destruction sites and the leadership of the OPCW have been

393. CWC, *supra* note 1, arts. IV.16, V.19.

394. *See id.* art. IX.8-25.

395. *See* U.S. DEP'T OF DEF., ANNUAL STATUS REPORT ON THE DESTRUCTION OF THE U.S. STOCKPILE OF LETHAL CHEMICAL AGENTS AND MUNITIONS FOR FISCAL YEAR 2011, at 8-9, (Sept. 30, 2011) (noting that there was no damage to CW storage igloos at the Pueblo facility from a 2011 earthquake nearby); Andy Mead, *Madison County Tornado Was an F3*, KENTUCKY.COM, May 12, 2009, http://www.kentucky.com/2009/05/12/792481/madison-county-tornado-was-an.html (reporting tornado that crossed the Lexington chemical weapons facility).

regularly kept up to date via briefings, on-site visits and public presentations.[396] But outreach is never finished, and the appetite for more information is almost insatiable – and this is a function at which the U.S. program should be able to excel. It should display the zeal and efficacy of the program with clarity and pride.

Beyond those sorts of public undertakings, what additional terms and conditions could be worth considering, as possible parts of a potential plea bargain? Here are some more unconventional variants:

Pay a fine. There is no precedent in modern arms control practice for a country paying a financial penalty for violating a treaty, but it could be considered. Numerous questions would emerge: how much money? (This would be more in the nature of punitive damages, rather than measuring an amount to "compensate" a particular "victim."); to whom would the reparations be paid? (If the OPCW received it, what would be appropriate applications of the windfall?); what is the scope of the precedent created in this way? (Is it appropriate to allow a country to "buy its way out" of a treaty that implicates global security concerns?) One variant could be for the United States to compensate the OPCW fully for the additional costs of extending the Organization's inspection capabilities for the period beyond their anticipated expiration of April 29, 2012. That is, the United States could recompense the OPCW for salaries, overhead, travel and other expenses that the Technical Secretariat would not have incurred, but for the U.S. violation.

Enlarge the scope of existing security assurances and provide greater financial support to international programs that oppose CW. CWC Article X already commits the parties to facilitate "the fullest possible exchange of equipment, material and scientific and technological information concerning means of protection against chemical weapons."[397] Each party undertakes to provide assistance through the OPCW, in the form of contributions to an international fund, negotiation of a standing agreement to provide assistance upon demand, or a declaration of the types of assistance it might be able to provide in response

396. *See* Mikulak Nov. 29, 2011 Statement, *supra* note 94, at 2 (describing reports made by U.S. officials every 90 days; presentations at informal meetings of the Executive Council; briefings for delegates of the Conference of the States Parties; and hosting members of the Executive Council at the U.S. destruction sites); Mikulak July 12, 2011 Statement, *supra* note 99, at 2 (same); Note by the OPCW Dir.-Gen., *Modalities for Implementation of the Obligation of States Parties to Report on Their Destruction Activities During the Extension Period After 29 Apr. 2007*, EC-49/DG.1 (Mar. 8, 2007). The U.S. Army has also established Public Outreach Offices in three communities and Citizens' Advisory Commissions in each of the states where CW are stored, to inform and engage the local populations. U.S. ARMY CHEM. MATERIALS AGENCY, *FACT SHEET: PUBLIC OUTREACH AND PARTICIPATION*, http://www.cma.army.mil/fndocumentviewer.aspx?docid=003674289; *see* National Defense Authorization Act for Fiscal Year 1993, Pub. L. No. 102-484, §172, 106 Stat. 2315 (1992) (legislation directing the Army to establish Citizens' Advisory Commissions).

397. CWC, *supra* note 1, art. X.3; *see also* KRUTZSCH & TRAPP, *supra* note 19, at 199-212.

to an appeal.[398] In addition, each party has the right "to receive assistance and protection against the use or threat of use of chemical weapons."[399]

But these commitments are vague, and the level of financial support is unspecified. The question is whether the United States and Russia could contemplate providing even more voluminous assistance than already required – as the treaty's developing countries have regularly solicited.[400] This could take the form of donating more money to the international fund, providing a more comprehensive pledge to assist any victim of a CW attack, and assembling a robust capability to dispatch promptly effective CW sensors, alarms, and analytical equipment; protective and decontamination equipment and supplies; and medical countermeasures. Additional assistance to other countries that are (or may one day be) in the process of destroying their own CW residues might also be put on the table.

Provide additional economic, technical and development assistance. Related to that concept, CWC Article XI requires that the parties "[u]ndertake 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."[401] Again, this rather vague language has not inspired a wellspring of generosity, and economically developing states have complained that the wealthier parties have not fulfilled the expectations about genuine assistance in economic and technological growth.[402] In the same vein is the treaty's requirement that parties

> [n]ot maintain among themselves any restrictions, including those in any international agreements, incompatible with the obligations undertaken under 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.[403]

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398. CWC, *supra* note 1, art. X.7.

399. *Id*. art. X.8.

400. Statement by Mauricio Martinez Duque, Chargé D'Affaires of the Republic of Cuba, on Behalf of the Non-Aligned Movement and China at the 65th Session of the Executive Council, OPCW, ¶¶15-16 July 12, 2011, http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15021 [hereinafter Statement of Cuba]; *see also* OPCW, Executive Council, *Draft Report of the OPCW on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction in 2011*, at 15-22, EC-69/3 (July 11, 2012) (summarizing assistance programs undertaken in 2011); Mikulak Oct. 4, 2011 Statement, *supra* note 167, at 3; Mikulak July 12, 2011 Statement, *supra* note 99, at 3 (articulating the U.S. position regarding article X).

401. CWC, *supra* note1, art. XI.2(b); *see also* KRUTZSCH & TRAPP, *supra* note 19, at 213-217.

402. Statement of Cuba, *supra* note 400, ¶¶12-14; *see generally* OPCW, Executive Council, *Report by the Dir.-Gen. on the Status of Implementation of Article XI of the Chemical Weapons Convention as of Dec. 31, 2010*, EC-64/DG.6 (Apr. 11, 2011).

403. CWC, *supra* note 1, art. XI.2(c).

Again, developing states had hoped this provision would promote the dissolution of export control regimes that impede the commerce in dual-use chemicals, but it has not.[404] Perhaps this would be the time for the United States to pony up greater international economic and chemical technological assistance to the developing world, and consider anew whether the existing restraints on chemical trade could be relaxed somewhat.

Lose some organizational privileges. CWC Article XII.2 contemplates that where a party fails to fulfill a request from the Executive Council that it take particular measures to redress a situation raising problems about its compliance, the Conference of the States Parties may "restrict or suspend the State Party's rights and privileges under this Convention until it undertakes the necessary action to conform with its obligations under this Convention."[405] Here, the Executive Council has not made any such requests that the United States and Russia have failed to honor, but the concept of suspending institutional privileges may have some applicability.

The Executive Council and the Conference of the States Parties both need the active participation of the United States and Russia in order to function optimally, but perhaps a temporary suspension of some membership privileges might have a salutary effect. Among the membership benefits that might be reviewed for this purpose are: the right to vote in OPCW policy organs;[406] the right to serve on the Executive Council;[407] the opportunity to have nationals of your state be recruited to work in Technical Secretariat positions;[408] the right to request clarification of ambiguous compliance situations in other states;[409] the right to request a challenge on-site inspection;[410] the right to request assistance under programs of international cooperation;[411] and the right to participate in largely unrestricted international trade in chemicals.[412] In the extreme case, Article XII.3 contemplates that in cases "where serious damage to the object

404. The most important institution in this field is the Australia Group, an informal collection of forty economically developed countries that meet periodically to align their respective national export control regimes regarding the international transfer of materials and equipment that could be relevant to chemical and biological weapons. Some developing countries had hoped that the creation of the CWC would lead to a general relaxation of Australia Group activity, and have been disappointed at the vigor with which the institution still operates. *See generally* Daniel H. Joyner, INTERNATIONAL LAW AND THE PROLIFERATION OF WEAPONS OF MASS DESTRUCTION 116-121 (2009); AUSTRALIA GRP. WEBSITE, http://www.australiagroup.net/en/index.html.

405. CWC, *supra* note 1, art. XII.2.

406. *Id.* art. VIII.17 (voting rights in Conference of the States Parties), art. VIII.29 (voting in Executive Council).

407. *Id.* art. VIII.23 (each party has the right to serve on the Executive Council).

408. *Id.* art. VIII.44 (staff of the Technical Secretariat must be citizens of treaty parties).

409. *Id.* art. IX.3 (party's right to request assistance from the Executive Council in clarifying a situation that may be considered ambiguous).

410. *Id.* art. IX.8 (party's right to request a challenge on-site inspection).

411. *Id.* art. X.3 (party's right to participate in international exchanges concerning means of protection against CW use).

412. *Id.* art. VI, XI.

and purpose of the Convention may result," the Conference of States Parties may recommend unspecified "collective measures" to the parties.[413]

Admit the breach and apologize. To date, the United States has declined to call a spade a spade and overtly admit that it has breached (or violated or failed to comply with) the treaty. At this point, a frank admission and a willingness to employ the more direct language would not alter the objective facts, but might appeal as a more forthright acceptance of international responsibility. Political considerations, more than legal requirements, would push the United States and Russia in the direction of humility and contrition, but any vocabulary would be welcome that avoids any impression that those states are attempting to minimize the significance of the transgression or to dismiss it as some sort of "technical" or non-substantive anomaly. Sometimes, a sincere confession and apology, not mincing words, can work wonders.

Overall, the general purpose of remedies for breach of a legal obligation is to wipe out the effects of the illegal act, to restore the parties to the situation they anticipated in the original bargaining.[414] In the criminal law context, the comparable aphorism is to "make the punishment fit the crime." Unfortunately, both those objectives are largely inapplicable here – no one wants to return to any variant of the pre-CWC status quo ante; it is just not possible to destroy the lingering CW stocks more rapidly; and there is no "punishment" that truly compensates other parties or inflicts a justifiable amount of suffering upon the United States and Russia.

VIII. WHERE DO WE GO FROM HERE?

What is the path forward for chemical weapons disarmament efforts? How do we minimize the damage done by the large, obvious and continuing U.S. and Russian failures to complete the CW destruction mission on the original timetable, and what can be done to prevent the harm from spiraling further?

A useful first step is to honestly acknowledge – to ourselves and to the world at large – that this is a treaty violation, that it is a "big deal," and that we should not attempt to minimize or shirk it. The overshoot on the destruction timetable – especially when the United States will miss the promised ten or fifteen year commitment by an additional eleven and a half years or more – goes to the heart of the CWC and undercuts the "object and purpose" of the treaty. The United States has been parsimonious about talking publicly about this misjudgment, especially when the train wreck was merely looming in the future – but now that it is upon us, we have to acknowledge it and begin to pick up the pieces.

It is absurd that the politics of NIMBY have so delayed destruction of the last

413. *Id.* art. XII.3.

414. Gabcikovo-Nagymaros, *supra* note 192, ¶¶148-150 (Sept. 25) (citing the 1928 judgment of the Permanent Court of International Justice in the Chorzow Factory case, asserting that the purpose of reparations is, to the extent possible, to wipe out all the consequences of the illegal act).

ten percent of the U.S. CW stockpile, and it is absurdity on steroids that elimination of the final 1.7 percent will sustain the United States in a position of continuous breach of a solemn international law obligation until 2023. Now that we know how safe and environmentally clean the incineration methodology has been, it becomes doubly ironic that the local communities that had so successfully insisted upon employment of a neutralization alternative technology will be the sites at which the hazardous materials, vulnerable to leakage, tornadoes and other mishaps, are sustained for more than a decade beyond their incineration-based peers.

On the other hand, this violation does not genuinely affect the national security of any other CWC party – they are in no greater danger of being victimized by U.S. or Russian chemical warfare, and the persistence of this noxious stockpile for the additional years poses a greater threat to the workers at the Lexington and Pueblo facilities and to the denizens of the neighboring communities than it does to any potential U.S. enemies. The world will surely get to zero chemical weapons at some point – the lurching toward that goal has not been pretty, but the extended timetable should not be mistaken for ambivalence about the ultimate achievement. U.S. Ambassador to the OPCW Robert Mikulak has denied as "patently false" the Iranian "political rant" to the contrary and has rightly dismissed as "poppycock" the notion that the United States intends to retain an operational chemical warfare capability.[415]

Critically, this issue should not become an excuse for the CWC to unravel. That treaty has already performed a marvelous service for mankind, in crystalizing the world's rejection of chemical warfare and substantiating that taboo by prompting a massive global CW disarmament campaign. The treaty faces its own challenges (the incessant march of new technology, the fears of covert violation, the failure to reach complete universal membership, etc.),[416] but it should not also suffer defections – other states should not exercise their right to suspend or withdraw from the regime, even though the two largest participating states will stand in persistent, conspicuous violation. Instead, the two giants, and all other parties, should take the occasion to reaffirm their enduring commitment to the enterprise and help protect the treaty.

As a political matter, it would be far preferable for the United States and Russia to stand tightly together on this matter. Neither could get much political mileage out of trying to highlight the other's violations – the United States had destroyed a larger percentage of its inventory at the time the 2012 deadline was reached, but Russia will probably manage to come into complete compliance years sooner than the United States. Each state's greater interest is in sustaining the CWC and surviving this whirlwind; neither could deflect international

415. Mikulak November 29, 2011 Statement, *supra* note 94, at 5; Chris Schneidmiller, *Russia, U.S. Under Microscope at Chemical Weapons Pact Meeting*, GLOBAL SEC. NEWSWIRE, Nov. 30, 2011, http://www.nti.org/gsn/article/russia-us-under-microscope-chemical-weapons-pact-meeting/.

416. Walker, *supra* note 2; Feakes, *supra* note 23; Trapp, supra note 26; Ballard, *supra* note 27; Tucker, *supra* note 61.

criticism by pointing the finger of blame at the other. Moscow and Washington, D.C. should therefore develop a common approach and implement common tactics. At the same time, the United States should not simply waive its longstanding concerns about Russia's CWC compliance, including the question of the completeness of Russia's neutralization process (ensuring that the chemical reaction is practically irreversible) and ascertaining that the funds supplied by the United States and other foreign donors are being conscientiously applied.

The world needs a political, not a legal, solution to this problem.[417] That means not relying essentially upon remedies built into the text of the CWC itself or the Vienna Convention on the Law of Treaties. Political accommodation, not formal invocation of the dispute-resolution mechanisms, offers the path forward. Most CWC parties – Iran is the conspicuous, and perhaps the sole, exception – have anticipated a pragmatic, non-judgmental compromise. But legal mechanisms can play a facilitative role, too. The Executive Council and the Conference of the States Parties should not be barred from adopting the language of legal obligation – including use of the powerful verb "shall" – in their decision-making documents, and even measures that some might regard as "punitive" should not be presumptively off the table.

To start, the Executive Council and the Conference of the States Parties should expressly find that each of the tardy parties has committed, and is continuing to commit, a breach of the Convention, and should formally invoke the compliance mechanisms of Article XII. The breaching parties should apologize, admit their violations, and reimburse the organization for all the incremental costs of the monitoring and inspection activities, which would have largely expired by now, but for the violations.

These confessions and criticisms will be embarrassing; in the short run, it might be far preferable to finesse an issue of this sort via quiet diplomacy. But in the long run, the continuing vitality of international law requires its vigorous exercise. Among the few truly useful enforcement tools for the international community are "naming and shaming" – public condemnation of violations and censure of the guilty parties. In a perverse way, the United States should welcome this ordeal, because it enhances the power of international law, making arms control treaties including the CWC more reliable and meaningful. When even the superpowers are called into account for treaty breaches, others will be deterred from future non-compliance.

Certainly, the current impasse should not offer the occasion for the United States or Russia to relax their destruction vigilance or to retrench their financial commitments to the enterprise. Some might be tempted to propose, "Since we're going to miss the deadline anyway, and pay the associated political price,

417. This concept – that the 2012 problem requires a political solution, not invocation of the CWC dispute-resolution mechanisms or an amendment to the treaty – has been a frequent theme for U.S. spokespersons. *See, e.g.*, Statement by Robert P. Mikulak, U.S. Ambassador, at the 61st Session of the Executive Council, OPCW, at 2, June 29, 2010, *available at* http://www.opcw.org/index.php?eID=dam_frontend_push&docID=13870.

we might as well slow down the process and proceed more cheaply." But this is decidedly not a situation in which "a miss is as good as a mile"; the only way to escape global opprobrium is to demonstrate that we are, in truth, proceeding as rapidly as possible. If anything can be done to accelerate the destruction operations at the last two sites, Pueblo and Lexington, that would be money well spent.

There will, undoubtedly, be a political price to pay for the U.S. neglect of this legal duty. It will diminish our ability to attract holdout states to join the CWC. It will weaken U.S. credibility in challenging suspected violators of the treaty's primary and secondary obligations. It will undercut U.S. leadership in helping to adapt the treaty to new technological challenges. More broadly, it will constitute a lingering stain on the Obama Administration's theme of "constructive engagement" in multilateral affairs.[418] As the United States seeks to repair the diplomatic damage of prior years, by becoming more positively involved in a variety of international fora and agreements (the International Criminal Court, the Ottawa Convention on land mines, and the U.N Human Rights Council, for example) disquiet about violating the CWC will send an unwelcome, contradictory message.

Most fundamentally, this unexcused violation will soil the U.S. reputation as an advocate for the rule of law, for punctilious compliance with the CWC and other arms control treaties, and for fealty to international law in general. How, for example, will the United States retain the moral high ground necessary to effectively rebut Iranian challenges that seek to juxtapose the acknowledged U.S. violation of the CWC with the alleged Iranian violation of the NPT? The two cases are not, in any measure, equivalent, but a good deal of the favorable diplomatic posture for insistence upon the doctrine of *pacta sunt servanda* has been sacrificed amid Teheran's stage thunder.

Even more importantly, what are the lessons for the future? How can the international community develop a formula for insisting upon genuine disarmament (compelling countries to follow through effectively on those rare occasions when they accept a treaty commitment to destroy weaponry) without creating a straightjacket in situations where good faith efforts simply fall short? A timetable is often necessary to convert what could otherwise be simply an abstract agreement in principle into a reliable, actionable undertaking, against

418. Press Release, White House Office of the Press Secretary, Advancing U.S. Interests at the United Nations (Sept. 20, 2010), *available at* http://www.whitehouse.gov/the-press-office/2010/09/20/advancing-us-interests-united-nations; *see also* Howard LaFranchi, *Historic Myanmar Trip for Hillary Clinton: Enough Focus on Human Rights?*, CHRISTIAN SCI. MONITOR, (Nov. 30, 2011), *available at* http://www.csmonitor.com/USA/Foreign-Policy/2011/1130/Historic-Myanmar-trip-for-Hillary-Clinton-Enough-focus-on-human-rights-video; James Traub, *Terms of Engagement*, FOREIGN POLICY (Feb. 19, 2010), *available at* http://www.foreignpolicy.com/articles/2010/02/19/terms_of_engagement?print=yes&hidecomments=yes&page=full; Cary Fraser, *In the Shadow of Failure: Obama's Quest for Constructive Engagement*, SOCIETY FOR HISTORIANS OF AMERICAN FOREIGN RELATIONS (Jan. 26, 2010), *available at* http://www.shafr.org/2010/01/26/in-the-shadow-of-failture-obamas-quest-for-constructive-engagement/.

which government officials will be driven to commit funds and labor. Without some rigidity in the deadlines, it would be too easy to postpone forever any real (i.e., expensive) operations – but as the current problem illustrates, too much rigidity is unsuitable, too.

One lesson would be to review any such treaty schedules with a jaundiced eye, wary about unforeseen difficulties in the destruction process, especially where large quantities and unproven technologies are at issue. The Ottawa Convention[419] on anti-personnel land mines offers a current example. The United States is not a party to this treaty, but has undertaken a thorough review of the desirability of acceding.[420] That treaty requires parties to destroy their inventories of stockpiled mines within four years; no extensions are possible.[421] For the United States, this provision could require the abrupt destruction of up to ten million mostly quite old mines.[422] These devices were not constructed with an eye toward their eventual orderly disposal, and there are no existing processes, equipment, or facilities for safely and expeditiously destroying them, at least not on the scale contemplated by the Ottawa drafters. In these circumstances, it would hardly be prudent for the United States to join the Ottawa Convention until it had developed and at least initiated a suitable destruction procedure – until it had sufficient experience to be confident that it was safely within four years of the finish line.

IX. CONCLUSION

Under the U.S. Constitution, a treaty is "the supreme Law of the Land,"[423] and the President has the obligation to "take Care that the Laws be faithfully executed."[424] Successive administrations have conspicuously failed in this duty with respect to the dismantling obligations of the CWC.

At the same time, treaties are the "coin of the realm" in international law, and the United States is the leading practitioner of international agreements, relying upon treaties to pursue its interests in the full range of global affairs, from trade to human rights to environmental protection to war and peace. It hardly makes sense to degrade this vital resource through neglect of our own legal responsibilities.

Iran will likely seek to depict the United States as a "serial violator" of the

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419. Ottawa Convention, *supra* note 325.

420. *See* Jeff Abramson, *Mine Ban Treaty: Time for a Positive U.S. Decision*, ARMS CONTROL ASS'N (Feb. 28, 2011), http://www.armscontrol.org/issuebriefs/MineBanTreatyUSDecison (stating that the Obama administration has undertaken a review of policy regarding land mines).

421. Ottawa Convention, *supra* note 325, art. 4. The Ottawa Convention does not allow reservations, which could exempt a party from application of the deadline. *Id.* art. 19.

422. International Campaign to Ban Landmines, *Landmine Monitor 2011*, at 14 (Oct. 2011), http://www.the-monitor.org/lm/2011/resources/Landmine/Monitor/2011.pdf (estimating that in 2002, the United States was thought to possess 10.4 million landmines, but this inventory may have been significantly reduced).

423. U.S. CONST. art. VI.

424. *Id*. art. II, §3.

CWC, stapling together its accusations about U.S. and U.K. handling of the obsolete CW devices uncovered in Iraq in 2003-09 with the complaints about blowing past the April 29, 2012 deadline. There are enough shreds of truth in that characterization that it might have legs; the obvious attempt to deflect attention from Iran's own violations of the NPT is unmistakable.

In truth, there is no real legal or moral congruence between the U.S. posture regarding the CWC and Iran's or North Korea's violation of their obligations to refrain from developing or possessing a nuclear weapons capability. The United States is not being "sneaky," is not attempting to retain any viable CW military capacity, and has a transparent pathway toward complete (if late) performance of its obligations. The United States is attempting (if poorly) to conform to the treaty, and is not deliberately defying the will of the international community. The cases, therefore, are more unlike than like; a one-size response by the rest of the world would not fit all.

Still, the persistent U.S. and Russian violations of the CWC are not "victimless offenses"; there is significant, if diffuse harm. Proceeding from the aphorism that one should "never let a crisis go to waste," the United States should use this occasion to model how a good state should behave when it finds itself, unfortunately, in a situation of materially breaching a treaty. A state that wants to reassert its bona fides, wants to retain as much as possible of the respect of its peers, and wants to strain the fabric of international law as little as possible, would not try to dodge responsibility, not minimize the significance of its wrongdoing, and not seek simply to deflect attention. It would forthrightly acknowledge its misjudgments and take its medicine. That would be the tiny silver lining on this otherwise miserable cloud – showing the world how a dignified, law-abiding state attempts to restore its respectability.[425]

The United States has invoked the "example setting" imagery to good effect elsewhere in arms control. In 2006, when Libya's notorious Muammar Gaddafi appeared to abandon decades of quixotic support for terrorism and pursuit of weapons of mass destruction, the George W. Bush administration welcomed his *volte face* with a cautious embrace. The United States removed Libya from the official roster of state sponsors of terrorism and restored full diplomatic relations with the country (ending a thirty-year hiatus). Secretary of State Condoleezza Rice announced these "tangible results that flow from the historic decisions taken by Libya's leadership in 2003," saying that the world was witnessing "the beginning of that country's re-emergence into the mainstream

425. *See NATO Panel Urges Nations To Eradicate All Chemical Arms*, GLOBAL SEC. NEWSWIRE (Oct. 11, 2011), http://www.nti.org/gsn/article/nato-panel-urges-nations-to-eradicate-all-chemical-arms (NATO Parliamentary Assembly Science and Technology Committee urges United States and Russia to destroy their CW stocks "soon," rejecting a Russian proposal to substitute the term "in due time," because the committee felt the two largest CW possessing states "should act as positive role models" for other nations).

of the international community."[426] Rice then proceeded to commend Gaddafi's example as a prototype for other pariah regimes that, she urged, should emulate Libya's renunciation of policies and practices that violate international legal norms and embrace a new respect for international law, saying, "Just as 2003 marked a turning point for the Libyan people so too could 2006 mark turning points for the peoples of Iran and North Korea. Libya is an important model as nations around the world press for changes in behavior by the Iranian and North Korean regimes – changes that could be vital to international peace and security."[427]

Beyond that rhetoric, the United States is right to focus attention on treaty compliance, particularly in the security realm. The United States has been the self-appointed leader in monitoring other states' behavior under arms control treaty regimes, publishing detailed assessments of questionable, or flat-out illegal, activities.[428] These have sometimes generated considerable controversy,[429] but holding states to an exacting standard is the right thing to do – and the United States should not allow accusations of hypocrisy, even when they are well-grounded in the CWC experience, to deter it from continuing to press the point. Reciprocity is a key principle in international law and international politics, and the United States must take seriously the assertions of its treaty partners about possible non-compliance.[430]

In the addressing the CWC specifically, in 2005 – before the CWC compliance issue had come to roost in the United States itself – the Department of

426. *U.S. Restores Diplomatic Relations with Libya*, U.S. EMBASSY MONTEVIDEO ARCHIVES (May 15, 2006), http://archives.uruguay.usembassy.gov/usaweb/paginas/2006/06-194EN.shtml.

427. *Id.*; *see also* Tucker, *supra* note 145 ("Bush administration officials often pointed to Libya's WMD rollback as a model for how other proliferators could make a 'strategic choice' to shift course and become accepted members of the international community."); Wade Boese & Miles Comper, *Interview with Assistant Secretary of State for Verification and Compliance Paula DeSutter*, 34.3 ARMS CONTROL TODAY, Apr. 2004, http://www.armscontrol.org/aca/DeSutterInterview (stating that the United States believes "Libya serves as a good model" for how Iran and North Korea should behave regarding their nuclear weapons programs. The Libya example demonstrates how a country should conduct itself when it wants to abandon illegal arms, re-join the international community, and reap the benefits of greater security and integration.).

428. STATE COMPLIANCE REPORT OF 2010, *supra* note 60; CWC PROHIBITION REPORT, *supra* note 60.

429. In response to the 2010 U.S. compliance report, Russia issued its own comparable document, complaining about numerous alleged U.S. violations of arms control agreements. *The Facts of Violation by the United States of its Obligations in the Sphere of Nonproliferation of Weapons of Mass Destruction and Arms Control*, THE MINISTRY OF FOREIGN AFFAIRS OF THE RUSS. FED'N (Aug. 7, 2010), http://www.mid.ru/brp_4.nsf/e78a48070f128a7b43256999005bcbb3/cc9c7d192f0ebc5ac325777a0057e1ae?OpenDocument (alleging U.S. violations of the CWC, START I, the BWC and other arms control agreements); Oliver Bloom, *Russian Report Faults U.S. Compliance with Arms Control Treaties*, CENTER FOR STRATEGIC AND INT'L STUD. (Aug. 9, 2010), http://csis.org/blog/russian-report-faults-us-compliance-arms-control-treaties.

430. STATE COMPLIANCE REPORT OF 2010, *supra* note 60, at 5 (noting that "[t]here are processes within the U.S. executive branch that operate to ensure U.S. plans and programs remain consistent with U.S. international obligations. . . . When U.S. treaty partners have raised compliance questions regarding U.S. implementation activities, the United States has carefully reviewed the matter to confirm that its actions were in compliance with its treaty obligations.").

State expressed the sentiment with robust clarity:

> Detecting a violation [of the CWC] is not an end in itself; it is a call to action. Without strict compliance and without the concerted action of all States Party to insist upon strict compliance – and to hold violators accountable for their actions – the national security of all nations will erode and global stability will be undermined.[431]

President Obama put the matter more concisely in his celebrated April 5, 2009 Prague speech, "Rules must be binding. Violations must be punished. Words must mean something."[432] That is true, even for the United States.

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431. VERIFICATION AND COMPLIANCE FACT SHEET, *supra* note 250; *see also* BUREAU OF VERIFICATION, COMPLIANCE AND IMPLEMENTATION, U.S. DEP'T OF STATE, FACT SHEET: THE UNITED STATES' APPROACH TO VERIFICATION, COMPLIANCE ASSESSMENT AND COMPLIANCE ENFORCEMENT (Oct. 1, 2005), http://2001-2009.state.gov/t/vci/rls/prsrl/57241.htm (concluding that "Detecting violations is not enough. What really counts is to ensure that there are sufficient consequences to a violation once it has been detected. Only by making violators face consequences for their violations, especially denial of the benefits of their noncompliance, can they be expected to take compliance seriously, and only by enforcing consequences will other would-be violators be deterred. These consequences may be political, economic, or ultimately military, and may be undertaken by international organizations or nations acting individually or together. If arms control, nonproliferation and disarmament agreements and commitments are to support the security of all nations, then all nations must respond when confronted with noncompliance."); see also S. EXEC. DOC. NO. 104-133, at 228 (1996) (Senate Foreign Relations Committee concludes "Ultimately, the willingness of state parties to act in the face of noncompliance, more than the sophistication of its inspection provisions or the extent of its data reporting requirements, will determine the CWC's effectiveness. If the political will does not exist to make these agreements important instruments of international policy, they are not worth the paper on which they are written. If the political commitment to action is absent, all of the inspections they mandate are so much unproductive frenzy. If the political strength to take on those who will not abide by the rules has vanished, the penalties have the impact of a mosquito – inconvenient and irritating perhaps, but no deterrent."); STATE COMPLIANCE REPORT OF 2005, supra note 61, at 5-9 (stressing the importance of full compliance with arms control treaties as "a bedrock norm of international relations," and describing the organizations and programs of the U.S. government that are designed to ensure U.S. compliance).

432. Barack Obama, President of the United States, Remarks at Hankuk University (Apr. 5, 2009), http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered; *see also* Barack Obama, President of the United States, Remarks at Hankuk University (Mar. 26, 2012), http://www.whitehouse.gov/the-press-office/2012/03/26/remarks-president-obama-hankuk-university ("For the global response to Iran and North Korea's intransigence, a new international norm is emerging: Treaties are binding; rules will be enforced; and violations will have consequences.").