



DEPARTMENT OF THE NAVY  
OFFICE OF THE JUDGE ADVOCATE GENERAL  
INTERNATIONAL & OPERATIONAL LAW DIVISION

30 November 1997

From: Head, National Security Law Branch  
To: Ms. Susan LeVine, Joint Nonlethal Weapons Coordination Cell

Subj: PRELIMINARY LEGAL REVIEW OF PROPOSED CHEMICAL-BASED  
NONLETHAL WEAPONS

Ref: (a) Nonlethal Coordination Cell memo Ser 97-08 of 10 Mar 97 (with enclosure)  
(b) DOD Directive 5000.1, Defense Acquisition of 15 Mar 96  
(c) SECNAVINST 5000.2B, Implementation of Mandatory Procedures for Major and  
Non-major Defense Acquisition Programs and Major and Non-major Information  
Technology Acquisition Programs of 6 Dec 96  
(d) DOD Directive 3000.3, Policy Directive for Non-Lethal Weapons of 9 Jul 96

Encl: (1) Navy JAG Code 10 memo Ser 103/312 of 6 Feb 95 (Legal review of Sticky Foam)  
(2) DAJA-IO memo of 20 Sep 94 (Legal review of use of Oleoresin Capsicum Pepper for  
Law Enforcement Purposes)

1. Background. Reference (a) requests a preliminary legal review of a number of nonlethal weapon technologies proposed for development under the Joint DoD Nonlethal Weapons (NLW) Program. Reference (a) specifically requests analysis under the 1972 Biological Weapons Convention, the 1980 Certain Conventional Weapons Convention, and the 1993 Chemical Weapons Convention. The enclosure to reference (a) provides brief descriptions of 19 weapon technologies, the majority of which are currently in the research and development stage.

References (b) and (c) require the Judge Advocate General of the Navy to conduct a legal review of all weapons and weapon systems intended to meet a military requirement of the Department of the Navy, in order to ensure that the intended use of these weapons is consistent with U.S. obligations under domestic and international law, particularly the Law of War. Reference (d) specifically requires such review in the case of nonlethal weapons. This office regularly performs legal reviews of weapon systems designed for use by the Department of the Navy. Such a review, however, involves a detailed analysis of all weapon parameters and a review of physiological effects. Such reviews are not feasible at this juncture without more detailed weapon specifications and use intentions. THIS DOCUMENT DOES NOT CONSTITUTE A FINAL LEGAL REVIEW OF ANY OF THE WEAPONS DESCRIBED IN

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REFERENCE (a). Such legal reviews will be performed by the Services in accordance with references (b) and (d). Given reference (d)'s designation of the Commandant of the Marine Corps as Executive Agent for the DoD NLW Program with the corresponding obligation for making program recommendations, however, it is appropriate for this office to conduct this preliminary review. Its purpose is to identify preliminary issues which can facilitate more prudent application of limited research and development funding. Two of the technologies listed in reference (a) have already been commercially produced and have been the subject of legal reviews per reference (b). These reviews are found at enclosures (1) and (2).

2. Weapons Reviews. A weapons review under international law must address the following issues: 1) whether the weapon causes suffering that is needless, superfluous, or disproportionate to the military advantage reasonably expected from the use of the weapon; 2) whether the weapon is capable of being controlled so as to be directed against a lawful target, i.e., can it be used in a discriminate manner; and 3) whether there is a specific rule of law or treaty provision prohibiting the weapon's acquisition or use. These three issues are analyzed in relation to the weapon's primary intended employment. Of course, Law of War principles are not satisfied by the mere fact that a weapon is itself deemed legal. A weapons review cannot anticipate all the targeting and general Law of War principles associated with weapon employment. Commanders must make such determinations on a case-by-case basis. Nonetheless, this preliminary review identifies the legal considerations most likely to arise in the context of nonlethal weapons employment.

3. Unnecessary Suffering/Military Necessity. The touchstone for legality of a weapon under international law is whether that weapon's intended use is calculated to cause superfluous injury or unnecessary suffering. With respect to weapons employment, the principle of avoiding unnecessary suffering can be conceptualized with respect to both the intended combatant target and the potential incidental injury or damage to noncombatants or civilian property. The concept of distinction or target discrimination, discussed below, is largely oriented toward the latter concern. This discussion regards the former.

The Regulations to the Hague Convention on Land Warfare of 1907 codify the prohibition on the employment of arms, projectiles, or material "calculated to cause unnecessary suffering."<sup>1</sup> This customary prohibition requires a balancing of the military necessity in employing a weapon and the likely suffering occasioned by that employment. Any injury, collateral damage, or general suffering wrought by a weapon's use should be justified by a

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<sup>1</sup> Hague Convention (No. IV) Respecting the Laws and Customs of War on Land and annexed Regulations, Oct. 18, 1907, art. 23, 36 Stat. 2277, 75 U.N.T.S. 287. This provision parallels that from the antecedent 1899 Hague Convention No. II which prohibited the employment of arms, projectiles, or material "of a nature to cause superfluous injury." Hague Convention (No. II) Respecting the Laws and Customs of War on Land, Jul. 29, 1899, art. 23, 32 Stat. 1803.

military need that can only be satisfied by employment of the weapon. Historically, this analysis has involved comparisons to other existing technologies and comparable wounding mechanisms as well as a survey of the practice of other States regarding use of a particular weapon.<sup>2</sup> There is insufficient information in reference (a) to adequately assess the likely injury or suffering associated with employment of any of these weapon technologies. Nonetheless, given the definition and policy behind the DoD NLW Program (reference (d)), that of reducing the risk of fatalities, it would appear that this category of weapons is unlikely to violate this principle. Likewise, the military necessity for several of these weapons must be carefully articulated to ensure that no consequential suffering is "unnecessary." This criteria for lawfulness, however, is rarely a concern at the weapon's development stage, since a significant anticipated military advantage presumably precipitates the weapon's development. Furthermore, reference (d) articulates the military benefits underpinning the entire NLW program. Thus, while the military necessity of each weapon will have to be analyzed in a final review, this principle is not an obstacle at this stage. Finally, the general principles of military necessity, avoidance of unnecessary suffering, and proportionality, frequently are manifested in more specific treaty provisions. Several treaties attempt to identify weapons prone to violate these provisions with specific proscriptions or *per se* bans. Relevant treaties in this regard are discussed below.

4. Distinction/Discrimination. A related concept under the Law of War is that a weapon must be discriminate, or capable of being controlled (*i.e.*, can be directed at a military target). Those weapons which cannot distinguish between lawful combatants and noncombatants violate these principles.<sup>3</sup> Indiscriminate weapons are prohibited by customary international law<sup>4</sup> and treaty law.<sup>5</sup> Thus, a weapon that strikes military objectives and civilian objectives without distinction violates this principle.<sup>6</sup> Again, reference (a) provides insufficient detail to thoroughly assess the ability of the various weapons to be used discriminately. Several of the proposed technologies, such as smokes, fogs, and gas-based systems, ostensibly raise discrimination issues that will require scrutiny. A necessary element of a violation of these principles, however, is death or injury to civilians.<sup>7</sup> Again, given the nature of NLWs, such a consequence is unlikely.<sup>8</sup> Thus,

<sup>2</sup> See DEP'T OF ARMY, FIELD MANUAL 27-10, THE LAW OF LAND WARFARE, art. 34 (Jul. 1956) [hereinafter FM 27-10].

<sup>3</sup> DEP'T OF DEFENSE, CONDUCT OF THE PERSIAN GULF WAR: FINAL REPORT TO CONGRESS, at 611 (1992).

<sup>4</sup> FM 27-10, *supra* note 2, at para. 40.

<sup>5</sup> Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflict (Protocol I), Dec. 12, 1977, art. 51(4)&(5), 16 I.L.M. 1391 [hereinafter Protocol I].

<sup>6</sup> *Id.*

discrimination or distinction issues should not demand a *per se* bar of any of these NLW weapons. Instead, these concerns will have to be considered on an *ad hoc* basis, after reviewing the specific targeting characteristics and medical effects of the specific weapon.

5. Specific Treaty Proscriptions. It would be futile to attempt comment on every convention and treaty that could conceivably govern some aspect of the myriad nonlethal technologies discussed in reference (a). Everything from weapon construction materials to collateral effects must be analyzed to identify treaty provisions that may come into play. Discussed below are the treaties with the most obvious relevance and those specifically identified for analysis in reference (a) and subsequent related conversations; the latter raising questions about the applicability of the Torture Convention.

a. Torture Convention. Torture is prohibited during armed conflict through various provisions of the Geneva Conventions, and, outside of armed conflict, through the Torture Convention.<sup>9</sup> The Torture Convention, however, would apply to the operations of deployed U.S. Forces, for example on a peace operation, only in the most limited circumstances. First, the convention applies only to state acts occurring on territory under its jurisdiction.<sup>10</sup> This provision, of course, underscores the application of the convention to a sovereign's treatment of its own citizens. While an argument could be made that individuals detained by U.S. Forces in the course of a peace operation have fallen under U.S. jurisdiction, the U.S. practice in such cases has been to apply the protections of the Geneva Prisoner of War Convention, which provide equal if not greater protections to detainees.<sup>11</sup> Furthermore, the definition of torture as described in Article 1 strongly implies a custody-type situation. The U.S. Senate emphasized this point in attaching an understanding to its resolution of advice and consent stating that "the definition of torture in Article 1 is intended to apply only to acts directed against persons in the offender's custody or physical control."<sup>12</sup> Thus, the convention would not apply to the types of situations in which nonlethal weapons would be considered for employment, such as in crowd control.

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<sup>7</sup> Protocol I, *supra* note 5, at art. 51(5)(b).

<sup>8</sup> See ref (d); The President has expressly directed that DoD accelerate effort to field non-chemical, non-lethal alternatives to RCAs. Letter from William J. Clinton to the Senate of the United States (June 23, 1994).

<sup>9</sup> Convention Against Torture and other Cruel, Inhuman, or Degrading Treatment or Punishment, Dec. 10, 1984, 23 I.L.M. 1027 [hereinafter Torture Convention].

<sup>10</sup> *Id.* at art. 2.

<sup>11</sup> CENTER FOR LAW AND MILITARY OPERATIONS, THE JUDGE ADVOCATE GENERAL'S SCHOOL OF THE ARMY, LAW AND MILITARY OPERATIONS IN HAITI, 1994-1995, 54 (1995).

<sup>12</sup> 136 CONG. REC. 17491 (1990).

Regardless of the scope of application of the Convention, the substantive provisions of Article 1 of the Convention clearly place the use of nonlethal weapons outside the Convention's proscriptions. Article 1 defines torture as "severe pain or suffering," which is intentionally inflicted" for a particular purpose, and which is not "incidental to lawful sanctions."<sup>13</sup> While the application of some of the NLWs could conceivably result in pain, it is doubtful that it would be severe enough to trigger application of the Torture Convention. Furthermore, the temporary discomfort from NLW use would clearly be less injurious than lawful means for the use of deadly force, the use of which do not per se violate the Torture Convention. An example of the type of pain contemplated by the Torture Convention is that which results from sustained systematic beating, application of electric currents to sensitive parts of the body, and tying up or hanging individuals in positions that cause severe pain.<sup>14</sup> Even if the use of the NLW were to cause severe pain, it would not be the type of intentional infliction of pain contemplated by the Torture Convention. The convention requires a specific intent to inflict the pain for purposes such as coercing a confession, punishment, or intimidation. The intention behind the use of all nonlethal weapons is to accomplish a variety of military objectives, such as force protection, through a means which significantly limits the chances of a fatality.<sup>15</sup> Such uses are not consistent with the type of malicious intent the convention seeks to outlaw.<sup>16</sup> Finally, as mentioned above, article 1 explicitly exempts from the definition of torture conduct that is "incidental to lawful sanctions." While law enforcement sanctions are clearly envisaged in interpreting this exclusion,<sup>17</sup> it would also appear to exempt the lawful actions of military personnel acting within their official duties. Thus, in reviewing the Torture Convention, none of its provisions would limit the development of any of the nonlethal weapons under consideration.

b. Biological Weapons Prohibitions. The 1925 Geneva Gas Protocol prohibits, in addition to "asphyxiating, poisonous, and other gases," the use of bacteriological methods of warfare.<sup>18</sup> The 1972 Biological Weapons Convention broadens the reach of the Geneva

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<sup>13</sup> Torture Convention, *supra* note 9, at art. 1.

<sup>14</sup> S. Treaty Doc. No. 100-20, at 4 (1988).

<sup>15</sup> DEPT OF DEFENSE DIRECTIVE 3000.3, POLICY FOR NON-LETHAL WEAPONS, p. 2 (9 July 1996).

<sup>16</sup> S. Treaty Doc., *supra* note 14, at 4.

<sup>17</sup> *Id.* at 4-5.

<sup>18</sup> Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, T.I.A.S. No. 8061 [hereinafter Geneva Gas Protocol].

Protocol.<sup>19</sup> This Convention proscribes the development, production, stockpiling, acquisition, or retention of “[m]icrobial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes.”<sup>20</sup> Thus, this convention, which is an Arms Control treaty, extends beyond the weapon's use in armed conflict and prohibits an entire class of weapons.

The BWC does not provide any amplifying guidance as to what constitutes these prophylactic, protective and peaceful purposes. Of particular interest for purposes of this review is the question of whether the BWC applies to anti-material uses. While there is no international consensus on this point, the United States BWC domestic implementing legislation appears to moot the issue from a domestic perspective. Criminal penalties, including life imprisonment, are authorized for violations of Title 18, U.S. Code, § 175's proscription against developing, producing, stockpiling, and transferring biological agents for use as a weapon.<sup>21</sup> The statute defines biological agents as “any micro-organism, virus, infectious substance, or biological product that may be engineered as a result of biotechnology, or any naturally occurring or bioengineered component of any such microorganism, virus, infectious substance, or biological product, capable of causing . . . [in addition to death or disease to humans or any living organism] deterioration of food, water, equipment, supplies, or *material* of any kind.”<sup>22</sup> This domestic legislation makes illegal the development of a broad category of potential weapons. Thus, microbes, even if used as an anti-material weapon, may well violate the BWC and its implementing legislation.

c. 1980 Conventional Weapons Convention. The United States became party to the 1980 United Nations Certain Conventional Weapons Convention (UNCCWC)<sup>23</sup> and annexed Protocol I (nondetectable fragments) and Protocol II (landmines) on 24 September 1995. As a threshold matter, the UNCCWC applies, with the exception of amended Protocol II, only to international

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<sup>19</sup> 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, 1015 U.N.T.S. 163.

<sup>20</sup> *Id.*

<sup>21</sup> Biological Weapons Anti-Terrorism Act of 1989, 18 U.S.C. § 175 (1996).

<sup>22</sup> 18 U.S.C. § 178 (1996).

<sup>23</sup> 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 I.L.M. 1524 (1980).

armed conflicts.<sup>24</sup> The U.S. has declared that it will apply the Convention, and the Protocols to which it is a Party, to internal armed conflicts as well.<sup>25</sup> Based on the nature of the operations in which use of nonlethal weapons is contemplated, it is doubtful that the protocols attached to this Convention will affect the use of NLWs. Nonetheless, even if the UNCCWC were applicable, the substantive provisions of the Protocols would not appear to render any of the proposed weapons illegal.

1) Protocol I to the UNCCWC prohibits employment of weapons with the primary effect of injuring with undetectable fragments. None of the weapons in reference (a) are designed to fragment at all, much less in a manner in which the primary wounding mechanism produces non-detectable fragments. Consequently, Protocol I to the UNCCWC is inapplicable to these nonlethal weapons.

2) Protocol II to the UNCCWC deals with mines, booby-traps and other devices. Article 2 of the Protocol defines these weapons.<sup>26</sup> The definitions of "booby traps" and "other devices" contain an element requiring that the weapons be designed to kill, injure, or damage in particular circumstances. NLWs, by definition, are not designed to kill, injure, or damage, and do not function in the specific manner described by the definitions. Although, the definition of mine is broad and could conceivably capture NLWs if they employed a proximity-based triggering or explosive device, recent amendments to this Protocol have added a definition of anti-personnel mine, which appears to negate the application of the Convention.<sup>27</sup> The addition

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<sup>24</sup> *Id.*, at art. 1.

<sup>25</sup> S. Treaty Doc. No. 103-25, at vii (1994).

<sup>26</sup> "Mine means any munition placed under, on or near the ground or other surface area and designed to be detonated or exploded by the presence, proximity or contact of a person or vehicle; [b]ooby trap means any device or material which is designed, constructed or adapted to kill or injure and which functions unexpectedly when a person disturbs or approaches an apparently harmless object or performs an apparently safe act; [o]ther devices means manually-emplaced munitions and devices designed to kill, injure or damage and which are actuated by remote control or automatically after a lapse of time." UNCCWC, *supra* note 23, at art. 2.

<sup>27</sup> "Anti-personnel mine means a mine primarily designed to be exploded by the presence, proximity or contact of a person and that will incapacitate, injure or kill one or more persons." Conference of the States Parties to the Convention on Prohibition or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects: Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps, and Other Devices (Protocol II) as Amended, and Protocol on Blinding Laser Weapons (Protocol IV), Oct. 13, 1995, May 3, 1996, 35 I.L.M. 1206 [hereinafter Amended UNCCWC]. While the U.S. has not yet ratified the amended Protocols, the President has recommended that the Senate give its advice and consent to ratification. S. Treaty Doc. No. 105-1, at (IV-V) (1997).

of this definition appears to exclude NLWs from coverage under this Amended Convention for the same reason that definitions of "booby traps" and "other devices" excludes NLWs: NLWs do not kill, injure, or incapacitate. The President's transmittal of the Amended Convention specifically addresses this point in the context of NLWs, stating that "the term 'incapacitating' does not restrict non-lethal technology that may temporarily disable, stun or signal the presence of person [sic] but not cause permanent injury."<sup>28</sup>

3) Protocol III to the UNCCWC--Incendiary Weapons. The United States is not yet a Party to this Protocol, however, President Clinton has forwarded it to the Senate recommending that it give its advice and consent to its ratification.<sup>29</sup> The Protocol defines an incendiary weapons as "any weapon or munition which is primarily designed to set fire to objects or to cause burn injury to persons through the action of flame, heat, or combination thereof, produced by a chemical reaction of a substance delivered on the target."<sup>30</sup> Protocol III does not govern any of these NLWs because none are *primarily* designed to cause burn injuries.

4) Protocol IV to the UNCCWC--Blinding Laser Weapons.<sup>31</sup> The United States is not yet a Party to this Protocol either; however, President Clinton has forwarded it to the Senate recommending that they give their advice and consent as to its ratification.<sup>32</sup> The most recently added Protocol to the UNCCWC has no apparent relevance to the technologies in reference (a).

d. Chemical Weapons Convention. The United States recently ratified the 1993 Chemical Weapons Convention (CWC or the Convention), which entered into force on 29 April 1997.<sup>33</sup> This convention prohibits the development, production, acquisition, stockpiling, retention, and use of chemical weapons and limits the use of riot control agents (RCAs). It is clearly the most relevant treaty with respect to considerations of the emerging nonlethal weapon technologies described in reference (a). Like the Biological Weapons Convention, the CWC is an arms control treaty and is not limited to application during international armed conflict.

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<sup>28</sup> *Id.* at 7.

<sup>29</sup> *Id.* at iii - v.

<sup>30</sup> UNCCWC, *supra* note 23, at Protocol III, art. 1.

<sup>31</sup> Amended UNCCWC, *supra* note 27, at Protocol IV.

<sup>32</sup> S. Treaty Doc. No. 105-1, at iii - v.

<sup>33</sup> Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, Jan. 13, 1993, 32 I.L.M. 800 (1993)[hereinafter CWC].



Unlike other Arms Control and Law of War treaties, the CWC impacts various NLW technologies in distinct, and sometimes different, manners, based on their chemical composition and intended use. In this respect, it may be useful to place those technologies being considered into three general categories: anti-materiel weapons, anti-personnel weapons that have constituent toxic chemicals but do not use those chemicals for their toxic effects, and anti-personnel weapons that have constituent toxic chemicals and do rely on their toxic effects on humans or animals. As a general rule, weapons designed to use toxic chemical properties only for anti-materiel purposes are not problematic. Likewise, weapons that merely use chemicals for purposes not dependent on their toxic properties are not proscribed by the CWC. The last category of weapons described requires the most detailed discussion of the CWC as well as domestic regulation. What follows is an analysis of the CWC as applied to these NLWs.

The CWC regulates chemical weapons and riot control agents (RCAs). In Article I, which sets forth the Convention's general obligations, it proscribes the development, production, acquisition, stockpiling, retention, transfer, use or preparation to use chemical weapons. It also requires Parties to destroy their stocks of chemical weapons and their chemical weapon production facilities. The general obligations article closes by addressing RCAs, stating that they may not be used as a "method of warfare." Thus, to review the legality of NLWs under the CWC, one must determine if they fall under the Convention's definition of chemical weapons or riot control agents.

In Article II, the Convention defines chemical weapons as "toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes."<sup>34</sup> The key elements to the definition of chemical weapons are the terms "toxic chemicals" and "purposes not prohibited under this Convention."<sup>35</sup> A weapon is not a "chemical weapon" under the Convention if it is not associated with a "toxic chemical" or if it is used for a "purpose not prohibited by the Convention." "Toxic chemical" is defined as "[a]ny chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals."<sup>36</sup> This definition has four elements, toxic chemicals are: 1) a chemical; 2) which can

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<sup>34</sup> *Id.*, at art. II(1)(a). The definition of chemical weapons also includes "munitions and devices specifically designed to cause death or other harm through the toxic properties" of toxic chemicals released by those munitions, as well as "[a]ny equipment specifically designed for use directly in connection with the employment" of such munitions and devices. *Id.* at art. II(1)(b) & (c).

<sup>35</sup> "[C]hemical weapons are distinguished from other weapons containing/utilizing a chemical or chemicals, by reference to their toxicity and the intent of utilizing that property." WALTER KRUTZSCH & RALF TRAPP, A COMMENTARY ON THE CHEMICAL WEAPONS CONVENTION 25 (1994)[hereinafter CWC COMMENTARY].

<sup>36</sup> CWC, *supra* note 33, at art. II.2.

cause death, permanent harm, or temporary incapacitation; 3) through its chemical actions on life processes; and 4) of humans or animals. This definition is, and was apparently intended to be, extremely broad. It includes any type of toxicity with respect to man or animal, whether lethal or non-lethal, and whether permanent or temporary. It was designed to apply to currently known toxic chemicals and their precursors, as well as potential future toxic formulations.<sup>37</sup> The chemical, of course, must be potentially toxic, i.e., have a harmful chemical action on life processes. Furthermore, the toxicity must affect humans or animals; thus, herbicides would be excluded from the CWC's proscriptions.<sup>38</sup> Nonetheless, the CWC sets the threshold intentionally low in an attempt to capture all possible chemical weapons. Many of the technologies found in reference (a) may have components that fit the definition of "toxic chemical." Submissions of technologies for final weapon review should include an opinion regarding the toxicity of the chemical components to humans and animals in order to make this determination.

With the first element of the definition of chemical weapons being so inclusive, the second, *purposes not prohibited*, becomes the critical one in analyzing any proposed weapon.<sup>39</sup> One CWC commentary describes this criterion as the "general purpose criterion."<sup>40</sup> For what purpose are the toxic properties of the chemical being used? The Convention specifically defines "purposes not prohibited" in article II(9). Of the four non-prohibited purposes listed in that paragraph (peaceful purposes, protective purposes, military purposes not relying on toxic properties, and law enforcement purposes), the most relevant ones for this discussion of NLWs are the latter two: II(9)(c) - "[m]ilitary purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare;" and II(9)(d) - "[l]aw enforcement including domestic riot control purposes."

Article II(9)(c) is unfortunately circular in that it uses the term *chemical weapons* in a paragraph that essentially serves to define a constituent of the chemical weapons definition. Nevertheless, a common sense paraphrase of the article II (9)(c) purpose is that a toxic chemical,

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<sup>37</sup> S. TREATY DOC. NO. 103-21, at 8 (1993).

<sup>38</sup> On the other hand, if a particular herbicide were toxic to humans and was intentionally employed against humans, it would be considered a chemical weapon. CWC COMMENTARY, *supra* note 35, at 30.

<sup>39</sup> "[I]ntent is the ultimate criterion to decide whether such a chemical was indeed a chemical weapon or not." *Id.* at 25; "With regard to the term purposes not prohibited under the Convention," the negotiators of the CWC chose to define what chemical activities were to be banned by forbidding all activities except those specifically not prohibited. This inclusive approach was chosen to facilitate verification and to preclude loopholes with regard to unknown or future chemicals of possible concern." S. TREATY DOC. 103-21, *supra* note 37, at 12.

<sup>40</sup> CWC COMMENTARY, *supra* note 35, at 26-27.

can be used for military purposes so long as those purposes do not rely on the toxic properties of the chemicals as a method of warfare to cause the intended injury. There appears to be little controversy regarding this interpretation.<sup>41</sup> There is a valid and legitimate role for toxic chemicals, even in weapons to be used during armed conflict. The CWC, while capturing a broad array of toxic chemicals, only limits weaponry that relies on those toxic chemicals as a wounding mechanism. As described in article II(9)(c), the wounding mechanism can not be "dependent" on the use of those properties for the weapon to fit the "purpose not prohibited" exclusion. In other words, simply using a weapon containing a potentially toxic chemical is not prohibited. The clearest examples include rocket fuels, incendiary weapons, and smoke weapons because, while the chemicals used in the devices may be toxic to humans, they are not primarily designed to depend on the toxic properties of chemicals to be effective.<sup>42</sup> Similarly, sticky foam is also included in this "purpose not prohibited" because, although it may contain chemicals that are toxic to humans, it does not rely on such properties for it to operate effectively.<sup>43</sup>

Implicit in article II(9)(c) is that the toxic properties must also be used against humans or animals. This flows from the definitional requirement of Art II(2) that chemicals are only toxic if they cause harm to "humans or animals." As a result, the entire range of anti-material weapons proposed by reference (a) are excluded from the definition of chemical weapons because their toxicity is not being used against humans or animals.<sup>44</sup> This exclusion would, of course, cease to apply if these anti-material weapons were intentionally employed against humans or animals.

The other relevant non-prohibited purpose is contained in Article II(9)(d). That article

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<sup>41</sup> *Id.* at 42 (stating that "any chemical can be used for military purposes, including as a weapon as long as the predominant effect utilized in the weapon is not toxicity vis-a-vis man or animals.").

<sup>42</sup> *Id.*

<sup>43</sup> Encl. (1) contains a detailed review of sticky foam. Although that review states that a toxicological evaluation was not done, the manufacturer claims that sticky foam is "essentially non-toxic." Even if it were, the review goes on to opine that sticky foam is not a chemical weapon because it does not rely on any toxic properties. Such a result is permitted under article II(9)(c). Other applications of the use of this technology include the use of foam in conjunction with CS gas, an RCA. Clearly, that modification of the basic foam technology triggers other considerations under the CWC as discussed in the weapon review of "barrier foam." Letter from Judge Advocate General of the Navy to Commandant, U.S. Marine Corps (Feb. 6, 1995). It should be noted, however, that both of these weapon reviews were completed prior to the Senate's advice and consent on the CWC. Consequently, the reviews contain limitations on the use of RCAs that no longer exist given the Senate's condition regarding Executive Order 11850 and the President's acceptance of that condition. See *infra* notes 53-55.

<sup>44</sup> CWC COMMENTARY, *supra* note 35, at 25.

permits the use of toxic chemicals for "[l]aw enforcement including domestic riot control purposes." The fact that the only example provided is that of "domestic" riot control begs the question of whether toxic chemicals may be used for law enforcement purposes in an extraterritorial context. The nature of activities permitted under article II(9)(d) is one that will be determined by the practice of states.<sup>45</sup>

The CWC contains an additional mandate on the use of toxic chemicals for a "purpose not prohibited." Toxic chemicals intended for such legitimate purposes must be "of a type and quantity consistent with such purposes."<sup>46</sup> Thus, while anti-material weapons and those weapons not relying on the toxicity are not considered chemical weapons, they may, nonetheless, contain toxic chemicals. If that is the case, article II(1)(a) requires that they must not be produced in quantities in excess of that required for their particular purposes. This provision was designed to prevent abuses of the "purposes not prohibited" regime.<sup>47</sup>

The other major category of chemicals regulated by the CWC are RCAs. The CWC defines RCAs as "[a]ny chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure."<sup>48</sup> Like the definition of toxic chemicals, this definition has essentially four elements; RCAs are: 1) chemicals that are not listed in one of the schedules in the Annex on Chemicals; 2) which can produce sensory irritation or disabling physical effects; 3) that do so rapidly; and 4) whose effects disappear within a short time following termination of exposure.

While the proscriptions that the CWC places on chemical weapons are stated as absolute, the Convention seems to permit the use of RCAs provided they are not used as a "method of warfare."<sup>49</sup> The CWC does not address whether a given substance can be subject to both restrictions placed on RCAs and those placed on chemical weapons. Subsequent analysis in this memorandum concludes that RCAs are only constrained by the "method of warfare" restriction.

Moving past this hurdle, another ambiguity arises in that the term "method of warfare" is not defined in the Convention or in the formal negotiating record. This term has been the subject of significant debate in the United States.<sup>50</sup> The Administration view is that United States

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<sup>45</sup> *Id.* at 43.

<sup>46</sup> CWC, *supra* note 35, at art. II(1)(a).

<sup>47</sup> See CWC COMMENTARY, *supra* note 35, at 43.

<sup>48</sup> CWC, *supra* note 33, at art. II(7).

<sup>49</sup> *Id.* at art. I(5).

<sup>50</sup> *Chemical Weapons Convention: Hearings Before the Committee on Foreign Relations of the U.S.*

Forces must be involved in an armed conflict, either international or non-international to engage in a "method of warfare."<sup>51</sup> Although operations such as Desert Storm are clear; it is much more difficult to determine if an armed conflict exists during other military operations, such as peace operations. In such cases, a factual determination must be made regarding when the United States forces have become *de facto* belligerents in a conflict that may have developed during the deployment or in a situation that began with the United States playing a neutral role vis-à-vis belligerent parties.<sup>52</sup> Even then, the U.S. does not consider "method of warfare" to include certain "defensive" military uses of RCAs during armed conflict to save lives.<sup>53</sup> The Senate recently clarified the nature of these uses by conditioning its advice and consent to ratification of the CWC upon the continued applicability of Executive Order 11850 as a sufficient restriction on RCA use.<sup>54</sup> President Clinton agreed to implement these conditions.<sup>55</sup>

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*Senate*, 103d Cong. 59 (statement of Hon. Walter B. Slocombe, Deputy Under Secretary of Defense for Policy) [hereinafter *CWC Hearings*].

<sup>51</sup> President Clinton stated that "[o]ther peacetime uses of RCAs, such as normal peacekeeping operations, law enforcement operations, humanitarian and disaster relief operations, counter-terrorist and hostage rescue operations, and noncombatant rescue operations conducted outside such conflicts [international and non-international armed conflicts] are unaffected by the Convention." Clinton letter, *supra* note 8.

<sup>52</sup> LtCol Walter G. Sharp, Jr., *The 1993 Chemical Weapons Convention and the United States Use of Riot Control Agents 5-7* (Apr. 1997)(unpublished manuscript on file at Navy JAG Code 10).

<sup>53</sup> Clinton letter, *supra* note 8. This letter sets forth the Administration's interpretation of article I(5), the article proscribing the use of RCAs as a "method of warfare." Although the President's letter stated that RCAs could be used against noncombatants for law enforcement, riot control, or other noncombat purposes, this position actually represented a retrenchment in the previously acknowledged examples of defensive uses of RCAs during armed conflict. Those examples, as stated in Executive Order 11850, also included using RCAs during search and rescue missions and in cases where civilians are being used to mask or screen attacks. S. Exec. Res. 75, CONG. REC. S3373 (daily ed. Apr. 17, 1997). Exec. Order No. 11850, 3 C.F.R. 980 (1971-1975), *reprinted in* 50 U.S.C. § 1511 (1995)[hereinafter E.O 11850]. This position was to be incorporated into a new Executive Order once the Senate provided its advice and consent. Conditions of that advice and consent mooted the need to create a new Executive Order, and, by implication, the President's 1994 interpretation of article I(5). See *infra* notes 54, 55, and 80.

<sup>54</sup> 143 Cong. Rec. S3378 (daily ed. Apr. 17, 1997)(stating the "President shall take no measure, and prescribe no rule or regulation which would alter or eliminate Executive Order 11850 of April 8, 1975).

<sup>55</sup> Letter from President William J. Clinton to the Congress of the United States (Apr. 25, 1997). The President's acceptance of the Senate's conditions affirmed the continuing viability of E.O.

As previously alluded to, the CWC contains an ambiguity regarding the restrictions to which a given chemical may be subject. This ambiguity arises from a comparison of the definitions of RCAs and toxic chemicals. The definition of toxic chemicals appears broad enough to include many, if not all, RCAs. Specifically, the use of the term "temporary incapacitation" in the definition of toxic chemical is difficult to distinguish from the term "disabling effect" used in the definition of RCAs. Thus, one could contend that RCAs fall under the CWC's definition of toxic chemical. If that is the case, then do RCAs become subject to the CWC's chemical weapon regime as well as its RCA regime? In other words, is the RCA regime exclusive? The consequence of viewing RCAs as subject to the CWC's chemical weapon regime would be to consider RCAs as a chemical weapon unless used for a "purpose not prohibited," instead of permitting their use except as a "method of warfare." That interpretation of the CWC would have a major impact on the use of RCAs as the "purposes not prohibited" exclusions seem to afford less latitude for the use of RCAs than does the "method of warfare" limitation.<sup>36</sup>

Several commentators on the Convention, Dr. Matthew Meselson, Walter Trapp, and Ralf Krutzsch, subscribe to the view that RCAs are governed by the CWC regime.<sup>37</sup> Their views stem from their interpretations of the definitions of toxic chemicals and RCAs, and from the language of the law enforcement "purpose not prohibited" in Article II(9)(d). Regarding the definition of toxic chemicals, Trapp and Krutzsch argue that because of the breadth of the definition and the absence of any specificity about the extent of non-lethal harm required for a chemical to be a "toxic chemical," RCAs are toxic chemicals. Specifically, they point to the lack of a definition of the term "temporary incapacitation" to support their argument that "no type of toxicity against man or animals should be exempted."<sup>38</sup> During Senate hearings, Professor Meselson explicitly stated that RCAs fall under the definition of toxic chemicals because they cause "temporary incapacitation."<sup>39</sup> The apparent similarity of the term "disabling effect" in the definition of

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11850.

<sup>36</sup> The only "purpose not prohibited" that would apply to the use of RCAs is article II(9)(d), the law enforcement exclusion. Using the E.O. 11850 examples of RCA uses, it would be much more difficult to legally authorize RCAs in such situations under the law enforcement exclusion than it would be to argue that such uses were not "methods of warfare."

<sup>37</sup> *CWC Hearings*, *supra* note 50, at 98-99 (statement of Dr. Matthew Meselson, Department of Bio-Chemistry and Molecular Biology, Harvard University); *CWC COMMENTARY*, *supra* note 34, at 26.

<sup>38</sup> *CWC COMMENTARY*, *supra* note 35 at 29.

<sup>39</sup> *CWC Hearings*, *supra* note 50, at 98.

RCA to "temporary incapacitation" contributes to this impression.<sup>60</sup>

Dr. Meselson, as well as Trapp and Krutzsch, bolster their argument that RCAs are toxic chemicals by referring to the "purposes not prohibited" definition, specifically Article II(9)(d). Dr. Meselson argued that "[t]he specific inclusion of 'riot control purposes' in the list of purposes permitted by the Convention underscores the fact that riot control agents are subject to the same definition of chemical weapons as any other toxic chemicals."<sup>61</sup> Trapp and Krutzsch are even more explicit in making this point:

The inclusion of this subparagraph [art. II(9)(d)] in the list of 'purposes not prohibited' has profound consequences for the main undertakings under the Convention: if Article I is read in isolation, it might seem that riot control agents are covered by a profoundly different regime than are other toxic chemicals. However, if all provisions relating to riot control agents in Articles I and II are read together, it can also be argued that this subparagraph effectively clarifies what the phrase 'as a method of warfare' in paragraph 5 of Article I means. It can be contended that the explicit link between paragraph 9 [of art. II] and paragraph 1 of Article II [definition of chemical weapons and toxic chemicals] establishes that riot control agents can under certain circumstances be considered chemical weapons. In such cases, all prohibitions under *paragraph 1 of Article I* will apply. In such an interpretation, the prohibition under paragraph 5 of Article I on the use of riot control agents as a method of warfare *becomes a clarification, rather than a limitation*, of paragraph 1 of the same Article: it can be argued that *any* hostile use of a weapon disseminating a riot control agent as defined in paragraph 7 of Article II other than for law enforcement (including domestic riot control) purposes is to be considered a *method of warfare*, and hence prohibited, and that any agent so used is to be considered a *chemical weapon*.<sup>62</sup>

This discussion raises issues of treaty interpretation. The fundamental legal principle applicable to treaty interpretation is that "[a] treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose."<sup>63</sup> The context for purposes of treaty interpretation

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<sup>60</sup> As an example, the Army Manual dealing with RCAs attributes incapacitating effects to standard RCAs such as CS, CSX, CS1, CS2, and CR. DEP'T OF ARMY, FIELD MANUAL 3-11, FLAME, RIOT CONTROL AGENTS, AND HERBICIDE OPERATIONS, 6-1 - 6-3 (16 Aug. 1996).

<sup>61</sup> *CWC Hearings*, *supra* note 50, at 99.

<sup>62</sup> *CWC COMMENTARY*, *supra* note 35, at 42-43.

<sup>63</sup> Vienna Convention on the Law of Treaties, May 23, 1969, art. 31(1), 8 I.L.M. 679. While the U.S. has not ratified this treaty, it considers it to reflect customary international law.

includes, in addition to its text, the treaty preamble and annexes.<sup>64</sup> The following paragraphs apply these principles.

First, in referring to the plain language of the convention, while there are areas of overlap in the two definitions, they do contain different elements. In comparing the elements, it is apparent from their differences that the nature of the harm caused by RCAs is generally much less severe and that the toxic effects of RCAs are transient. Thus, it is clear from the definition of RCAs that the CWC envisages RCAs to be a relatively benign category of chemicals. The fact that the definition excludes those chemicals listed on Chemical Annex Schedules, many of which are extremely toxic, bolsters this point. While RCAs may well be toxic chemicals, in establishing a separate regime for a particular category of toxic chemicals, RCAs, the CWC has limited the boundaries of this category by narrowly defining the chemicals that qualify as RCAs.

Next, while the commentator's arguments are colorable, viewing them in light of the treaty, as well as its object and purpose, they are incorrect. At the outset, it should be noted that even Trapp and Krutzsch, by using language such as "it might seem" and "it can also be argued," acknowledge that the issue is subject to differing interpretations. At another point, they also admit that this issue presents a "complex situation."<sup>65</sup> More importantly, given the placement of Article II(5) as a general obligation, and the CWC's subsequent treatment of RCAs, the CWC does create a separate regime for RCAs than it does for chemical weapons. Not only are RCAs treated differently in Articles I and II but also in Articles III and X. Article III(1)(e) discusses specific declaration requirements for RCAs: "[s]pecify the chemical name, structural formula and Chemical Abstracts Service (CAS) registry number, if assigned, of each chemical it holds for riot control purposes. This declaration shall be updated not later than 30 days after any change becomes effective."<sup>66</sup> Article X, the article discussing assistance and protection against chemical weapons, accords Parties the right to seek assistance and protection when chemical weapons have been used against it or when RCAs have been used against it. Thus, at all logical parts of the CWC, the general obligations, definitional, and declaration sections, the convention addresses RCAs separately from chemical weapons.

The commentators overlook the entire context of the CWC. Instead, they focus solely on articles I and II and the CWC's purpose of destroying chemical weapons in their attempt to categorize RCAs as toxic chemicals subject to the chemical weapon definition. In doing so,

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<sup>64</sup> *Id.* at art 31(2).

<sup>65</sup> CWC COMMENTARY, *supra* note 35, at 42 n. 44 (stating that "[w]ithout that sub-paragraph (article II(9)(d)), it might have been possible to argue that riot control agents are exempted altogether from the term 'chemical weapons.' With that sub-paragraph, however, a much more complex situation arises.")

<sup>66</sup> CWC, *supra* note 33, at art. III.(1)(e).



however, they fail to grasp the CWC's other purpose of addressing the RCA issue, which the negotiators considered important enough to include in Article I.

Additionally, Trapp and Krutzsch's text quoted above relies on the definitions in Article II, particularly Article II(9)(d), to interpret the meaning of Article I(5). They contend that Article I(5) cannot be read "in isolation." Based on treaty interpretation principles, it would appear just the opposite is true. The general obligations of Article I establish the object and purpose of the treaty and should be used to interpret subsequent provisions of the treaty, not vice versa.

Finally, if any ambiguity still exists, the Vienna Convention permits resort to "supplementary means of interpretation, including preparatory works of the treaty and the circumstances of its conclusion."<sup>67</sup> In his testimony to the Senate Foreign Relations Committee, Ambassador Stephen Ledogar, the head of the U.S. delegation the final three years of CWC negotiations, discussed the background behind the negotiation of the RCA provisions. Ambassador Ledogar described the negotiations surrounding RCAs as "contentious."<sup>68</sup>

That the negotiations surrounding the use of RCAs were contentious is not surprising given their historical treatment in the context of the 1925 Geneva Gas Protocol. That Protocol bans the "use in war of asphyxiating, poisonous, or other gases, and of all analogous liquids, materials or devices."<sup>69</sup> The U.S. ratified that Protocol in 1975 with a reservation that rendered the United States's obligation under the Protocol as being a prohibition on the first use of chemical weapons.<sup>70</sup> That reservation was not controversial,<sup>71</sup> however, disagreement swirled around the Protocol's coverage of RCAs. Since the 1960s, the U.S. has maintained that the Protocol applies only to lethal and incapacitating chemical agents and not to RCAs;<sup>72</sup> the U.S. therefore maintained that RCAs could be used during armed conflict. That view was not

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<sup>67</sup> Vienna Convention on the Law of Treaties, *supra* note 63, at art. 32.

<sup>68</sup> *CWC Hearings*, *supra* note 50, at 36.

<sup>69</sup> Geneva Gas Protocol, *supra* note 18.

<sup>70</sup> FM 27-10, *supra* note 2, at p. 2 (change 1).

<sup>71</sup> UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY, ARMS CONTROL AND DISARMAMENT AGREEMENTS 19 (1990) (including Canada, France, United Kingdom, and the Netherlands)[hereinafter ARMS CONTROL AND DISARMAMENT AGREEMENTS].

<sup>72</sup> Memorandum of Law by Roberts B. Owen, Legal Adviser, Department of State (Apr. 9, 1980), reprinted in OFFICE OF THE LEGAL ADVISER, U.S. DEP'T OF STATE, DIGEST OF UNITED STATES PRACTICE IN INTERNATIONAL LAW 1980, 1026, 1027 (1986)[hereinafter DIGEST OF U.S. PRACTICE]

universally shared in the international community.<sup>73</sup> The United States extensive use of RCAs during the Vietnam War brought the differing interpretations to light.<sup>74</sup> As a matter of national policy, however, the U.S., upon ratifying the Protocol in 1975 renounced the first use of RCAs in war except in defensive military modes to save lives.<sup>75</sup> Nonetheless, the U.S. maintained that RCAs were not chemical weapons covered by the Protocol.<sup>76</sup>

Against this historical backdrop, Ambassador Ledogar continued to assert the position that RCAs were not chemical weapons. Some nations, however, expressed concern that "RCAs would constitute an immediate risk and danger if they were allowed to develop into a new generation of non-lethal but effective chemical agents of warfare, causing insurmountable problems in trying to distinguish between 'real' and 'non-lethal' chemical weapons on the battlefield, as well as between 'real' and 'non-lethal' chemical warfare units."<sup>77</sup> The result was a compromise in which the U.S. accepted the CWC's Article I(5) prohibition on the use of RCAs as a "method of warfare"<sup>78</sup> in exchange for their categorization outside the chemical weapon regime. Ambassador Ledogar emphasized the latter point by expressly testifying that "RCAs are defined in a section separate from chemical weapons to indicate that while the Convention prohibits their use as a method of warfare, they themselves are not considered chemical weapons."<sup>79</sup>

As in the case of biological weapons, RCAs are also subject to domestic regulation. Executive Order 11850 (E.O. 11850)<sup>80</sup> prohibits, as a matter of national policy, the first use of

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<sup>73</sup> *Id.* For a detailed discussion of the opposing view see STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI), THE PROBLEM OF CHEMICAL AND BIOLOGICAL WARFARE: CB AND THE LAW OF WAR 41 - 66 (1973)[hereinafter SIPRI].

<sup>74</sup> DIGEST OF U.S. PRACTICE, *supra* note 71, at 1032.

<sup>75</sup> E. O. 11850, *supra* note 54.

<sup>76</sup> DIGEST OF U.S. PRACTICE, *supra* note 71, at 1032.

<sup>77</sup> CWC Hearings, *supra* note 50, at 36.

<sup>78</sup> This restriction represents a concession on the part of the United States as it previously admitted no restrictions on the use of RCAs in war. Article I(5) essentially indicates the U.S. acceptance of an international legal obligation regarding RCAs, a restriction the U.S. formerly assumed only as a matter of policy.

<sup>79</sup> CWC Hearings, *supra* note 50, at 36.

<sup>80</sup> Exec. Order 11850, *supra* note 54.

RCAs in war except in defensive military modes to save lives.<sup>81</sup> The impact of the CWC on E.O. 11850 was a matter of much debate in the United States.<sup>82</sup> It should be emphasized, however, that this national debate focused on what uses of RCAs were "methods of warfare" (so as to fall within the CWC's proscriptions), not whether RCAs were chemical weapons. It was consistently the U.S. view that RCAs were an exclusive regime, subject only to the "method of warfare" limitation. In 1994 the President resolved this debate by issuing the Administration's position on the issue.<sup>83</sup> As previously mentioned, this position was further refined in the days prior to U.S. ratification of the CWC as the President agreed to a Senate condition that U.S. ratification not affect E.O. 11850.<sup>84</sup> Consequently, domestic policy governing the use of RCAs is unchanged: E.O. 11850 remains in effect.

This national action has significance in interpreting the CWC. According to the Vienna Convention, the "subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation," is relevant to interpreting a treaty.<sup>85</sup> Subsequent practice actually carries more weight as evidence of international law than does the negotiating history of a convention, which is considered as merely a supplementary means of interpretation.<sup>86</sup>

In relating E.O. 11850 to the CWC's treatment of RCAs as discussed above, the U.S. position that E.O. 11850 remains in effect serves as an interpretive practice. E.O. 11850 authorizes the use of RCAs "in defensive military modes." Thus, the U.S. considers these uses within the "method of warfare" restriction that the CWC imposes. The clear implication is that the U.S. considers RCAs to be subject only to the CWC's RCA regime. Thus, the traditional principles of treaty interpretation indicate that RCAs, while they may well contain toxic

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<sup>81</sup> *Id.* The E.O. 11850 examples of these defensive military modes are: 1) in riot control situations in areas under direct and distinct US military control, to include controlling rioting PWs; 2) in situations in which civilians are used to mask or screen attacks and civilians casualties can be reduced or avoided; 3) in rescue missions in remotely isolated areas, of downed aircrews and passengers, and escaping prisoners; 4) in rear echelon areas outside the zone immediate combat to protect convoys from civil disturbances, terrorists and paramilitary organizations.

<sup>82</sup> *Military Implications of the Chemical Weapons Convention: Hearings Before the Senate Armed Services Committee*, 103d Cong. 77 (1994) (statement of General John Shalikashvili).

<sup>83</sup> Clinton letter, *supra* note 8.

<sup>84</sup> See *supra* notes 53 - 55.

<sup>85</sup> Vienna Convention, *supra* note 63, at art. 31(3)(b).

<sup>86</sup> *Id.* at art. 33.

chemicals, are subject to Article I(5)'s limitation on the use of RCAs as a "method of warfare," and are not subject to Article II's proscriptions.

e. 1925 Geneva Gas Protocol. The CWC contains several references to the continued viability of the 1925 Geneva Gas Protocol. The CWC makes clear that it does not limit or detract from a nation's obligations under the Protocol<sup>87</sup> and that if a nation were to withdraw from the CWC it would remain obligated to any other relevant rules of international law, specifically the Protocol.<sup>88</sup> The intent of these articles, however, is to ensure the continued existence of the Protocol as a "safety net" in case of a state's withdrawal from the CWC. Relevant provisions of the Protocol are, in every case, less restrictive than parallel CWC provisions. Thus, for purposes of legal analysis, the comprehensive nature of the CWC results in it being the exclusive standard for analyzing chemically-based weapons for those nations that are Parties to it.<sup>89</sup>

6. Specific Weapons Systems: Below is a summarized review of weapons listed in reference (a). It is preceded by a description of the analytical framework used to review the weapons.

**Analysis:** In light of the foregoing analysis, the first consideration is whether the NLW contains toxic chemicals. If a toxicological report indicates the NLW's chemicals have no toxic effect on humans or animals, the CWC would regulate the NLW only if it could be classified as a RCA. In that case, of course, the NLW would be subject to the article I(5) proscription. While such a result is unlikely, given the CWC's broad definition of toxic chemicals, it is conceivable. For ease of analysis, however, all the NLWs presented in reference (a) will be assumed to contain toxic chemicals. That does not imply, of course, that a toxicological analysis should not be performed on each NLW to conclusively make such a determination. Next, if the NLW does contain toxic chemicals, the reviewer must determine if it is an RCA. Based on the previous discussion of the ambiguity regarding the definitions of toxic chemicals and RCAs and impact on weapon classification, RCAs can be toxic chemicals, yet may, nonetheless, still be governed by only the RCA regime. All the chemicals described in reference (a) meet the threshold test of the RCA definition: none are included in the CWC's schedule of chemicals. The key determination then is the analysis of the NLW's chemical composition to ensure that it fits the RCA definition in the CWC. That definition, however, provides no specifics on how to interpret the meaning of terms such as "produce rapidly," "sensory irritation," "disabling effects," and "disappear within a short time." A suggested strategy is to compare the composition and effects of the NLW to established RCAs such as CS and CR. Such a strategy is analogous to the approach used in

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<sup>87</sup> CWC, *supra* note 33, at art. XIII.

<sup>88</sup> *Id.* at art. XVI.

<sup>89</sup> S. TREATY DOC. NO. 103-21, *supra* note 37, at VII (stating that the CWC is "unprecedented" in its scope); CWC COMMENTARY, *supra* note 35, at 1.

reviewing weapons involving new technologies.<sup>90</sup> Additionally, if the weapon is determined to be a RCA it will be subject to Article III's modified declaration requirement. Finally, if the NLW is a toxic chemical and is not a RCA, in order to avoid declaring the NLW a chemical weapon, the NLW must be intended for one of Article II(9)'s "purposes not prohibited." If the NLW is used for one of the "purposes not prohibited" it is not subject to any declaration requirement, but must be of a "type and quantity consistent with that purpose."

**Anti-Material Weapons:** Assuming these NLWs contain toxic chemicals, they cannot be classified as RCAs because these NLWs are not intended to affect humans. Nonetheless, one of the Article II(9) purposes not prohibited appears to exempt them from being chemical weapons. As a group, article II(9)(c) permits the use of the anti-material technologies because their toxic properties are not being used against humans or animals. Thus, the CWC presents no restrictions on the use of these NLWs. Reference (a) expresses concern about the inadvertent effect such NLWs could have on people. As long as the intended use of the weapon remains anti-material, any collateral effects would not be proscribed by the CWC. Nonetheless, as with all targeting decisions, the customary international law principles mentioned at the outset, particularly distinction and discrimination, must always be considered.

**Microbes:** The Biological Weapons Convention and, more clearly, the domestic implementing legislation, prohibit the development, production, stockpiling of biological agents for use as weapons. Biological agents are broadly defined by the statute so as to include agents used for anti-material purposes. A definitive legal review could be performed to conclusively resolve the issue. At this juncture, it is safe to say that this technology is problematic, at least.

**Anti-Personnel Weapons:** Unlike anti-material weapons, these weapons cannot be categorized as a group. Cayenne pepper spray and CS and CN agents have already been categorized as RCAs. Consequently, they are regulated by the CWC RCA regime and subject to Article I(S)'s "method of warfare" limitation. Several of the other NLW technologies, such as the convulsives and calmative agents may also be RCAs. As discussed above, the latter NLWs must be reviewed, both from a chemical and an "effects" perspective. The remaining anti-personnel NLWs cannot be classified as RCAs because, while they may be designed for crowd control, they have no physiological effects on humans. The definition of RCAs requires some "sensory irritation" or "disabling effect," both of which contemplate a physiological effect. Known malodorous agents, sticky foam, aqueous foam, adhesives, smokes and fogs, and superlubricants apparently do not cause such effects.


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<sup>90</sup> W. Hays Parks, *Memorandum of Law: The Use of Lasers as Antipersonnel Weapons*, ARMY LAW., Nov. 1988, at 3 (stating that "[I]n considering whether a weapon may cause unnecessary suffering, it must be viewed in light of comparable wounding mechanisms extant on the modern battlefield rather than viewing the weapon in isolation.").

For those anti-personnel weapons that are not RCAs, a toxic chemical determination must be made. Again, assuming for purposes of the review they are toxic chemicals, it is their use that is critical, i.e., the "purpose not prohibited." Many appear to fall under article II(9)(c)'s exemption as they are intended for a military purpose, but do not rely on the toxic properties of the chemicals. This list of weapons includes malodorous agents, sticky foam (again see enclosure (1)), aqueous foam, adhesives, smokes and fogs, and slick coatings/superlubricants.

Convulsives and calmatives may rely on their toxic properties to have a physiological effect on humans. If that is the case, and these two NLWs are not considered RCAs, in order to avoid being classified as a prohibited chemical weapon, they would have to be used for the article II(9)(d) "purpose not prohibited," the law enforcement purpose. As discussed above, the limits of this "purposes not prohibited" are not clear and will be determined by the practice of states.

7. Based on the information provided, only the microbes weapon appears to be categorically banned by international or domestic law. However, any weapon selected for production must be subjected to a thorough legal review by the Services. This memorandum has been coordinated with the Offices of the Judge Advocate General of the Army, the Office of the Judge Advocate General of the Air Force, the Office of the Legal Counsel to the Chairman of the Joint Chiefs of Staff, and the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict.

  
J. P. WINTHROP  
CDR, JAGC, USN

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