

CHAPTER 9

Conventional Weapons and Weapons Systems

9.1 INTRODUCTION

This chapter addresses the legal considerations pertaining to the use of conventional weapons and weapons systems.¹ It is a fundamental tenet of the law of armed conflict that the right of nations engaged in armed conflict to choose methods or means of warfare is not unlimited.² This rule of law is expressed in the concept that the employment of weapons, material, and methods of warfare that are designed to cause superfluous injury or unnecessary suffering is prohibited.³ A corollary concept is that weapons which by their nature are incapable of being directed specifically against military objectives, and therefore

¹ DOD Instruction 5500.15, Subj: Review of Legality of Weapons Under International Law, and DOD Directive 5000.1, Subj: Defense Acquisition, mandate that all weapons newly developed or purchased by the U.S. armed forces be reviewed for consistency with international law. These reviews are carried out by the Judge Advocate General of the Service concerned before the engineering development stage of the acquisition process, and before the initial contract for production is let. A similar rule of international law is imposed, for the first time, on the nations party to GP I by art. 36. *See* Robertson, *Modern Technology and the Law of Armed Conflict*, 362 at 367-68, *in* Robertson. *See also* Green 273-74. For further information *see* DOD Regulation 5000.2-R, Subj: Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information Systems, and SECNAVINST 5000.2B, Subj: Implementation of Mandatory Procedures for Major and Non-Major Defense Acquisition Programs and Major and Non-Major Information Technology Acquisition Programs. *See also* Meyrowitz, *The Function of the Laws of War in Peacetime*, 1986 *Int'l Rev. Red Cross* 71, 78-81; and paragraph 5.4.2, note 34 (p. 5-13), regarding the U.S. decision not to seek ratification of GP I.

Non-lethal weapon systems also require legal review. DOD Directive 3000.3, Subj: Policy for Non-Lethal Weapons, para. E6b. Non-lethal weapons are defined as "[w]eapons that are explicitly designed and primarily employed so as to incapacitate personnel or material, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and to the environment." *Id.*, para. C. Non-lethal weapons are not intended to take the place of conventional (lethal) weapons and their availability does not limit a commander's inherent authority and obligation to use all necessary means available and take all appropriate action in self-defense. *Id.*, para. D4. *See also* paragraph 4.3.2.2 (p. 4-14).

² HR, art. 22; *cf.* Lieber Code, art. 30. HR, art. 22, which refers to weapons and methods of warfare, is merely an affirmation that the means of warfare are restricted by rules of conventional (treaty) and customary international law. Although immediately directed to the conduct of land warfare, the principle embodied in HR, art. 22 is applicable equally to the conduct of naval warfare. Art. 22 is viewed by the United States as declarative of customary international law, (General Counsel, Department of Defense letter of 22 Sept. 1972, *reprinted in* 67 *Am. J. Int'l L.* 122 (1973)). HR, art. 22 is confirmed in GP I, art. 35(1). The United States supports art. 35(1) of GP I as a statement of customary law. The Sixth Annual American Red Cross-Washington College of Law Conference on International Humanitarian Law: A Workshop on Customary International Law and the 1977 Protocols Additional to the 1949 Geneva Conventions, 2 *Am. U. J. Int'l L. & Policy* 424 (1987) (remarks of U.S. Department of State Deputy Legal Adviser Matheson). *See also* paragraph 8.1, notes 1 & 2 (p. 8-1).

³ HR, art. 23(e), forbids belligerents "to employ arms, projectiles, or material calculated to cause unnecessary suffering." These rules are confirmed in GP I, art. 35(2), and are viewed by the United States as declaratory of customary international law. General Counsel letter and Matheson remarks, preceding note.

that put noncombatants at equivalent risk, are forbidden due to their indiscriminate effect.⁴ A few weapons, such as poisoned projectiles, are unlawful, no matter how employed.⁵ Others may be rendered unlawful by alteration, such as by coating ammunition with a poison. Still others may be unlawfully employed, such as by setting armed contact naval mines adrift so as to endanger innocent as well as enemy shipping. And finally, any weapon may be set to an unlawful purpose when it is directed against noncombatants and other protected persons and property. (See Chapter 11—Noncombatant Persons.)

Of particular interest to naval officers are law of armed conflict rules pertaining to naval mines, land mines, torpedoes, cluster and fragmentation weapons, delayed action devices, incendiary weapons, directed energy devices and over-the-horizon weapons systems. Each of these weapons or systems will be assessed in terms of its potential for causing unnecessary suffering and superfluous injury or indiscriminate effect.⁶

9.1.1 Unnecessary Suffering. Antipersonnel weapons are designed to kill or disable enemy combatants and are lawful notwithstanding the death, pain, and suffering they inflict. Weapons that are designed to cause unnecessary suffering or superfluous injury are, however, prohibited because the degree of pain or injury, or the certainty of death they produce is needlessly or clearly disproportionate to the military advantage to be gained by their use. Poisoned projectiles and small arms ammunition intended to cause superfluous injury or unnecessary suffering fall into this category.⁷ Similarly, using materials that are

⁴ This customary rule is codified in GP I, arts. 51(4)(b) and 51(5). See Green at 151-52; Fleck at 111-14.

⁵ Lieber Code, arts. 16 & 70; Declaration of Brussels, art. 13(a); 1880 Oxford Manual, art. 8(a); 1913 Oxford Manual of Naval War, art. 16(1). This customary rule was codified in HR, art. 23(a), to which the United States is a party. With regard to their use in reprisal, see paragraph 6.2.3.3, note 52 (p. 6-20). See also Green, What One Can Do In Conflict - Then and Now, in *International Humanitarian Law: Challenges for the Next Ten Years* 269-95 (Delissens & Tanja eds., 1991).

⁶ Non-lethal weapons are not addressed in this edition of NWP 1-14M but will be included in follow-on versions. For a discussion of non-lethal weapons see *Non-Lethal Weapons: Emerging Requirements for Security Strategy*, Report Prepared by The Institute for Foreign Policy Analysis (1996). See also note 1 (p. 9-1).

⁷ The 1899 Hague Declaration IV Respecting the Prohibition of the Use of Bullets which Expand or Flatten Easily in the Human Body, The Hague, 29 July 1899, reprinted in Schindler & Toman at 103 [hereinafter 1899 Hague Declaration], prohibits the use in international armed conflict of "bullets which expand or flatten easily in the human body, such as bullets with a hard envelope which does not entirely cover the core or is pieced with incisions." The United States is not a party to this treaty, but has taken the position that the United States will adhere to its terms in conventional military operations to the extent that its application is consistent with the object and purpose of HR, art. 23(e) (which prohibits employment of "arms, projectiles, or material calculated to cause unnecessary suffering.") See, Army JAG Memo DAJA/IO of 16 Feb 93, Legal Review of USSOCOM Special Operations Offensive Handgun (concluding use of hollow-tip or similar expanding ammunition by special operations force personnel across the spectrum of conflict is lawful); Army JAG Memo DAJA/IA of 12 Oct 90, Sniper Use of Open-Tip Ammunition (concluding 7.62mm "open-tip" MatchKing Ammunition bullet may lawfully be employed in peacetime or wartime missions of the Army), reprinted in *The Army Lawyer*, Feb 91, at 86; Army (continued...)

difficult to detect or undetectable by field x-ray equipment, such as glass or clear plastic, as the injuring mechanism in military ammunition is prohibited, since they unnecessarily inhibit the treatment of wounds.⁸ Use of such materials as incidental components in ammunition,

⁷(...continued)

JAG Memo DAJA-IO (27-1a) of 13 May 1996, Fabrique Nationale 5.7 x 28mm Weapon System (concluding that the JAG Memo DAJA-IO (27-1a) of 13 May 1996, Fabrique Nationale 5.7 x 28mm Weapon System (concluding that the Fabrique Nationale P90 and its 5.7 x 28mm SS190 projectile do not produce wounds that cause superfluous injury). In essence, the foregoing Army JAG opinions express the view that the rule against hollow-point or expanding bullets is not to be applied mechanically; *e.g.*, bullets designed with a hollow point for increased accuracy are not prohibited.

Legal analysis of small arms ammunition has also focused on increased accuracy and reduced probability of over penetration which, aside from having obvious military advantages, also reduce the likelihood of incidental injury to noncombatants. Finally, the Army JAG opinions conclude that the prohibition contained in the 1899 Hague Declaration "is of minimal to no value, inasmuch as virtually all full metal jacketed military rifle bullets employed since 1899 with pointed ogival "spitzer" tip shape have a tendency to fragment on impact . . . leading to wounds not dissimilar to those condemned by the 1899 Hague Declaration. . . . The true test remains whether or not a bullet causes superfluous injury. . . ."

Use of expanding ammunition by units involved in full-time operations against terrorists is not constrained by the law of armed conflict. Navy JAG ltr of 22 January 1992, Legal Review of the Use of Expanding Ammunition by Marine Corps Units (concluding use of 9mm hollow-point ammunition in peacetime counterterrorist and special security missions is lawful); Army JAG Memo DAJA-IA 1985/7026 of 23 Sep 85, Use of Expanding Ammunition by U.S. Military Forces in Counterterrorist Incidents (concluding such use is lawful); Air Force JAG Memo HQ USAF/JAI of 22 Aug 1997, Legal Review of Security Police Use of 9mm Expanding, Hollow Point Bullets (PHOENIX RAVEN Program) (concluding that such use constitutes a peacetime law enforcement function and is not unlawful).

There is no rule of conventional or customary international law that would prohibit the use of shotguns in armed conflict. DA Pam 27-161-2 at 45, Cutshaw, Ammunition, *in* 1 International Military and Defense Encyclopedia (Dupuy ed., 1993) at 127 notes that:

Shotguns are especially useful in jungle warfare, where ranges of engagement seldom exceed 50 meters (165 ft). Indeed, they were widely used by U.S. forces in Vietnam.

Contra see Oeter, Methods and Means of Combat *in* Fleck at 122 who agrees that:

It is prohibited to use bullets which expand or flatten easily in the human body (*e.g.*, dum-dum bullets) (Declaration Concerning Expanding Bullets of 1899). This applies also to the use of shotguns, since shot causes similar suffering unjustified from the military point of view. . . .

But see Parks, Joint Service Combat Shotgun Program, *in* The Army Lawyer (DA Pam 27-50-299), Oct. 1997, who concludes, *inter alia*, that:

Lead-and-antimony buckshot does not "expand or flatten easily," and therefore violates neither the 1899 Hague Declaration nor the criteria for legality previously articulated in opinions of the Judge Advocate General, United States Army.

The combat shotgun and its lead-and-antimony buckshot (or shot) ammunition are consistent with the law of war obligations of the United States.

⁸ Protocol I (Protocol on Non-Detectable Fragments) of the 1980 Conventional Weapons Convention (*see* paragraph 5.4.2 and note 36 thereto (p. 5-15)) provides, in its entirety, that:

(continued...)

e.g., as wadding or packing, is not prohibited. Use of .50 caliber weapons against individual enemy combatants does not constitute a violation of this proscription against unnecessary suffering or superfluous injury.⁹

9.1.2 Indiscriminate Effect. Weapons that are incapable of being controlled (i.e., directed at a military target) are forbidden as being indiscriminate in their effect.¹⁰ Drifting armed contact mines and long-range unguided missiles (such as the German V-1 and V-2 rockets of World War II) fall into this category. A weapon is not indiscriminate simply because it may cause incidental or collateral civilian casualties, provided such casualties are not foreseeably excessive in light of the expected military advantage to be gained.¹¹ An artillery round that is capable of being directed with a reasonable degree of accuracy at a military target is not an indiscriminate weapon simply because it may miss its mark or inflict collateral damage. Conversely, uncontrolled balloon-borne bombs, such as those released by the Japanese against the west coast of the United States and Canada in World War II lack that capability of direction and are, therefore, unlawful.¹²

⁸(...continued)

It is prohibited to use any weapon the primary effect of which is to injure by fragments which in the human body escape detection by X-rays.

See also Lieber Code, art. 16; Fenrick, *New Developments in the Law Concerning the Use of Conventional Weapons in Armed Conflict*, 19 *Can. Y.B. Int'l L.* 229, 242 (1981); Roach, *Certain Conventional Weapons Convention: Arms Control or Humanitarian Law?* 105 *Mil. L. Rev.* 3, 69-72 (1984); and Schmidt, *The Conventional Weapons Convention: Implications for the American Soldier*, 24 *A.F.L. Rev.* 279, 308-12 (1984).

⁹ The persistent myth that .50 caliber weapons may not be lawfully employed against enemy personnel is thought to have its origins in a Vietnam War era rule of engagement predicated upon conserving .50 caliber ammunition. *See, e.g.*, Smith, *Rifle Expands Shooting Range of Leathernecks*, *Jacksonville Daily News*, Sept. 12, 1993 at p. D1 (perpetuating the erroneous notion that .50 caliber ammunition may not lawfully be directed against individual enemy soldiers).

¹⁰ GP I, art. 51(4)(b). *See also* Fleck at 118-20. Military targets are defined in paragraph 8.1.1 (p. 8-2). The rule stated in this sentence does not prohibit naval or land mines *per se*. Naval mines and land mines are discussed in paragraphs 9.2 (p. 9-5) and 9.3 (p. 9-11), respectively.

¹¹ *See* paragraph 8.1.2.1 (p. 8-4) for a discussion of this aspect of collateral damage. *Compare* Lieber Code, art. 15.

¹² Bothe, *Partsch & Solf* 305; ICRC, *Commentary (GP I)* 621. The balloon-borne bombs are described in Mikesh, *Japan's World War II Balloon Bomb Attacks on North America*, *Smithsonian Annals of Flight* No. 9 (1973); Webber, *The Silent Siege: Japanese Attacks Against North America in World War II* (1984); Prioli, *The Fu-Go Project*, *American Heritage*, April-May 1982, at 89-92. The same assertion of illegality might also be said of an aborted American plan to drop bats armed with tiny incendiary bombs on Japan. Feist, *Bats Away*, *American Heritage*, April-May 1982, at 93-94; Lewis, *Bats Out of Hell*, *Soldier of Fortune*, Nov. 1987, at 80-81, 112. The legality of these weapons does not appear to have been previously addressed. *See* paragraph 9.1, note 1 (p. 9-1).

9.2 NAVAL MINES

Naval mines have been effectively employed for area denial, coastal and harbor defense, antisurface and antisubmarine warfare, and blockade. Naval mines are lawful weapons, but their potential for indiscriminate effects has led to specific regulation of their deployment and employment by the law of armed conflict.¹³ The extensive and uncontrolled use of naval mines by both sides in the Russo-Japanese War of 1904-5 inflicted great damage on innocent shipping both during and long after that conflict, and led to Hague Convention No. VIII of 1907 Relative to the Laying of Automatic Submarine Contact Mines.¹⁴ The purpose of the Hague rules is to ensure, to the extent practicable, the safety of innocent shipping. These rules require that naval mines be so constructed as to become harmless should they break loose from their moorings or otherwise cease to be under the affirmative control of the belligerents that laid them. The Hague rules also require that shipowners be warned of the presence of mines as soon as military exigencies permit.

Although the Hague provisions date from 1907, they remain the only codified rules specifically addressing the emplacement of conventional naval mines.¹⁵ Technological developments have created weapons systems obviously not contemplated by the drafters of these rules. Nonetheless, the general principles of law embodied in the 1907 Convention continue to serve as a guide to lawful employment of naval mines.¹⁶

9.2.1 Current Technology. Modern naval mines are versatile and variable weapons. They range from relatively unsophisticated and indiscriminate contact mines to highly technical, target-selective devices with state-of-the-art homing guidance capability. Today's mines may be armed and/or detonated by physical contact, acoustic or magnetic signature, or sensitivity to changes in water pressure generated by passing vessels and may be emplaced by air, surface, or subsurface platforms.¹⁷ For purposes of this publication, naval mines are classified as armed or controlled mines. Armed mines are either emplaced with all safety devices withdrawn, or are armed following emplacement, so as to detonate when pre-set parameters (if any) are satisfied. Controlled mines have no destructive capability until

¹³ See generally, Fleck 442-58; Green 168-69.

¹⁴ For a discussion of the background of Hague VIII see Fleck at 442.

¹⁵ 36 Stat. 2332; T.S. No. 541; 1 Bevens 669; DA Pam 27-161-2; Navy Supplement to Selected International Agreements, AFP 110-20, p. 3-10. For an excellent analysis of the Hague rules on mine warfare, see Levie, *Mine Warfare at Sea* 23-63 (1992). See also Clingan, *Submarine Mines in International Law*, 351, in Robertson.

¹⁶ *Nicaragua Military Activities Case*, 1986 I.C.J. 14, 111-12, 128-29, 147-48; 25 Int'l Leg. Mat'ls 1023, 1072, 1080-81, 1090 (paras. 213-15, 253-54, 292(7) (14-1)) (1986). See also dissenting opinion of Judge Schwebel, paras. 234-40, 25 Int'l Leg. Mat'ls 1205-07 (1986), and NWP 27-4 (Rev. B), *Mining Operations*, at 1-3 to 1-6.

¹⁷ Hartmann, *Weapons That Wait* 103-05 (1991); Levie, note 15, at 97-133.

affirmatively activated by some form of arming order (whereupon they become armed mines).¹⁸

9.2.2 Peacetime Mining. Consistent with the safety of its own citizenry, a nation may emplace both armed and controlled mines in its own internal waters at any time with or without notification. A nation may also mine its own archipelagic waters and territorial sea during peacetime when deemed necessary for national security purposes. If armed mines are emplaced in archipelagic waters or the territorial sea, appropriate international notification of the existence and location of such mines is required.¹⁹ Because the right of innocent passage can be suspended only temporarily,²⁰ armed mines must be removed or rendered harmless as soon as the security threat that prompted their emplacement has terminated. Armed mines may not be emplaced in international straits or archipelagic sea lanes during peacetime.²¹ Emplacement of controlled mines in a nation's own archipelagic waters or territorial sea is not subject to such notification or removal requirements.²²

Naval mines may not be emplaced in internal waters, territorial seas, or archipelagic waters of another nation in peacetime without that nation's consent.²³ Controlled mines may, however, be emplaced in international waters (i.e., beyond the territorial sea) if they do not unreasonably interfere with other lawful uses of the oceans. The determination of what constitutes an "unreasonable interference" involves a balancing of a number of factors, including the rationale for their emplacement (i.e., the self-defense requirements of the emplacing nation), the extent of the area to be mined, the hazard (if any) to other lawful ocean uses, and the duration of their emplacement. Because controlled mines do not constitute a hazard to navigation, international notice of their emplacement is not required.

¹⁸ Joint Pub. 1-02, at 35 & 89; Hartmann, note 17, at 8 & 9. NWP 27-4 (Rev. B), note 16, at 1-3 to 1-8.

¹⁹ *Corfu Channel Case (merits)*, 1949 I.C.J. 22, U.S. Naval War College, International Law Documents 1948-49, at 133 (based on "general and well-recognized principles, namely: elementary considerations of humanity, even more exacting in peace than in war; the principle of freedom of maritime communication; and every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States").

²⁰ Suspension of innocent passage is discussed in paragraph 2.3.2.3 (p. 2-10).

²¹ Commenting on the *Corfu Channel Case*, Fitzmaurice states that the I.C.J. decision authorizes the sweeping of mines unlawfully laid in an international strait if it is accomplished as "part of and incidental to the passage." Fitzmaurice, *The Law and Procedures on the International Court of Justice: General Principles and Substantive Law*, 28 Brit. Y.B. Int'l L. (1950) 1, 30-31.

²² Controlled mines pose no hazard to navigation until they are armed. Neutral territorial seas are discussed in paragraph 7.3.4 (p. 7-11).

²³ To do so would likely be regarded as a major violation of that nation's territorial integrity. The national and international reactions to the covert mining of the Gulf of Suez and the Red Sea in mid-1984, allegedly by a Libyan merchant vessel, is examined in Truver, *Mines of August: An International Whodunit*, U.S. Naval Inst. Proc., May 1985, at 94; *The Gulf of Suez Mining Crisis: Terrorism at Sea*, *id.*, Aug. 1985, at 10-11.

Armed mines may not be emplaced in international waters prior to the outbreak of armed conflict, except under the most demanding requirements of individual or collective self-defense.²⁴ Should armed mines be emplaced in international waters under such circumstances, prior notification of their location must be provided. A nation emplacing armed mines in international waters during peacetime must maintain an on-scene presence in the area sufficient to ensure that appropriate warning is provided to ships approaching the danger area. All armed mines must be expeditiously removed or rendered harmless when the imminent danger that prompted their emplacement has passed.

9.2.3 Mining During Armed Conflict. Naval mines may be lawfully employed by parties to an armed conflict subject to the following restrictions:

1. International notification of the location of emplaced mines must be made as soon as military exigencies permit.²⁵

²⁴ Thorpe, *Mine Warfare at Sea—Some Legal Aspects of the Future*, 18 *Ocean Dev. & Int'l L.* 255, 267 (1987). See also Clingan, paragraph 9.2, note 15 (p. 9-5). Self-defense is discussed in paragraph 4.3.2 (p. 4-10).

²⁵ Hague VIII, art. 3; *Corfu Channel Case*, 1949 I.C.J. 22. Such notice was not given in the covert mining of the Red Sea in 1984, or in the Persian Gulf and the Gulf of Oman in 1987. In the *Nicaragua Military Activities Case*, 1986 I.C.J. 46-48, 112, 147-48, 25 *Int'l Leg. Mat'ls* 1039-40, 1072, 1090 (paras. 76-80, 215, 292(8)) (1986), the Court decided (14-1) that the United States, "by failing to make known the existence and location of the mines laid by it [in 1984] . . . has acted in breach of its obligations under customary international law." Judge Schwebel dissented with the view that the mining of Nicaraguan ports was lawful in respect to Nicaragua, but unlawful in regard to third nations because of the failure to give official public notice "about the fact that mines would be or had been laid in specified waters." 1986 I.C.J. 378-80, 25 *Int'l Leg. Mat'ls* 1205-06 (paras. 234-240). Judge Jennings, while dissenting on other grounds, joined in subparagraph 292(8) of the Court's opinion by applying the logic of the *Corfu Channel* judgment, in which two British destroyers hit moored contact mines laid in Albanian waters, that the obligation to notify the existence of mines "for the benefit of shipping in general" is an obligation

[B]ased, not on the Hague Convention of 1907, No. VIII, which is applicable in time of war, but on certain general and well-recognized principles, namely: elementary considerations of humanity, even more exacting in peace than in war; the principle of freedom of maritime communication; and every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States (1949 I.C.J. 22).

Judge Jennings applied this law *a fortiori* to the situation where a nation lays mines in another nation's ports or port approaches and fails to notify shipping. Judge Jennings noted that "even supposing the United States were acting in legitimate self-defence, failure to notify shipping would still make the mine-laying unlawful." 1986 I.C.J. 536, 25 *Int'l Leg. Mat'ls* 1284 (1986).

The San Remo Manual, para. 83, provides that:

The laying of armed mines or the arming of pre-laid mines must be notified unless the mines can only be detonated against vessels which are military objectives.

The commentary on para. 83 in *Doswald-Beck*, at 172, indicates that the decision to omit the qualifying phrase "as soon as military exigencies permit" of Hague VIII, art. 3, was premised on the notion that it was "not justified in the light of the general requirement imposed upon belligerents to limit as much as possible the effect of hostilities." Notwithstanding the San (continued...)

2. Mines may not be emplaced by belligerents in neutral waters.²⁶

3. Anchored mines must become harmless as soon as they have broken their moorings.²⁷

4. Unanchored mines not otherwise affixed or imbedded in the bottom must become harmless within an hour after loss of control over them.²⁸

5. The location of minefields must be carefully recorded to ensure accurate notification and facilitate subsequent removal and/or deactivation.²⁹

²⁵(...continued)

Remo Manual's modern origins, it is considered that the Hague VIII, art. 3 approach continues to represent the more realistic possibility and probability of compliance. Hence adherence to the term "as soon as military exigencies permit" in paragraph 9.2.3, subparagraph 1.

²⁶ Hague XIII, arts. 1-2. This rule was not always observed by the belligerents in the Iran-Iraq war. Ships hit mines in the national waters of Kuwait and Oman, both of whom claimed neutral status. N.Y. Times, 20 July 1987, at A6, & 14 Aug. 1987, at A9. *See also* San Remo Manual, para. 86.

²⁷ Hague VIII, art. 1(2); Hartmann, paragraph 9.2.1, note 17 (p. 9-5), at 8 & 84. *Compare* San Remo Manual, para. 81. U.S. naval mines are all constructed with self-neutralizing devices. For example, the mines laid in Haiphong Harbor in 1972 were set to neutralize within six months. They exploded, thereby giving visible reminders of the existence of the minefield and the need for reseeded of the minefield. On the other hand, the anchored contact mines laid by Iran in the Tanker War (1984-88) frequently broke loose but lacking the requisite built-in mechanism to render them harmless, continued to pose a hazard to shipping.

²⁸ *See* Hague VIII, art. 1(1). Hague VIII does not include the phrase "not otherwise affixed or imbedded in the bottom" in its art. 1(1) prescription that "unanchored automatic contact mines" must become harmless within an hour after control over them is lost. However, mines so "affixed or imbedded in the bottom" do not constitute a hazard to general navigation in the sense that free-floating mines do. The San Remo Manual, para. 82, employs the term "free-floating" rather than "unanchored" in this context to the same result. *See* Doswald-Beck, at 171.

²⁹ *See* Hague VIII, art. 5; San Remo Manual, paras. 84 & 90. At the close of hostilities, each nation should remove the mines it has laid. However, each nation must remove the mines in its own waters, irrespective of the entity which laid them. The nations party to the conflict may also make other arrangements for mine clearance.

The Armistice of 1918 called upon Germany to indicate the location of naval mines. Art. XXIV of the German Armistice of 11 Nov. 1918, U.S. Naval War College, International Law Documents, 1918, at 65 ("the Allies and the United States of America shall have the right to sweep up all minefields and to destroy obstructions laid by Germany outside German territorial waters, the positions of which are to be indicated,"); art. IV, sec. 2, of the Austro-Hungarian Armistice of 3 Nov. 1918, *id.*, at 19; art. IV, sec. 2, of the appendix to the Austro-Hungarian Armistice, *id.*, at 27-28. Art. XIII of the Hungarian Armistice of 13 Nov. 1918, *id.*, at 33 (mines in the Danube); arts. II and III of Turkish Armistice of 30 Oct. 1918, *id.*, at 160. The burden of removal was, however, only pressed upon those nations according to the geographical relationship or proximity of their respective territories to mines or fields of mines which they had sown. Thus, Turkey was to assist in sweeping or to remove, as might be required, all mines and other obstructions in Turkish waters. *Id.* at 160. Hungary undertook to stop the passage of floating mines sown in the Danube upstream from the Hungarian and Austrian frontier and to remove all those actually in Hungarian waters. *Id.*, at 33. According to art. 193 of the German peace treaty (continued...)

6. Naval mines may be employed to channelize neutral shipping, but not in a manner to deny transit passage of international straits³⁰ or archipelagic sea lanes passage of archipelagic waters by such shipping.³¹

²⁹(...continued)

of Versailles of 28 June 1919, Germany undertook to sweep the mines in specified areas in the easterly portion of the North Sea, to keep those areas free from mines, and to sweep and keep free from mines such areas in the Baltic as might ultimately be notified by the Principal Allied and Associated Powers. 3 U.S.T. 3410. U.S. naval forces undertook successfully the removal of mines which they had laid in the North Sea. For an illuminating account of the accomplishment of this task, *see* Davis, *The Removal of the North Sea Mine Barrage*, 38 *National Geographic*, Feb. 1920, at 103.

According to the armistice treaties between France and Germany, of 22 June 1940, (art. IX, 34 *Am. J. Int'l L.*, *Official Documents*, at 173, 175) and France and Italy, of 24 June 1940, (arts. XII and XIII, *id.*, at 178, 181) the French Government undertook not only to report to the enemy the location of mines which it had set out, but also, if so required by the enemy, to clear away such mines. 3 *Hyde* 1946-47.

After World War II, some of the Allies (United States, France, United Kingdom and U.S.S.R.) agreed on an International Organization for the Clearance of Mines in European Waters. *Agreement on Mine Clearance in European Waters*, London, 22 Nov. 1945, 3 *Bevans* 1322. Other stipulations regarding assistance in mine clearance at the close of World War II may be found in the *Instrument of Surrender of Italy*, 29 Sep. 1943, 61 *Stat.* 2742, 2743-44, *T.I.A.S.* 1604; the *Treaty of Peace with Italy*, Paris, 10 Feb. 1947, 61 *Stat.* 1245, 1396, *T.I.A.S.* 1648, 49 *U.N.T.S.* 3, 153, and the *Declaration Regarding the Defeat of Germany and the Assumption of Supreme Authority by the Allied Powers of 5 June 1945*, 60 *Stat.* 1648, 1654, *T.I.A.S.* 1520, 68 *U.N.T.S.* 189, 198. On mine clearance in German waters and the North Sea, *see* 3 *Roskill, The War at Sea*, pt. II, at 307 & 308 (1961). On mine clearance in the Pacific, *see* *Morison, Supplement and General Index*, 15 *History of United States Naval Operations In World War II*, at 13-14 (1962).

The Protocol to the Agreement on Ending the War and Restoring Peace in Viet Nam Concerning the Removal, Permanent Deactivation, or Destruction of Mines in the Territorial Waters, Ports, Harbors, and Waterways of the Democratic Republic of Viet Nam, 27 Jan. 1973, 24 *U.S.T.* 133, *T.I.A.S.* 7542, required the United States to clear all mines it had so placed by rendering them harmless through removal, permanent deactivation, or destruction. This mine clearance operation is described in *McCauley, Operation End Sweep*, *U.S. Naval Inst. Proc.*, March 1974, at 18.

The United States and Egypt, through an exchange of notes dated 13 and 25 April 1974, agreed on an arrangement for U.S. assistance in clearing mines and unexploded ordnance from the Suez Canal, 25 *U.S.T.* 1474, *T.I.A.S.* 7882. This agreement was amended by an exchange of notes dated 6 July, 20 and 21 August, and 25 September 1975, 26 *U.S.T.* 2517, *T.I.A.S.* 8169. The Suez Canal clearance operation is described in *Boyd, Nimrod Spar: Clearing the Suez Canal*, *U.S. Naval Inst. Proc.*, Feb 1976, at 18.

On the other hand, as a matter of self-defense, the United States, United Kingdom, Belgium, France, Italy and the Netherlands conducted extended mine countermeasures in international and neutral waters of the Persian Gulf (the latter with the neutral nations' consent) from July 1987 in order to remove the interference with freedom of navigation caused by the contact mines unlawfully laid by Iran. *See* notes 26 and 27 (p. 9-8); *Friedman, World Naval Developments 1987*, *U.S. Naval Inst. Proc.*, May 1988, at 219-20; and *Friedman, Western European and NATO Navies*, *U.S. Naval Inst. Proc.*, March 1988, at 34 & 39. Following the cessation of hostilities in the 1991 Persian Gulf War, the U.N. Security Council demanded that "Iraq provide all information and assistance in identifying Iraqi mines . . . in Kuwait, in areas of Iraq . . . and in the adjacent waters." *U.N.S.C.R.* 686 (2 March 1991) *S/RES/686* (1991) *reported in* 30 *Int'l Leg. Mat'ls* 568, 569 (1991).

³⁰ *See* note 25 (p. 9-7). Transit passage is discussed in paragraph 2.3.3 (p. 2-12).

³¹ Archipelagic sea lanes passage is discussed in paragraph 2.3.4.1 (p. 2-17).

7. Naval mines may not be emplaced off the coasts and ports of the enemy with the sole objective of intercepting commercial shipping,³² but may otherwise be employed in the strategic blockade of enemy ports, coasts, and waterways.³³

³² Hague VIII, art. 2. *See also* Ronzitti, at 143; Levie, paragraph 9.2, note 15 (p. 9-5), at 32-3. France and Germany filed reservations on this article upon ratification.

³³ 1909 Declaration of London Concerning the Laws of Naval Warfare, London, 26 February 1909, *reprinted in* Schindler & Toman at 755 [hereinafter Declaration of London], arts. 1, 4 & 5. *See* paragraph 7.7 (p. 7-26) for a detailed discussion of blockade.

At one time, a blockade established exclusively by minefields was considered illegal because international law required that naval forces be present for the maintenance of an effective blockade. It has also been claimed that a blockade established by mines alone violates art. 2 of Hague VIII which prohibits the use of mines with the sole object of intercepting commercial shipping, although historically the primary purpose of a blockade has been just that.

The international acceptance of the U.S. mine blockade of Haiphong Harbor during the Vietnam conflict has established a legal precedent for blockades enforced by mines alone. (*But see* Levie, paragraph 9.2, note 15 (p. 9-5) at 144-47, 156-57.) In that instance, it was argued effectively that all *significant* requirements of blockade were established:

- First, by virtue of its status as a belligerent in the Vietnam conflict, the United States was empowered to employ blockade as a mode of coercion.

- The blockade was established pursuant to the authorization of the President of the United States, an appropriate authority from the perspective of customary international law and the only legal authority in terms of U.S. practice.

- Notice to all governments and shipping interests was assured by the President's public announcement via a letter from the U.S. representative to the President of the U.N. Security Council, notices to mariners, and by the U.S.-South Vietnamese undertaking to warn all vessels approaching the mined areas.

- An interval of three daylight periods was allowed as a grace period during which all vessels in North Vietnamese waters might exit without danger.

- The blockade was strictly limited to Vietnamese-claimed territorial seas, did not extend to preclude access to neutral ports or coasts, and did not interfere in any way with neutral shipping on the high seas.

- Impartial application of that blockade to all States was inherent in the very nature of the operation, because mines are passive instrumentalities generally incapable of discerning the nationality of the targeted platform.

- The blockade did not result in starvation of the civilian population or denial of essential foodstuffs, clothing and tonics (intended for children under 15, expectant mothers and maternity cases) or medical and hospital stores since there were overland, air and domestic sources of supply.

- And, finally, the blockade was effective, operating to close the ports of North Vietnam and contributing to a reduction in the flow of war materials from North Vietnam to South Vietnam to approximately 10 percent of its prior level.

The operation was therefore conducted in a manner compatible with traditional requirements of blockade and was permissible when judged by those criteria. Swayze, *Traditional Principles of Blockade in Recent Practice: United States Mining of Internal and Territorial Waters of North Vietnam*, 29 JAG J. 163 (1977). *Compare* Levie, paragraph 9.2, note 15 (p. 9-5) at 144-47, 153-55 who correctly notes that at the time of the mining of North Vietnamese ports in 1972, U.S. spokesmen carefully refrained from characterizing that operation as a "blockade." The 1986 I.C.J. opinion on the merits of the Nicaragua Military Activities Case did not address the legality of the use of mines as the instrumentality for enforcement of a blockade.

(continued...)

8. Mining of areas of indefinite extent in international waters is prohibited. Reasonably limited barred areas may be established by naval mines, provided neutral shipping retains an alternate route around or through such an area with reasonable assurance of safety.³⁴

9.3 LAND MINES

Land mines are munitions placed on, under, or near the ground or other surface area and designed to be detonated or exploded by the passage of time; the presence, proximity or contact of a person or vehicle; or upon command. As with all weapons, to be lawful, land mines must be directed at military objectives. The controlled nature of command detonated land mines provides effective target discrimination. In the case of non-command detonated land mines, however, there exists potential for indiscriminate injury to noncombatants.³⁵

³³(...continued)

It appears that classic arguments to the effect that only naval forces can satisfy the legal requirements of blockade can be successfully refuted by recitation of the myriad resources now available to the modern naval commander. Current warfare techniques which involve the use of radar, sonar, aircraft, and satellite information gathering appear clearly to provide for an effective blockade capability without the need to keep naval forces in the vicinity for the purpose of intercepting would-be blockade runners. Moreover, modern weapons systems now generally available to blockaded nations, including high performance aircraft, over-the-horizon missiles, and long-range artillery, render on-scene surface enforcement difficult, if not impossible, to maintain. The San Remo Manual does not include a requirement for an on-scene surface warship in a lawful blockade. Para. 97 provides that:

A blockade may be enforced and maintained by a combination of legitimate methods and means of warfare

The commentary on this provision *in* Doswald-Beck, at 178, states:

This paragraph [97] does not require the enforcement of a blockade by surface ships only. It does, however, prohibit the enforcement solely by weapons systems, such as mines, unless they are employed in such a manner as not to endanger legitimate sea-going commerce.

³⁴ The San Remo Manual, para. 80, provides:

Mines may only be used for legitimate military purposes including the denial of sea areas to the enemy.

The commentary on that para. in Doswald-Beck (at 169) states:

The obligation to use mines for legitimate military purposes logically flows from rules of international humanitarian law. Participants [in the San Remo Manual drafting process] deemed reaffirmation of the rule in specific relation to naval mining to be useful in order to establish unequivocally that indiscriminate mining practices on the high seas are unlawful.

See also Thorpe, paragraph 9.2.3, note 24 (p. 9-7), at 265. In the Persian Gulf war on 21 September 1987, the Iranian naval vessel IRAN AJR was captured by U.S. forces in the act of laying mines in the international shipping lanes without notice. Presidential letter of 24 Sep. 1987, 23 Weekly Comp. Pres. Docs. 1066 (1987); Elliott, *The Navy in 1987*, U.S. Naval Inst. Proc., May 1988, at 146-47. *See also* the U.S. response to Iranian mining that severely damaged USS SAMUEL B. ROBERTS on 14 April 1988 discussed at paragraph 8.5.2, note 126 (p. 8-28).

³⁵ *See* Arms Project of Human Rights Watch/Physicians for Human Rights, *Landmines: A Deadly Legacy* (1993).

Accordingly, special care must be taken when employing land mines to ensure noncombatants are not indiscriminately injured.³⁶ International law requires that, to the extent possible,

³⁶ The 1980 Conventional Weapons Convention (*see* paragraph 5.4.2 and note 36 thereto (pp. 5-10 & 5-15)) is an umbrella treaty which originally had three supporting protocols - nondetectable fragments (Protocol I), mines and booby-traps (Protocol II), and incendiary weapons (Protocol III). The United States became a party to the Convention, and to Protocols I and II, on 24 September 1995. Protocol II, entitled Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, is the first treaty to specifically address the employment of land mines.

The law of land mine warfare and the implications of Protocol II are discussed *in* Fenrick, paragraph 9.1.1, note 8 (p. 9-4), at 242-45; Schmidt, *id.*, at 312-22, 329-38; Carnahan, *The Law of Land Mine Warfare: Protocol II to the United Nations Convention on Certain Conventional Weapons*, 105 *Mil. L. Rev.* 73 (1984); Greenspan, *The Modern Law of Land Warfare*, 362-63 (1959); Rogers, *A Commentary on the Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices*, 26 *Mil. L. & L. of War Rev.* 185 (1987); Green at 132-34, 186 and 337; and Levie, *Prohibitions and Restrictions on the Use of Conventional Weapons*, 68 *St. Johns L. Rev.* 643 (1994), *reprinted in* Schmitt & Green at chap. XVIII.

The Law of land mine warfare is undergoing substantial evolutionary change. At the First Review Conference on the Conventional Weapons Convention (September 1995-May 1996), Protocol II was substantially amended to restrict the use and transfer of mines lacking self-destruction/self-deactivation capability. (Protocol II, as amended, is *reprinted in* 35 *Int'l Leg. Mat'ls* 1206 (1996)).

On 7 January 1997, President Clinton transmitted Protocol II (as amended) to the Senate for its advice and consent to ratification. Letter of Transmittal, 7 Jan. 1997, *see* Annex A9-1 (p. 9-19). The amended Protocol accomplishes six principal purposes:

- a. It expands the application of Protocol II to internal armed conflicts (art. 1(2));
- b. It requires that all remotely delivered anti-personnel land mines be equipped with self-destruction devices and backup self-deactivation devices (art. 6(3));
- c. It mandates that all nonremotely delivered anti-personnel land mines not so equipped be used only within controlled and marked perimeters (art. 5(2)(a));
- d. It requires all anti-personnel land mines to contain the equivalent of 8 grams of iron to ensure detectability (art. 4; Technical Annex, para. 2);
- e. It imposes upon the party laying the mines responsibility to ensure against their irresponsible and indiscriminate use (art. 14) and to clear, remove or destroy them without delay upon the cessation of active hostilities, or to maintain them within a marked and monitored area (art. 10); and
- f. It provides means for more effective compliance (art. 14).

See also the article-by-article analysis of Protocol II, as amended, *in* the State Department Letter of Submittal of 7 December 1996 *attached to* Senate Treaty Doc. 105-1; Matheson, *Current Developments, The Revision of the Mines Protocol*, 91 *Am. J. Int'l L.* 158 (1997).

Claymore mines employed in a command-detonated mode do not fall within the proscriptions of Protocol II, as amended. Letter of Submittal, *id.*, at 7. Claymore mines may be employed in a trip-wired mode provided they are located in the immediate vicinity of the military unit that emplaced them and that the area of their emplacement is monitored to ensure effective exclusion of civilians. *Id.*, at 23.

The 7 January 1997 Letter of Transmittal also renewed President Clinton's commitment to seek international acceptance of a total prohibition of anti-personnel land mines. President Clinton had first announced his commitment to that end on 16 May 1996. (That announcement also established a unilateral commitment to immediately suspend use of all non-self-destructing
(continued...))

belligerents record the location of all minefields in order to facilitate their removal upon the

³⁶(...continued)

anti-personnel land mines and to destroy existing stocks of such weapons by 1 January 2000. Anti-personnel land mines currently in place in Korea were excepted from this policy pronouncement.) White House Press Release, May 16, 1996. This was followed by a resolution in the U.N. General Assembly on 10 December 1996 urging all nations to pursue a total ban on all anti-personnel land mines. U.N.G.A. Res. 51/45S (10 Dec. 1996).

On 17 January 1997, President Clinton announced that the United States had unilaterally established a permanent ban on the "export and transfer of anti-personnel land mines. (White House Press Release, Jan. 17, 1997).

On 20 January 1997, at the opening of the 1997 session of the Conference on Disarmament in Geneva, the United States "began to work with the other [61] member nations to initiate negotiations on a comprehensive, global agreement to ban [anti-personnel land mines]." (White House Press Release, May 16, 1997.) On 18 August 1997, President Clinton announced that the United States would participate in the Canadian-led effort (the so-called "Ottawa process") outside of the Conference on Disarmament process to achieve a total ban on anti-personnel land mines, but would propose provisions to preserve the right to continue their use in Korea and in conjunction with the emplacement of anti-tank/anti-vehicle mines. (White House Press Release, Aug. 18, 1997; Graham, U.S. to Join Canadian-Led Talks on Land Mine Ban, With Reservations, Wash. Post, 19 Aug. 1997 at 1/4.) U.S. efforts to amend the draft "Ottawa process" treaty were unsuccessful. Bonner, Land Mine Treaty Takes Final Form Over U.S. Dissent, N.Y. Times, 18 Sep. 1997 at 1. Accordingly, President Clinton announced on 17 September 1997 that the U.S. would not sign the total ban treaty. Wilson, Clinton Declines to Sign Treaty to Ban Anti-Personnel Land Mines, Army Times, 6 Oct. 1997 at 32.

The Senior Military Leadership of the United States has cautioned that unilateral U.S. adherence to a total abolition of all anti-personnel land mines "will unnecessarily endanger U.S. military forces and significantly restrict the ability to conduct combat operations successfully." Letter to the Chairman, Senate Armed Services Committee, from the Joint Chiefs/Unified Combatant Commanders, of 14 July 1997. That letter, written in response to proposed legislation which would permanently restrict the use of funds for new deployment of anti-personnel land mines commencing in the year 2000, included the following observations:

We share the world's concern about the growing humanitarian problem related to the indiscriminate and irresponsible use of a lawful weapon, non-self-destructing APL [anti-personnel land mines]. In fact, we have banned non self-destructing ("dumb") APL, except for Korea. We support the President's APL policy which has started us on the road to ending our reliance on any anti-personnel land mines. Having taken a great step toward the elimination of APL, we must, at this time, retain the use of self-destructing APL in order to minimize the risk to US soldiers and marines in combat. However, we are ready to ban all APL when the major producers and suppliers ban theirs or when an alternative is available.

Land mines are a "combat multiplier" for US land forces, especially since the dramatic reduction of the force structure. Self-destructing land mines greatly enhance the ability to shape the battlefield, protect unit flanks, and maximize the effects of other weapons systems. Self-destructing land mines are particularly important to the protection of early entry and light forces, which must be prepared to fight outnumbered during the initial stages of a deployment.

. . . .

We request that you critically review the new APL legislation and take appropriate action to ensure maximum protection for our soldiers and marines who carry out national security policy at grave personal risk. Until the United States has a capable replacement for self-destructing APL, maximum flexibility and warfighting capability for American combat commanders must be preserved. The lives of our sons and daughters should be given the highest priority when deciding whether or not to ban unilaterally the use of self-destructing APL.

cessation of hostilities.³⁷ It is the practice of the United States to record the location of minefields in all circumstances.

9.4 TORPEDOES

Torpedoes which do not become harmless when they have missed their mark constitute a danger to innocent shipping and are therefore unlawful.³⁸ All U.S. Navy torpedoes are designed to sink to the bottom and become harmless upon completion of their propulsion run.³⁹

9.5 CLUSTER AND FRAGMENTATION WEAPONS

Cluster and fragmentation weapons are projectiles, bombs, missiles, submunitions, and grenades that are designed to fragment upon detonation, thereby expanding the radius of their lethality and destructiveness. These weapons are lawful when used against combatants. When used in proximity to noncombatants or civilian objects, their employment should be carefully monitored to ensure that collateral damage and incidental injury is not excessive in relation to the legitimate military advantage sought.⁴⁰

³⁷ Art. 7 and the Technical Annex of the original text of Protocol II of the Conventional Weapons Convention required nations that are parties thereto to record the location of all pre-planned minefields and to endeavor to ensure the recording of the location of all other minefields. This is the practice of many States; however, it is uncertain whether this burden will prove too onerous to be practicable for some States. *See* Levie, *The Code of International Armed Conflict*, 146-47 (1986) in which he notes that it remains to be seen whether States will be able to comply with the Convention's detailed recording requirements. Art. 9 and the Technical Annex of Protocol II, as amended, continues this obligation to record the location of emplaced mines.

³⁸ Hague VIII, art. 1(3). *See also* Fleck, at 458. The San Remo Manual, para. 79, provides:

It is prohibited to use torpedoes which do not sink or otherwise become harmless when they have completed their run.

³⁹ Submarine Torpedo Defense Manual (U), NWP 72-1 (Rev. A), vol. I, Mark 48 Torpedo, at 2-9 (1987).

⁴⁰ *Compare* paragraph 8.1.2.1 (p. 8-4). Attempts to restrict further their use have failed. *See* Schmidt, paragraph 9.1.1, note 8 (p. 9-4), at 294 & n. 96.

9.6 BOOBY TRAPS AND OTHER DELAYED ACTION DEVICES

Booby traps and other delayed action devices are not unlawful, provided they are not designed to cause unnecessary suffering or employed in an indiscriminate manner.⁴¹ Devices that are designed to simulate items likely to attract and injure noncombatants (e.g., toys and trinkets) are prohibited.⁴² Attaching booby traps to protected persons or objects, such as the wounded and sick, dead bodies, or medical facilities and supplies, is similarly prohibited.⁴³ Belligerents are required to record the location of booby traps and other delayed action devices in the same manner as land mines (see paragraph 9.3).

9.7 INCENDIARY WEAPONS

Incendiary devices, such as tracer ammunition, thermite bombs, flame throwers, napalm, and other incendiary weapons and agents, are lawful weapons. Where incendiary devices are the weapons of choice, they should be employed in a manner that does not cause incidental injury or collateral damage that is excessive in light of the military advantage anticipated by the attack.⁴⁴

⁴¹ Protocol II to the Conventional Weapons Conventions (*see* paragraph 9.3, note 36 (p. 9-12)), as its title (Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices) states, also regulates booby-traps and other delayed actions devices. However, such devices are not prohibited when directed against enemy military personnel.

⁴² *Id.* Art. 6 of the original text of Protocol II (art. 7 of the amended text) specifically prohibits the use of such devices.

⁴³ Fenrick, paragraph 9.1.1, note 8 (p. 9-4), at 245; Carnahan, paragraph 9.3, note 36 (p. 9-12), at 89-93; Schmidt, paragraph 9.1.1, note 8 (p. 9-4), at 323-29; Rogers, paragraph 9.3, note 36 (p. 9-12), at 198-200; and Green 132-33.

⁴⁴ The Conventional Weapons Convention Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III), *reprinted in* 19 Int'l Leg. Mat'ls 1534 (1980), AFP 110-20, at 3-182 [hereinafter Protocol III] applies to incendiary weapons the general principle, reaffirmed in GP I, that civilians should not be subject to attack. It places severe restrictions on attacks on military objectives located within a concentration of civilians and particularly by prohibiting completely any attacks by aurally delivered "fire bombs," such as the thermite bombs used in World War II, and napalm on such objectives. Green, 133-34; Parks, *The Protocol on Incendiary Weapons*, 279 Int'l Rev. Red Cross 535 (1990); Levie, paragraph 9.3, note 36 (p. 9-12).

Protocol III extends the traditional rule of proportionality to prohibit the use of ground-to-ground incendiaries against any military objective unless it is clearly separated from a concentration of civilians and all feasible precautions are taken to limit the incendiary effects to the military objective and to minimize collateral damage. It also specifically prohibits incendiary attacks on forests or other plant cover except when those conceal, cover or camouflage combatants or other military objectives, or are themselves military objectives.

Incendiary weapons, as defined in art. 1 of Protocol III, do not include munitions which have incidental incendiary effects, such as illuminants, tracers, signalling flares, *etc.*, or munitions designed to combine an incendiary effect with penetration, blast or fragmenting effects, such as armor-piercing rounds, *etc.*, which are designed for use against tanks, aircraft, *etc.*, and are not intended to cause burn injuries to personnel.

(continued...)

9.8 DIRECTED ENERGY DEVICES

Directed energy devices, which include laser, high-powered microwave, and particle beam devices, are not proscribed by the law of armed conflict. Lasers may be employed as a rangefinder or for target acquisition, with the possibility of ancillary injury to enemy

⁴⁴(...continued)

The United States did not ratify Protocol III in 1995 when it became party to the Conventional Weapons Convention and Protocols I and II. *See* paragraph 5.4.2 and note 36 thereto (pp. 5-10 & 5-15)). However, President Clinton included a request for advice and consent of the Senate to ratification of Protocol III (subject to a reservation) in his Transmittal Letter of 7 January 1997. Paragraph 9.3, note 36 (p. 9-12) and Annex A9-1 (p. 9-19). The proposed reservation would allow employment of incendiary weapons, whether air-to-ground or ground-to-ground, against military objectives located in concentrations of civilians where it is judged that such use would cause fewer casualties and less collateral damage than alternate weapons. (For example, incendiary weapons are the only means which can effectively destroy "biological weapons facilities which require high heat to eliminate bio-toxins." Resort to high explosive munitions against such targets "would risk widespread release of dangerous contaminants with potentially disastrous consequences for the civilian population." State Department Letter of Submittal (*see* paragraph 9.3, note 36 (p. 9-12)) at 39.

personnel, or directly against combatants as an antipersonnel weapon.⁴⁵ Their use does not violate the prohibition against the infliction of unnecessary suffering.⁴⁶

⁴⁵ This statement is no longer completely accurate with respect to antipersonnel weapons. There have been various efforts over the years to prohibit the use of lasers as antipersonnel weapons, *e.g.*, at the 1974-1977 Diplomatic Conference in Geneva which produced GP I and II, the 1978-1980 United Nations Conference on Certain Conventional Weapons, also in Geneva, and by Sweden and Switzerland at the 1986 International Conference of the Red Cross. *See* Robertson, paragraph 9.1, note 1 (p. 9-1), at 374-77. These efforts culminated in developments at the First Review Conference on the Conventional Weapons Convention (September 1995-May 1996) which, in addition to adopting substantial changes to Protocol II (Mines, Booby-Traps, *etc.*) (*see* paragraph 9.3, note 36 (p. 9-12)), also adopted a new protocol on lasers. Entitled Protocol on Blinding Laser Weapons (Protocol IV), *reprinted in* 35 Int'l Leg. Mat'ls 1218 (1996) [hereinafter Protocol IV], Protocol IV prohibits the use or transfer of laser weapons specifically designed to cause blindness to unenhanced vision (*e.g.*, to the naked eye or to the eye with corrective eyesight devices). While blinding as an incidental effect of "legitimate military employment" of range finding or target acquisition lasers is not prohibited by Protocol IV (*see* art. 3), parties thereto are obligated "to take all feasible precautions" to avoid such injuries. *Id.*, art. 2.

President Clinton transmitted Protocol IV to the Senate for its advice and consent to ratification as part of his Transmittal Letter of 7 January 1997. *See* paragraph 9.3, note 36 (p. 9-12) and Annex A9-1 (p. 9-19). *See also* the article-by-article analysis of Protocol IV in the State Department Letter of Submittal of 7 December 1996 *attached to* Senate Treaty Doc. 105-1. For a comprehensive discussion of Protocol IV *see* Army JAG Memo, DAJA-IO (27-1a) of 20 December 1996, *Travaux Préparatoires* and Legal Analysis of Blinding Laser Weapons Protocol, *reprinted in* The Army Lawyer, Jun 1997, at 33. *See also* Carnahan, Unnecessary Suffering, The Red Cross and Tactical Laser Weapons, 18 Loy. L.A. Int'l & Comp. L.J. 705 (1996); Carnahan & Robertson, Current Development: The Protocol on "Blinding Laser Weapons": A New Direction for International Humanitarian Law, 90 Am. J. Int'l L. 484 (1996).

On 17 January 1997, the Secretary of Defense promulgated the following guidance on blinding lasers:

The Department of Defense prohibits the use of lasers specifically designed to cause permanent blindness and supports negotiations to prohibit the use of such weapons. However, laser systems are absolutely vital to our modern military. Among other things, they are currently used for detection, targeting, range-finding, communications and target destruction. They provide a critical technological edge to US forces and allow our forces to fight, win and survive on an increasingly lethal battlefield. In addition, lasers provide significant humanitarian benefits. They allow weapon systems to be increasingly discriminate, thereby reducing collateral damage to civilian lives and property. The Department of Defense recognizes that accidental or incidental eye injuries may occur on the battlefield as the result of the use of lasers not specifically designed to cause permanent blindness. Therefore, we continue to strive, through training and doctrine, to minimize these injuries.

SECDEF Memo U00888/97, DOD Policy on Blinding Lasers, 17 Jan 1997.

⁴⁶ In reviewing the legality of lasers as antipersonnel weapons, the Judge Advocate General of the Army in 1988 noted that the most severe effects on personnel produced by lasers were blindness, temporary and permanent, and severe skin burns. He observed that neither blindness nor permanent disablement on the battlefield are unique to laser weapons and concluded that their use "would not cause unnecessary suffering" when compared to other wounding mechanisms and therefore "the use of antipersonnel laser weapons is lawful." Army JAG Memo on Use of Lasers as Antipersonnel Weapons, 29 Sept. 1988, *reprinted in* The Army Lawyer, Nov. 1988 (DA PAM 27-50-191), at p. 3.

9.9 OVER-THE-HORIZON WEAPONS SYSTEMS

Missiles and projectiles with over-the-horizon or beyond-visual-range capabilities are lawful, provided they are equipped with sensors, or are employed in conjunction with external sources of targeting data, that are sufficient to ensure effective target discrimination.⁴⁷

⁴⁷ The legal standards for "effective target discrimination" are set forth in paragraph 9.1.2 (indiscriminate effect) (p. 9-4). Nations possessing OTH/BVR weapons are not required to use them in lieu of unguided weapons. Parks, *Submarine-Launched Cruise Missiles and International Law: A Response*, U.S. Naval Inst. Proc., Sept. 1977, at 122-23; O'Connell, *The Legality of Naval Cruise Missiles*, 66 Am. J. Int'l L. 785, 793 (1972). Cf. Digby, *Precision-Guided Weapons*, Adelphi Paper No. 118 (International Institute for Strategic Studies 1975); Walker, *Precision-Guided Weapons*, 245 Scientific American, Aug. 1981, at 37-45; 2 O'Connell 1131. See also Robertson, paragraph 9.1, note 1 (p. 9-1), at pp. 371-72.

On 17 May 1987, an Iraqi Mirage F-1 attacked USS STARK (FFG-31) in the Persian Gulf northeast of Bahrain with two Exocet missiles without first identifying the ship as a legitimate target. Apparently through navigational error, the Iraqi pilot thought USS STARK was located within the Iranian-declared war zone of the Persian Gulf, a zone avoided by neutral and other protected shipping. The Iraqi pilot followed standard Iraqi policy and fired at that target believed to be within the Iranian war zone providing the largest radar return. House Armed Services Comm. Report on the Staff Investigation into the Iraqi Attack on the USS *Stark*, 14 June 1987, at 8; Vlahos, *The Stark Report*, U.S. Naval Inst. Proc., May 1988, at 64-67. Iraq accepted responsibility for the erroneous attack. 26 Int'l Leg. Mat'ls 1427-1428 (1987). See also paragraph 6.2, note 21 (p. 6-9).

The "Scud" missiles employed by Iraq during the 1991 Persian Gulf War were the Iraqi "Al Hussein" variant of the Soviet SS-1 "Scud-B" SRBM (Short-Range Ballistic Missile). These missiles, with a range of up to 650km and a 500kg warhead, rely on a simple "strapdown" inertial guidance system. Lacking active radar terminal guidance, Scud-B has a CEP (Circular Error Probable) of approximately 500 yds. Jane's Strategic Weapon Systems, "Iraq: Offensive Weapons" & "USSR: Offensive Weapons," (Lennox ed., 1990); *The Illustrated Directory of Modern Soviet Weapons*, at 89, (Bonds ed., 1986). Unlike the German V-1 and V-2 rockets of World War II, which lacked on-board sensors and were employed without sufficient external sources of targeting information to ensure a reasonable level of targeting discrimination, the Scud-B is fully capable of being employed lawfully. However, Iraq's indiscriminate Scud-B missile attacks during the 1991 Persian Gulf War, which caused unnecessary destruction of Saudi Arabian and Israeli civilian property, were war crimes in violation of HR, art. 23(g). Title V Report, 0-623.

PROTOCOLS TO THE 1980
CONVENTIONAL WEAPONS CONVENTION

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

PROTOCOLS TO THE 1980 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: THE AMENDED PROTOCOL ON PROHIBITIONS OR RESTRICTIONS ON THE USE OF MINES, BOOBY-TRAPS AND OTHER DEVICES (PROTOCOL II OR THE AMENDED MINES PROTOCOL); THE PROTOCOL ON PROHIBITIONS OR RESTRICTIONS ON THE USE OF INCENDIARY WEAPONS (PROTOCOL III OR THE INCENDIARY WEAPONS PROTOCOL); AND THE PROTOCOL ON BLINDING LASER WEAPONS (PROTOCOL IV)

JANUARY 7, 1997.—Protocols were read the first time and, together with the accompanying papers, referred to the Committee on Foreign Relations and ordered to be printed for the use of the Senate

LETTER OF TRANSMITTAL

THE WHITE HOUSE, *January 7, 1997.*

To the Senate of the United States:

I transmit herewith, for the advice and consent of the Senate to ratification, the following Protocols to the 1980 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: the amended Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices (Protocol II or the amended Mines Protocol); the Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III or the Incendiary Weapons Protocol); and the Protocol on Blinding Laser Weapons (Protocol IV). Also transmitted for the information of the Senate is the report of the Department of State with respect to these Protocols, together with article-by-article analyses.

The most important of these Protocols is the amended Mines Protocol. It is an essential step forward in dealing with the problem of anti-personnel landmines (APL) and in minimizing the very severe casualties to civilians that have resulted from their use. It is an important precursor to the total prohibition of these weapons that the United States seeks.

Among other things, the amended Mines Protocol will do the following: (1) expand the scope of the original Protocol to include internal armed conflicts, where most civilian mine casualties have occurred; (2) require that all remotely delivered anti-personnel mines be equipped with self-destruct devices and backup self-deactivation features to ensure that they do not pose a long-term threat to civilians; (3) require that all nonremotely delivered anti-personnel mines that are not equipped with such devices be used only within controlled, marked, and monitored minefields to protect the civilian population in the area; (4) require that all anti-personnel mines be detectable using commonly available technology to make the task of mine clearance easier and safer; (5) require that the party laying mines assume responsibility for them to ensure against their irresponsible and indiscriminate use; and (6) provide more effective means for dealing with compliance problems to ensure that these restrictions are actually observed. These objectives were all endorsed by the Senate in its Resolution of Ratification of the Convention in March 1995.

The amended Mines Protocol was not as strong as we would have preferred. In particular, its provisions on verification and compliance are not as rigorous as we had proposed, and the transition periods allowed for the conversion or elimination of certain noncompliant mines are longer than we thought necessary. We shall pursue these issues in the regular meetings that the amended Protocol provides for review of its operation.

Nonetheless, I am convinced that this amended Protocol will, if generally adhered to, save many lives and prevent many tragic injuries. It will, as well, help to prepare the ground for the total prohibition of anti-personnel landmines to which the United States is committed. In this regard, I cannot overemphasize how seriously the United States takes the goal of eliminating APL entirely. The carnage and devastation caused by anti-personnel landmines—the hidden killers that murder and maim more than 25,000 people every year—must end.

On May 16, 1996, I launched an international effort to this end. This initiative sets out a concrete path to a global ban on anti-personnel landmines and is one of my top arms control priorities. At the same time, the policy recognizes that the United States had international commitments and responsibilities that must be taken into account in any negotiations on a total ban. As our work on this initiative progresses, we will continue to consult with the Congress.

The second of these Protocols—the Protocol on Incendiary Weapons—is a part of the original Convention but was not sent to the Senate for advice and consent with the other 1980 Protocols in 1994 because of concerns about the acceptability of the Protocol from a military point of view. Incendiary weapons have significant potential military value, particularly with respect to flammable military targets that cannot so readily be destroyed with conventional explosives.

At the same time, these weapons can be misused in a manner that could cause heavy civilian casualties. In particular, the Protocol prohibits the use of air-delivered incendiary weapons against targets located in a city, town, village, or other concentration of civilians, a practice that caused very heavy civilian casualties in past conflicts.

The executive branch has given very careful study to the Incendiaries Protocol and has developed a reservation that would, in our view, make it acceptable from a broader national security perspective. This proposed reservation, the text of which appears in the report of the Department of State, would reserve the right to use incendiaries against military objectives located in concentrations of civilians where it is judged that such use would cause fewer casualties and less collateral damage than alternative weapons.

The third of these Protocols—the new Protocol on Blinding Lasers—prohibits the use or transfer of laser weapons specifically designed to cause permanent blindness to unenhanced vision (that is, to the naked eye or to the eye with corrective devices). The Protocol also requires Parties to take all feasible precautions in the employment of other laser systems to avoid the incidence of such blindness.

These blinding lasers are not needed by our military forces. They are potential weapons of the future, and the United States is committed to preventing their emergence and use. The United States supports the adoption of this new Protocol.

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I recommend that the Senate give its early and favorable consideration to these Protocols and give its advice and consent to ratification, subject to the conditions described in the accompanying report of the Department of State. The prompt ratification of the amended Mines Protocol is particularly important, so that the United States can continue its position of leadership in the effort to deal with the humanitarian catastrophe of irresponsible landmine use.

WILLIAM J. CLINTON.