

# Joint Service Combat Shotgun Program

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## Introduction

There is a long history of the use of shotguns in combat. But in the closing days of World War I, Germany objected to the U.S. use of shotguns, claiming their use violated the law of war. Although the German claim was promptly rejected by the United States, questions about the legality of shotguns persisted. This article<sup>1</sup> sets forth the history of the combat use of shotguns, the 1918 German protest and U.S. response, and an analysis of the issue in contemporary terms. The memorandum of law upon which this article is based was coordinated with the other services, Army and DOD General Counsel, and the Department of State, and it reaffirms the legality of the shotgun for combat use.

## The Requirement for a Legal Review

Various regulations require a legal review for all weapons which will be procured to meet a military requirement of the armed forces of the United States.<sup>2</sup> The purpose of the legal review is to ensure that the intended use of each weapon, weapon system, or munition is consistent with customary international law and the international law obligations of the United States, including law of war treaties and arms control agreements to which the United States is a party. Accordingly, the commander of the United States Marine Corps Systems Command requested a joint legal review of the Joint Service Combat Shotgun program by the Offices of the Judge Advocate Generals of the Army, Navy, and Air Force.

## The Program

The Joint Service Combat Shotgun (Combat Shotgun) is a joint program to select and field a lightweight, semiautomatic, 12-gauge shotgun to replace pump action shotguns currently in use by each of the military services. The Marine Corps is acting

as the lead service for the program, and the U.S. Army, Navy, Air Force, and Coast Guard are the participating services. The Joint Service Small Arms Program office conducts general oversight of the program and provides research, development, testing, and evaluation funding to support the procurement effort. The commander of the Marine Corps Systems Command has been designated as the Milestone Decision Authority for the program.

The Combat Shotgun to be procured and fielded will be required to satisfy the following operational and physical requirements described in the Joint Operational Requirement Document and further amplified in the contract Purchase Description:

- (1) Capable of semiautomatic operation.
- (2) Capable of firing both standard Department of Defense (DOD) 2.75-inch, 12-gauge No. 00 buckshot, No. 7 1/2 shot, No. 9 shot, and slug ammunition,<sup>3</sup> and 3.0-inch 12-gauge commercial ammunition conforming to Sporting Arms and Ammunition Manufacturers' Institute (SAAMI) standards without adjustment to the operating system. The Marine Corps Systems Command is unaware of any DOD acquisition programs to procure and type classify 3.0-inch, 12-gauge ammunition for use by DOD components.<sup>4</sup>
- (3) Have a maximum effective range of forty meters (fifty meters desired) with the DOD standard 2.75-inch No. 00 buckshot ammunition, and 100 meters (125 meters desired) with slug ammunition.
- (4) Have a length of 41.75 inches or less and be capable of being reconfigured to, and be operated at a length of, 36 inches or less.
- (5) Weigh no more than 8.5 pounds (six pounds desired) unloaded.

1. This article is derived from the author's legal review, dated 24 January 1997, of the Joint Service Combat Shotgun Program, which he wrote for The Judge Advocate General, U.S. Army.

2. U.S. DEP'T OF DEFENSE, DIR. 5000.1, DEFENSE ACQUISITION (15 Mar. 1996) [hereinafter DOD DIR. 5000.1]; U.S. DEP'T OF ARMY, REG. 27-53, REVIEW OF LEGALITY OF WEAPONS UNDER INTERNATIONAL LAW (1 Jan. 1979); U.S. DEP'T OF NAVY, SECRETARY OF THE NAVY INSTR. 5711.8A, REVIEW OF LEGALITY OF WEAPONS UNDER INTERNATIONAL LAW (29 Jan. 1988); U.S. DEP'T OF AIR FORCE, INSTR. 51-402, WEAPONS REVIEW (13 May 1994).

3. The 12-gauge door-breaching cartridge was the subject of a coordinated review that approved that round. Shotgun slug ammunition, an antimateriel munition, will be the subject of a separate review.

4. Memorandum, Commander, Marine Corps Systems Command, subject: Joint Service Combat Shotgun Program, Request for Legal Review (13 Sept. 1996).

(6) Be equipped with Low Light Level iron sights and a standard U.S. Military accessory mounting rail integral to the upper receiver, to permit use of other sight enhancement devices.

The Combat Shotgun will be employed by personnel in each of the armed services in international armed conflict, internal armed conflict, and military operations other than war and will be used for missions to include the execution of security/interior guard operations, rear area security operations, guarding prisoners of war, raids, ambushes, military operations in urban terrain, and selected special operations.

### History<sup>5</sup>

As history constitutes State practice, consideration of the legality of the Combat Shotgun requires a summary of the history of the military use of shotguns and related legal issues.

The military history of the shotgun dates to the middle of the sixteenth century, when the blunderbuss was invented in Germany and the smoothbore Birding Piece or Long Fowler was developed in England. While the latter was developed for hunting, the former was a close-range, antipersonnel weapon from the outset. The dual use—for hunting and personal protection—and greater range of the Long Fowler caused it to survive and to flourish as the blunderbuss began to wane in the first quarter of the nineteenth century.

The blunderbuss saw considerable use by British, European, and American military forces before its ultimate demise. Austrian, Prussian, and British regiments were equipped with the blunderbuss; for example, British General Sir John Burgoyne raised a Light Dragoon Regiment in 1781 equipped with the blunderbuss. Navies employed the blunderbuss as a weapon for repelling boarding parties. The blunderbuss and the shotgun established the character of the modern military shotgun: a multiple-projectile weapon for close-range combat. Development of the high-velocity, small-caliber rifle which possesses greater range and accuracy, resulted in an initial decline in the use of the shotgun in combat, a trend which began to reverse in World War I. There is no known evidence that shotgun use in combat diminished because of a question as to its legality.<sup>6</sup>

The combat shotgun or military rifle with a shotgun-type munition continued to be used in the United States. In the American Revolution, General George Washington encouraged his troops to load their muskets with “buck and ball,” a load

consisting of one standard musket ball and three to six buckshot, in order to increase the probability of achieving a hit. In the subsequent Seminole Indian Wars in Florida (1815-1845), buck-and-ball was standard issue for military muskets.

As the buck-and-ball round slowly succumbed to improvements in small arms technology that brought greater rifle accuracy, the shotgun remained in military use. Texans made effective use of the shotgun in their unsuccessful defense of the Alamo (6 March 1836) and their defeat of the Mexican Army forces of General Santa Anna in the battle of San Jacinto six weeks later. In the subsequent war with Mexico in 1846, Marine Corps Major Levi Twiggs employed a shotgun, reportedly with good effect, during the Marine Corps' march from Vera Cruz to Mexico City. During the American Civil War, .58- and .69-caliber smoothbore rifles using buck-and-ball, and shotguns, were used in combat by Union and Confederate forces, primarily by cavalry units. For example, the shotgun was a preferred weapon for the Confederate cavalry commanded by General Nathan Bedford Forrest, who readily saw its value for close-quarter combat. United States Cavalry units subsequently employed shotguns during the Indian wars between 1866 and 1891.

Shotguns were employed by United States Army and Marine Corps units during the insurrection that raged in the Philippines from 1899 to 1914, and by Brigadier General John Pershing in the 1916 punitive expedition into Mexico in pursuit of Pancho Villa. When World War I entered its stalemated trench warfare phase, both French and British High Commands considered, but rejected, the use of double-barreled shotguns in trench defense. The rejection of their use was not due to any questions as to their legality, but was due to the perceived ineffectiveness of their light bird shot loads and, undoubtedly, the requirement for and difficulty of frequent, quick reloading of a double-barreled shotgun in close combat. When the United States entered World War I in 1917, General Pershing was placed in command of the American Expeditionary Forces (AEF). General Pershing's forces employed 12-gauge repeating (pump action) shotguns, loaded with six No. 00 buckshot shells, for close-range defensive fires against enemy infantry assaults, trench raids, and assaults on enemy trenches and machine gun positions.

The highly-effective use of the shotgun by United States forces had a telling effect on the morale of front-line German troops. On 19 September 1918, the German government issued a diplomatic protest against the American use of shotguns, alleging that the shotgun was prohibited by the law of war.<sup>7</sup> After careful consideration and review of the applicable law by The Judge Advocate General of the Army, Secretary of State

5. The primary source for this historical section is Thomas F. Swearingen's authoritative source on the subject. THOMAS F. SWEARENGEN, *THE WORLD'S FIGHTING SHOTGUNS* (1978); see also Paul B. Jenkins, *Trench Shotguns of the AEF*, *THE AM. RIFLEMAN*, Nov. 1935, at 14-15, 22; Howard M. Madaus, *The Use of the Percussion Shotgun in Texas Prior to and During the American Civil War, 1861-1865*, *ARMAX*, at 133-172 (1995).

6. The 1918 German protest and the language of its present law of war manual are discussed *infra*.

7. The German protest and U.S. response are discussed in greater detail *infra*.

Robert Lansing rejected the German protest in a formal note. This is the only known occasion in which the legality of actual combat use of the shotgun has been raised.

Shotguns were employed by Allied-supported partisans and guerrillas in Europe and Asia during World War II, and by the United States Army and Marine Corps in the Pacific and China-Burma-India (CBI) theaters. The short range of the shotgun made it of limited value for conventional forces in the open European battlefields, but its close-range effectiveness made it invaluable in the dense jungle battlefields of the Pacific and CBI theaters. Shotguns were employed in combat in the Korean War, primarily for command post security and close-range protection for machine-gun positions. Human-wave attacks by North Korean and Chinese forces led to the development of the Claymore mine, a multiple-fragmentation antipersonnel munition that performs like a shotgun in its directed dispersion of fragments.

In the post-World War II insurgency/counterinsurgency era, shotguns were employed by guerrilla and military forces in virtually every conflict in sub-Sahara Africa, Latin and South America, and Southeast Asia. In their successful counterinsurgency campaign in Malaya (1948-1959), British forces employed shotguns in jungle operations, as did British, Australian, and New Zealand special operations forces in their 1963-1966 Borneo campaign. Shotguns were employed by Viet Minh and French forces in the Indochina War (1946-1954) and by the Viet Cong against the military forces of the Government of the Republic of South Vietnam (1956-1975). United States, Australian, and New Zealand units employed shotguns in their operations against Viet Cong guerrillas and North Vietnamese military forces in the Republic of Vietnam (1965-1972). They also used the Claymore mine and a shotgun round for the M79 grenade launcher. United States Marine Corps personnel employed shotguns in the recapture from Cambodian forces of the container ship *Mayaguez* on 12 May 1975. United States Air Force security police employed shotguns in base security operations in Saudi Arabia during Operations Desert Shield and Desert Storm (1990-91) to protect them from attack by terrorists or Iraqi military units, and some personnel in British armored units were armed with shotguns as individual weapons during that conflict.

The history of combat use of the shotgun reveals that it is a limited range but highly effective close-range, specialized weapon. Although recorded use has been primarily by United States and British military forces and their close allies, the shotgun has been employed in combat by the militaries of other nations and guerrilla or partisan forces where its use was of value for a specific mission, or in a particular conflict where its close-range effectiveness provided a military advantage. There

is substantial State practice of shotgun use in combat over more than two centuries. In contrast, there is no known evidence that shotgun use in combat has been curtailed by any nation due to concerns as to its inconsistency with the law of war.

### Legal Considerations and Analysis

The Combat Shotgun raises two issues with regard to its legality. First, does a weapon capable of inflicting multiple wounds upon a single enemy combatant cause *superfluous injury*, as prohibited by Article 23(e) of the Annex to the Hague Convention IV Respecting the Laws and Customs of War on Land of 18 October 1907? Second, does the No. 00 buckshot projectile, or other smaller buckshot projectiles, expand or flatten easily, in violation of the Hague Declaration Concerning Expanding Bullets of 29 July 1899? Each of these questions will be addressed in the analysis that follows.

#### Does a Weapon Capable of Inflicting Multiple Wounds upon a Single Enemy Combatant Cause Superfluous Injury, as Prohibited by the Law of War?

##### *Treaty Law*

The principal treaty provision to which the United States is a party relating to the legality of weapons is contained in Article 23(e) of the Annex to Hague Convention IV Respecting the Laws and Customs of War on Land of 18 October 1907,<sup>8</sup> which prohibits the employment of “arms, projectiles, or material calculated to cause unnecessary suffering.”<sup>9</sup> In some texts, the term *superfluous injury* is used in lieu of *unnecessary suffering*. While the two terms often are regarded as synonymous, the former is the more accurate translation from the authentic French text—“*propres a causer des maux superflus*.”<sup>10</sup>

Neither superfluous injury nor unnecessary suffering has been defined. In determining whether a weapon causes superfluous injury, a balancing test is applied between the force dictated by military necessity to achieve a legitimate objective vis-a-vis injury that may be considered superfluous to the achievement of the stated or intended objective (in other words, whether the suffering caused is out of proportion to the military advantage to be gained). The test is not easily applied; a weapon that can incapacitate or wound lethally at, for example, 300 meters or longer ranges may result in a greater degree of incapacitation or greater lethality at lesser ranges. For this reason, the degree of “superfluous” injury must be clearly disproportionate to the intended objective(s) for development of the weapon (that is, the suffering must outweigh substantially the military necessity for the weapon).

8. Hague Convention IV Respecting the Laws and Customs of War on Land, Oct. 18, 1907, annex, art. 23e, 36 Stat. 2277.

9. *Id.*

10. *Id.*

The fact that a weapon causes injury or death does not lead to the conclusion that the weapon causes superfluous injury, or is illegal *per se*. Military necessity recognizes that weapons of war lead to death, injury, and destruction; the act of combatants killing or wounding enemy combatants in battle is a legitimate act under the law of war. That the law of war prohibits *unnecessary* suffering is an acknowledgment that the law of war recognizes as legitimate *necessary* suffering in combat. Deadly force also may be used lawfully against persons who are committing or threatening to commit crimes of violence who are not protected by the law of war, such as terrorists.

What is prohibited is the design or modification and employment of a weapon for the purpose of causing suffering beyond that required by military necessity. In conducting the balancing test necessary to determine a weapon's legality, the effects of a weapon cannot be weighed in isolation. They must be examined against comparable weapons in use on the modern battlefield and the military necessity for the weapon under consideration.

#### *The 1918 German Protest*<sup>11</sup>

On 19 September 1918, the Government of Switzerland, representing German interests in the United States, presented to the U.S. Secretary of State a cablegram received by the Swiss Foreign Office containing the following diplomatic protest by the Government of Germany:

The German Government protests against the use of shotguns by the American Army and calls attention to the fact that according to the law of war (*Kriegsrecht*) every [U.S.] prisoner [of war] found to have in his possession such guns or ammunition belonging thereto forfeits his life. This protest is based upon article 23(e) of the Hague convention [sic] respecting the laws and customs of war on land. Reply by cable is required before October 1, 1918.

The German protest was precipitated in part by the capture in the Baccarat Sector (Lorraine) of France, on 21 July 1918, of a U.S. soldier from the 307th Infantry Regiment, 154th Infantry Brigade, 77th Division, AEF, who was armed with a 12-gauge Winchester Model 97 repeating trench (shot) gun, and a second, similarly-armed AEF soldier from the 6th Infantry Regiment, 10th Infantry Brigade, 5th Division, on 11 September 1918 in the Villers-en-Haye Sector. Each presumably possessed issue ammunition, which was the Winchester "Repeater" shell, containing nine No. 00 buckshot.

The German protest was forwarded by the Department of State to the War Department, which sought the advice of The Judge Advocate General of the Army. Brigadier General Samuel T. Ansell, Acting Judge Advocate General, responded by lengthy memorandum dated 26 September 1918. Addressing the German protest, General Ansell stated:

Article 23(e) simply calls for comparison between the injury or suffering caused and the necessities of warfare. It is legitimate to kill the enemy and as many of them, and as quickly, as possible . . . It is to be condemned only when it wounds, or does not kill immediately, in such a way as to produce suffering that has no reasonable relation to the killing or placing the man out of action for an effective period.

The shotgun, although an ancient weapon, finds its class or analogy, as to purpose and effect, in many modern weapons. The dispersion of the shotgun [pellets] . . . is adapted to the necessary purpose of putting out of action more than one of the charging enemy with each shot of the gun; and in this respect it is exactly analogous to shrapnel shell discharging a multitude of small [fragments] or a machine gun discharging a spray of . . . bullets.

The diameter of the bullet is scarcely greater than that of a rifle or machine gun. The weight of it is very much less. And, in both size and weight, it is less than the . . . [fragments] of a shrapnel shell . . . Obviously a pellet the size of a .32-caliber bullet, weighing only enough to be effective at short ranges, does not exceed the limit necessary for putting a man immediately *hors de combat*.

The only instances even where a shotgun projectile causes more injury to any one enemy soldier than would a hit by a rifle bullet are instances where the enemy soldier has approached so close to the shooter that he is struck by more than one of the nine . . . [No. 00 buckshot projectiles] contained in the cartridge. This, like the effect of the dispersing of . . . [fragments] from a shrapnel shell, is permissible either in behalf of greater effectiveness or as an unavoidable incident of the use of small scattering projectiles for the nec-

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11. See U.S. DEP'T OF STATE, PAPERS RELATING TO THE FOREIGN RELATIONS OF THE UNITED STATES, 1918, Supp. 2 (*The World War*), at 785-86 (1933). This summary is based upon official correspondence contained in this and related official documents.

essary purpose of increasing [the] likelihood of killing a number of enemies.

General Ansell concluded his memorandum with the statement that “The protest is without legal merit.”

Acting Secretary of War Benedict Crowell endorsed General Ansell’s memorandum of law and forwarded it to the Secretary of State that same day. Secretary of State Robert Lansing provided the following reply to the Government of Germany two days later:

[T]he . . . provision of the Hague convention, cited in the protest, does not . . . forbid the use of this . . . weapon . . . . [I]n view of the history of the shotgun as a weapon of warfare, and in view of the well-known effects of its present use, and in the light of a comparison of it with other weapons approved in warfare, the shotgun . . . cannot be the subject of legitimate or reasonable protest.

. . . .

The Government of the United States notes the threat of the German Government to execute every prisoner of war found to have in his possession shotguns or shotgun ammunition. Inasmuch as the weapon is lawful and may be rightfully used, its use will not be abandoned by the American Army . . . [I]f the German Government should carry out its threat in a single instance, it will be the right and duty of the . . . United States to make such reprisals as will best protect the American forces, and notice is hereby given of the intention of the . . . United States to make such reprisals.

World War I ended six weeks later, without reply by Germany to the United States response. There is no record of any subsequent capture by German forces of any U.S. soldier or marine armed with a shotgun or possessing shotgun ammunition, or of Germany carrying out its threat against the U.S. soldiers it captured earlier.

The position of the United States as to the legality of shotguns remains unchanged from that stated in the opinion of Brigadier General Ansell and the Secretary of State’s 28 September 1918 reply to the government of Germany.

*Further Consideration of the Article 23(e)  
Prohibition on Superfluous Injury*

As the memorandum from which this article is derived is the first legal review of the combat shotgun since the institution of the Department of Defense program for such reviews,<sup>12</sup> the issue of whether a shotgun causes superfluous injury in violation of Article 23(e) of the Annex to the 1907 Hague Convention IV merits fresh examination.

Shotguns and shotgun cartridges are designed or chosen to produce a desired projectile pattern at a specific distance. Their military purpose is the simultaneous projection in the direction of a close-range target of a number of projectiles in order to increase the probability of striking the intended target. This objective has been borne out in combat. British examination of its Malaya experience determined that, to a range of thirty yards (27.4 meters), the probability of hitting a man-sized target with a shotgun was superior to that of all other weapons. The probability of hitting the intended target with an assault rifle was one in eleven. It was one in eight with a submachine gun firing a five-round burst. Shotguns had a hit probability ratio twice as good as rifles. A 1952 British study by the Commander of British Security Forces, compiled from combat action reports, tests, and other studies (including medical), reconfirmed the previous finding that the shotgun was a highly-effective combat weapon at ranges out to seventy-five yards (68.6 meters).<sup>13</sup> Traveling at velocities one-third to one-half that of a modern military rifle bullet, with a poor ballistic coefficient (particularly when compared to the good ballistic coefficient of modern military rifle bullets), shotgun buckshot also diminish risk of injury from projectile over-penetration (through walls or doors) to civilians who are not taking a direct part in the hostilities or to friendly force combatants during military operations in urban terrain. These reasons confirm the military necessity for shotguns.

The second issue is whether wounding by a shotgun constitutes superfluous injury, that is, that the wounds it causes are disproportionate when compared to its military necessity or to comparable wounding mechanisms to which a soldier may be exposed on the battlefield. The proposed transition from a pump (manually-operated slide) action to a semiautomatic action poses no law of war issues, but simply follows the military weapons evolution that began at the beginning of this century with military pistols and rifles.

Whether a shotgun creates wounds that are excessive to its military necessity will be addressed, in part, later in the discussion of shotgun ammunition. In the general sense, it is addressed here in terms of the fact that the use of a shotgun at close range increases the probability that targeted enemy combatants may be struck by more than a single projectile; the present question is whether multiple wounding is contrary to

12. The program commenced with a DOD Instruction. U.S. DEP’T OF DEFENSE, INSTRUCTION 5500.15 (16 Oct. 1974). The successor to that DOD Instruction was implemented in 1996. DOD DIR. 5000.1, *supra* note 2.

13. Swaengen, *supra* note 5, at 15.

the prohibition on superfluous injury. It is not, and State practice is substantially to the contrary. Wounding by more than one projectile is extremely common on the battlefield due to the various lawful fragmentation munitions in use, such as antipersonnel landmines, artillery and mortar fragments, canister rounds, Claymore mines,<sup>14</sup> and hand or rifle grenades, as well as the extensive projection towards an enemy force of automatic and semiautomatic small arms fire.

A corollary question is whether shotgun projectiles as such inflict wounds greater than those imposed by comparable wounding mechanisms in use on the modern battlefield. Although it can result in fatal wounds, shotgun wounds appear substantially less significant than those inflicted by weapons such as artillery fragments, incendiary weapons, and antipersonnel landmines.<sup>15</sup>

For the foregoing reasons, the possibility that an enemy combatant may suffer multiple wounds as the result of the battlefield use of a shotgun as such does not contravene the prohibition on superfluous injury contained in Article 23(e) of the Annex to the 1907 Hague Declaration IV.

#### *Other Initiatives Relevant to the Question*

In August 1992, the Government of Germany issued a new law of war manual.<sup>16</sup> Paragraph 407 of the manual states: "It is prohibited to use bullets which expand or flatten easily in the human body (e.g., dum-dum bullets) (Hague Decl 1899). This also applies to the use of shotguns, since shot causes similar suffering unjustified<sup>17</sup> from the military point of view. . . ."<sup>18</sup>

The issue of whether shotgun buckshot violates the prohibition contained in the Hague Declaration Concerning Expanding Bullets of 29 July 1899<sup>19</sup> is addressed later in this article. Since the German manual's objection to the shotgun relies upon the

1899 Hague Declaration Concerning Expanding Bullets, it can be assumed that the Government of Germany no longer regards the combat use of shotguns as a violation of the general prohibition of weapons causing superfluous injury, contained in Article 23(e) of the Annex to Hague Convention IV of 18 October 1907, as previously asserted in its diplomatic note of 23 September 1918.

As previously indicated, the United States developed the M18 (later the M18A1) Claymore mine following the Korean War. The M18A1 is an antipersonnel directed fragmentation device containing 760 10.5-grain steel balls which, on detonation, are dispersed in a sixty-degree arc extending fifty meters at a maximum height of two meters in front of the mine. It is employed with obstacles or on the approaches, forward edges, flanks, and rear edges of protective minefields as close-in protection against a dismounted infantry attack. Although initially developed to address human-wave attacks, the Claymore can be, and has been, employed as a perimeter-security weapon against individual enemy combatants. The Claymore subsequently has been manufactured by several nations, and it is in the military inventory of many nations, including Germany.<sup>20</sup>

On 10 October 1980, following two years of negotiations, the United Nations Conference on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects adopted a convention bearing the same name (UNCCW). Protocol II of the UNCCW regulates the employment of landmines, booby traps, and other devices.

On 3 May 1996, the United Nations concluded its first review conference for the UNCCW. A primary objective of that review conference was the amendment of Protocol II of the UNCCW to address the indiscriminate effect of the irresponsible use of landmines. In the course of those negotiations, the

14. As indicated herein, a Claymore mine projects 760 steel fragments. In contrast, a No. 00 buckshot shotgun round projects nine. The comparable wounding effect on an enemy combatant at the same distance is apparent.

15. See, e.g., William W. Tribby, MD, Examination of 1,000 American Casualties Killed in Italy, in *WOUND BALLISTICS* 437-471 (Wash., D.C.: Office of the Surgeon General of the Army, 1962) [hereinafter *WOUND BALLISTICS*] (containing a narrative and photographs of the extent of battlefield wounds); see also Amended Protocol II on Mines, Booby Traps, and Other Devices to the 1980 Conventional Weapons Convention, May 3, 1996, 1997 WL 49691 (restricting the employment of antipersonnel landmines (APL) in order to protect civilians not taking a direct part in the hostilities). The Amended Protocol did not conclude that APL are illegal per se or prohibit their use against enemy combatants. *Id.* Current proposals for a worldwide ban on APL have as their basis the indiscriminate effect of their irresponsible and illegal use in a limited number of conflicts and the concomitant, adverse effect on the civilian population, rather than their effect in injuring combatants.

16. HUMANITARIAN LAW IN ARMED CONFLICTS—MANUAL (DSK VV207320067) (August 1992) [hereinafter *MANUAL*].

17. The German manual's use of the term unjustified suffering is not explained. It is not a standard recognized in the law of war. It also apparently is a standard with which the Government of Germany no longer agrees, given its endorsement of the legality of the Claymore mine, discussed *infra*, and German military possession of shotguns and Claymore mines as part of its Table of Equipment.

18. *MANUAL*, *supra* note 16.

19. The Hague Declaration Concerning Expanding Bullets, July 29, 1899, 1 A.J.I.L. 157-59 (Supp.). See also *THE LAWS OF ARMED CONFLICTS* 109-111 (Dietrich Schindler & Jiri Toman eds., 3d ed. 1988); *DOCUMENTS ON THE LAWS OF WAR* 39-42 (Adam Roberts & Richard Guelff eds., 2d ed. 1989).

20. Following reunification on 3 October 1990, the German Army redesignated the landmine as the DM-51 and retained the former East German Army MON-50, which is the USSR copy of the U.S. M18A1 Claymore mine.

States Parties drafted and adopted the following language in paragraph 6, Article 5 of Protocol II:

Weapons to which this Article applies which propel fragments in a horizontal arc of less than 90 degrees and which are placed on or above the ground may be used without the measures provided for in subparagraph 2(a) of this Article for a maximum period of 72 hours, if:

- (a) they are located in immediate proximity to the military unit that emplaced them; and
- (b) the area is monitored by military personnel to ensure the effective exclusion of civilians.

This provision was written expressly to exclude Claymore mines from the requirements for the employment of antipersonnel landmines when employed in the manner stated. It was adopted by the consensus of the participating States Parties,<sup>21</sup> including Germany. In promulgating this provision, the States Parties expressly confirmed the legality of the Claymore mine, which (as previously noted) performs like a shotgun, and with far more devastating effect on enemy personnel. This acknowledgment of the legality of the Claymore mine also serves to reconfirm the legality of the potential multiple-wounding characteristic of the shotgun.

#### *Conclusion as to the First Legal Issue*

As evidenced by the customary practice of nations and a review of applicable treaty law, the possible multiple-wounding characteristic of the combat shotgun does not violate the law of war prohibition of superfluous injury.

### **Does the No. 00 Buckshot Projectile, or do Other Smaller Buckshot Projectiles, Expand or Flatten Easily, in Violation of the Hague Declaration Concerning Expanding Bullets of 29 July 1899?**

#### *Description*

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21. The participating States Parties were: Australia, Argentina, Austria, Belarus, Belgium, Brazil, Bulgaria, Canada, China, Croatia, Cuba, Cyprus, the Czech Republic, Denmark, Ecuador, Finland, France, Germany, Greece, Guatemala, Hungary, India, Ireland, Israel, Italy, Japan, Laos, Liechtenstein, Malta, Mexico, Mongolia, the Netherlands, New Zealand, Norway, Pakistan, Romania, the Russian Federation, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Ukraine, the United Kingdom, the United States, and Uruguay.

22. U.S. DEP'T OF NAVY, NAVSEA SWO10-AD-GTP-010, TECHNICAL MANUAL, SMALL ARMS AND SPECIAL WARFARE AMMUNITION 4-13 (1 May 1995). The requirements document for the Combat Shotgun also lists No. 7 1/2 shot and No. 9 shot, while the Navy M257 round contains No. 4 shot. Each is substantially smaller than No. 00 buckshot, and even less likely to deform on impact with soft tissue, hence the focus on the No. 00 buckshot round.

23. See *supra* note 19.

24. U.S. DEP'T OF ARMY, FIELD MANUAL 27-10, THE LAW OF ARMED CONFLICT, para. 34 (1956).

Historically and currently, the primary antipersonnel round used in a combat shotgun is loaded with nine No. 00 buckshot (.33 inch diameter (.8382 cm.)) projectiles, with a propellant charge of approximately twenty-six grains (1.68 grams) of smokeless powder.<sup>22</sup> The projectiles are lead and contain two to four percent antimony.

#### *Treaty law*

In addition to the law of war prohibition on superfluous injury, there exists the Hague Declaration Concerning Expanding Bullets of 29 July 1899.<sup>23</sup> This treaty 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 pierced with incisions."

The United States is not a party to this declaration, which was intended to prohibit the so-called "dum-dum" projectile manufactured as the Mark IV caliber .303 round in the late Nineteenth Century by the British at its arsenal near Calcutta. The United States has, however, taken the position that it will adhere to the terms of the declaration to the extent that its application is consistent with the object and purpose of the prohibition on superfluous injury contained in Article 23(e) of the Annex to the 1907 Hague Convention IV.

As discussed earlier, the shotgun, with its capability for inflicting multiple wounds, does not violate the prohibition on superfluous injury. A separate question is whether buckshot projectiles violate the prohibition contained in the 1899 Hague Declaration and, if so, whether the United States would be legally obligated to refrain from their use.

#### *Historical Statements*

Comments on the legality of shotguns in manuals and opinions of the armed services have supported the intent of the 1899 Hague Declaration. An Army field manual from 1956 states that the prohibition on superfluous injury in Article 23(e) of the Annex to the 1907 Hague Declaration and State usage "has . . . established the illegality of . . . the scoring of the surface or the filing off of the ends of the hard cases of bullets."<sup>24</sup> In further interpretation, a 1960 opinion of The Judge Advocate General stated that:

[T]he legality of the use of shotguns depends upon the nature of the shot employed and its effect on a soft target . . . . The use of shotgun projectiles sufficiently jacketed to prevent expansion or flattening upon penetration of a human body and shot cartridges with chilled shot<sup>25</sup> regular in shape would not constitute violations of the laws of war.<sup>26</sup>

This statement was reaffirmed in opinions of The Judge Advocate General in 1961<sup>27</sup> and 1964,<sup>28</sup> and is repeated in *Department of the Army Pamphlet (DA Pam) 27-161-2*.<sup>29</sup>

While clearly stated, the statement apparently has resulted in some misunderstanding. The language previously quoted from the German law of war manual, which relied upon the language of *DA Pam 27-161-2*, suggests that its author incorrectly assumed that any No. 00 buck shot projectile would deform easily,<sup>30</sup> performing in a manner similar to the dum-dum bullet prohibited by the 1899 Hague Declaration. The issue is how No. 00 buckshot projectiles perform on impact in soft tissue and whether their performance is consistent with the law of war obligations of the United States, as enunciated in previous opinions of The Judge Advocate General.

#### *Characteristics and Wound Ballistic Performance of 00 Buck Projectiles*

A pure lead No. 00 buckshot projectile has not been used by the United States military for more than three decades, if at all. Tests conducted at Frankford Arsenal in 1962 to improve military shotgun ammunition determined that soft lead shot deformed during setback as the shell fired, flattening on one or more sides. It suffered further flattening and deformation as it accelerated down the barrel, resulting in a worsened ballistic

coefficient, erratic ballistic flight paths, increased dispersion, poor pattern uniformity, and excessive velocity loss. The deformation of soft lead projectiles also causes a reduction in the penetration of soft tissue.<sup>31</sup>

Through the addition of two to four percent antimony, the undesirable ballistics of pure lead projectiles are reduced, shot dispersion is decreased, the shot is more evenly distributed throughout the pattern, and the shot has a higher terminal velocity. Long range accuracy and terminal performance are enhanced by maintaining spherical shot shape. The question is whether lead-and-antimony buckshot expands or flattens easily in a manner inconsistent with the prohibition contained in the 1899 Hague Declaration and previous opinions of The Judge Advocate General.

Wound ballistics has advanced substantially over the past fifteen years, and a clearer picture exists today than may have been possible previously. Wound ballistics tests conducted over the past decade establish that lead-and-antimony buckshot may deform mildly upon impact with soft tissue at close range, but it does not expand or flatten easily. Some deformation is likely with any lawful military rifle projectile, including full-metal jacketed bullets.<sup>32</sup> Lead-and-antimony shotgun buckshot (or shot) do not mushroom in the way the dum-dum bullet performed.

The prohibition in the 1899 Hague Declaration on projectiles that “flatten or deform *easily*” constitutes acknowledgment of the inevitability of some deformation, and it does not prohibit projectiles that may deform mildly in limited circumstances. Unlike the dum-dum bullet, the lead-and-antimony No. 00 buckshot does not rely upon expansion to increase its wounding effect and, as explained, has been developed to minimize any change in its spherical shape to increase perfor-

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25. There is no industry-wide or international law definition for “chilled shot.” It commonly is used to refer to hardened shot. Shot are hardened by a lead-and-antimony mixture to reduce deformation.

26. Op. OTJAG, Army, JAGW 1960/1305 (4 Jan. 1961) [hereinafter JAGW 1960/1305].

27. Use of Shotguns in Conventional or Unconventional Warfare, Op. OTJAG, Army, JAGW 1961/1210 (11 Sept. 1961).

28. Op. OTJAG, Army, JAGW 1964/1333 (19 Aug. 1964).

29. U.S. DEP’T OF ARMY, PAM. 27-161-2, INTERNATIONAL LAW, VOLUME II (Oct. 1962).

30. This statement is based on the author’s correspondence with the author of the German manual. It also was determined that its author erroneously relied upon the statement in *Department of the Army Pamphlet 27-161-2* that “the United States Army does not now issue shotguns to troops for combat use” as evidence of lack of justification for their combat use. See *id.*; JAGW 1960/1305, *supra* note 26. As United States forces were not engaged in armed conflict at the time that opinion was prepared, the statement is a *non sequitur*. As the history of combat shotgun use indicates, shotguns are issued on a mission-specific, as-needed basis. Lack of issue of shotguns in 1961 was not based upon an assumption by the United States that combat shotgun use was either unlawful or unjustified. In 1961, the United States Army was performing deterrence missions in Europe and Korea against threats by the conventional forces of the Warsaw Pact and North Korea, respectively, and shotguns would have been of limited effect. As the historical summary explains, United States forces were equipped with shotguns upon conventional force entry into Vietnam in 1965.

31. See Swearingen, *supra* note 5, at 459; Gus Cotey, Jr., *Number 1 Buckshot, The Number 1 Choice*, WOUND BALLISTICS REV. 10-18 (1996); Duncan MacPherson, *Technical Comment on Buckshot Loads*, WOUND BALLISTICS REV. 19-21 (1996).

32. See, e.g., Ashley W. Oughterson et al., Study of Wound Ballistics—Bouganville Campaign, in WOUND BALLISTICS, *supra* note 15, at 383, 396, figs. 190, 204; Martin L. Fackler, MD, *Wounding Patterns for Military Bullets*, INT’L DEF. REV. 55-64 (Jan. 1989).

mance, range, and target penetration. Wound profiles and recovered buckshot confirm the nominal change in shape that may occur. The change is insignificant, and a No. 00 buckshot projectile is unlikely to result in a wound as severe as that caused at the same range by, for example, 5.45 x 45mm AK-74; 5.56 x 45mm M855; 7.62 x 39mm AK-47; or 7.62 x 51mm full-metal jacket projectiles, today's commonly-used military small-caliber projectiles.<sup>33</sup>

*Conclusion as to the Second Legal Issue*

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.

**Conclusion**

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

The memorandum from which this article is derived was coordinated with the offices of the Judge Advocates General of the Air Force and Navy; Army General Counsel; the Staff Judge Advocate to the Commandant of the Marine Corps; the Office of the General Counsel, Department of Defense; and the Office of the Legal Adviser, Department of State, each of whom concurred with its analysis and conclusions.

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33. See NATO, EMERGENCY WAR SURGERY 23-25, 29, 31 (2d United States revision, 1988) (providing wound profiles for projectiles); Cotey, *supra* note 31, at 14 (illustrating recovered buckshot).