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A Guide to the Legal Review of New Weapons, Means and Methods of Warfare: Measures to Implement Article 36 of Additional Protocol I of 1977

International Committee of the Red Cross Geneva, January 2006

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Therefore, those who are not thoroughly aware of the disadvantages in the use of arms cannot be thoroughly aware of the advantages in the use of arms.

Sun Tzu, *The Art of War*, circa 500 BC

If the new and frightful weapons of destruction which are now at the disposal of the nations seem destined to abridge the duration of future wars, it appears likely, on the other hand, that future battles will only become more and more murderous.

Henry Dunant, *Memory of Solferino*, 1862

[The International Military] Commission having by common agreement fixed the technical limits at which the necessities of war ought to yield to the requirements of humanity…

St Petersburg Declaration, 1868

Introduction

The right of combatants to choose their means and methods of warfare[1] is not unlimited.[2] This is a basic tenet of *international humanitarian law* (IHL), also known as the *law of armed conflict* or the *law of war*.

IHL consists of the body of rules that apply during armed conflict with the aim of protecting persons who do not, or no longer, participate in the hostilities (e.g. civilians and wounded, sick or captured combatants) and regulating the conduct of hostilities (i.e. the means and methods of warfare). IHL sets limits on armed violence in wartime in order to prevent, or at least reduce, suffering. It is based on norms as ancient as war itself, rooted in the traditions of all societies. The rules of IHL have been developed and codified over the last 150 years in international treaties, notably the 1949 Geneva Conventions and their Additional Protocols of 1977, complemented by a number of other treaties dealing with specific matters such as cultural property, child soldiers, international criminal justice, and use of certain weapons. Many of the rules of IHL are also considered part of *customary international law* based on widespread, representative and virtually uniform practice of States accepted as legal obligation and therefore mandatory for all parties to an armed conflict.

The combatants' right to choose their means and methods of warfare is limited by a number of basic IHL rules regarding the conduct of hostilities, many of which are found in Additional Protocol I of 1977 on the protection of victims of international armed conflicts.[3] Other treaties prohibit or restrict the use of specific weapons such as biological and chemical weapons, incendiary weapons, blinding laser weapons and landmines, among others. In addition, many of the basic rules and specific prohibitions and restrictions on means and methods of warfare may be found in customary international law.[4]

Reviewing the legality of new weapons, means and methods of warfare is not a novel concept. The first international instrument to refer to the legal assessment of emerging military technologies was the St Petersburg Declaration, adopted in 1868 by an International Military Commission. The Declaration addresses the development of future weapons in these terms:

> The Contracting or Acceding Parties reserve to themselves to come hereafter to an understanding whenever a precise proposition shall be drawn up in view of future improvements which science may effect in the armament of troops,

1 The terms "means and methods of warfare" designate the tools of war and the ways in which they are used. The Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977 [hereinafter Additional Protocol I] refers alternately to "methods or means of warfare" (Art. 35(1) and (3), Art. 51(5)(a), Art. 55(1)), "methods and means of warfare" (titles of Part III and of Section I of Part III), "means and methods of attack" (Art. 57(2)(a)(ii)), and "weapon, means or method of warfare" (Art. 36).

2 This principle is stipulated in e.g. Article 22 of the 1907 Hague Regulations Respecting the Laws and Customs of War on Land, and Article 35(1) of Additional Protocol I.

3 Additional Protocol I includes provisions imposing limits on the use of weapons, means and methods of warfare and protecting civilians from the effects of hostilities. See in particular Part III, Section I, and Part IV, Section I, Chapters I to IV.

4 For a list of the general and specific treaty and customary IHL rules applicable to weapons, means and methods of warfare, see section 1.2 of this Guide, below.

> in order to maintain the principles which they have established, and to conciliate the necessities of war with the laws of humanity.[5]

The only other reference in international treaties to the need to carry out legal reviews of new weapons, means and methods of warfare is found in Article 36 of Additional Protocol I of 1977:

> In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.

The aim of Article 36 is to prevent the use of weapons that would violate international law in all circumstances and to impose restrictions on the use of weapons that would violate international law in some circumstances, by determining their lawfulness before they are developed, acquired or otherwise incorporated into a State's arsenal.

The requirement that the legality of all new weapons, means and methods of warfare be systematically assessed is arguably one that applies to *all* States, regardless of whether or not they are party to Additional Protocol I. It flows logically from the truism that States are prohibited from using illegal weapons, means and methods of warfare or from using weapons, means and methods of warfare in an illegal manner. The faithful and responsible application of its international law obligations would require a State to ensure that the new weapons, means and methods of warfare it develops or acquires will not violate these obligations.[6] Carrying out legal reviews of new weapons is of particular importance today in light of the rapid development of new weapons technologies.

Article 36 is complemented by Article 82 of Additional Protocol I, which requires that legal advisers be available at all times to advise military commanders on IHL and "on the appropriate instruction to be given to the armed forces on this subject." Both provisions establish a framework for ensuring that armed forces will be capable of conducting hostilities in strict accordance with IHL, through legal reviews of planned means and methods of warfare.

Article 36 does not specify how a determination of the legality of weapons, means and methods of warfare is to be carried out. A plain reading of Article 36 indicates that a State must assess the new weapon, means or method of warfare in light of the provisions of Additional Protocol I and of any other applicable rule of international law. According to the ICRC's Commentary on the Additional Protocols, Article 36 "implies the obligation to establish internal procedures for the purpose of elucidating the issue of legality, and the other Contracting Parties

5 Declaration Renouncing the Use, in Time of War, of Explosive Projectiles Under 400 Grammes Weight, St Petersburg, 29 November / 11 December 1868. The full text of the St Petersburg Declaration is reproduced in Annex II of this Guide.

6 See for example the practice of Sweden and the United States, which established formal weapons review mechanisms as early as 1974, three years before the adoption of Additional Protocol I.

can ask to be informed on this point."[7] But there is little by way of State practice to indicate what kind of "internal procedures" should be established, as only a limited number of States are known to have put in place mechanisms or procedures to conduct legal reviews of weapons.[8]

The importance of the legal review of weapons has been highlighted in a number of international fora. In 1999, the 27th International Conference of the Red Cross and Red Crescent encouraged States "to establish mechanisms and procedures to determine whether the use of weapons, whether held in their inventories or being procured or developed, would conform to the obligations

7 Y. Sandoz, C. Swinarski, B. Zimmerman (eds.), *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949*, ICRC, Geneva, 1987 [hereinafter Commentary on the Additional Protocols], at paragraphs 1470 and 1482. States Parties would be required to share the procedures they adopt with other States Parties on the basis of Article 84 of Additional Protocol I: see below, note 96 and corresponding text.

8 States that are known to have in place national mechanisms to review the legality of weapons and that have made the instruments setting up these mechanisms available to the ICRC are: **Australia**: *Legal review of new weapons*, Australian Department of Defence Instruction (General) OPS 44-1, 2 June 2005 [hereinafter Australian Instruction]; **Belgium**: Défense, Etat-Major de la Défense, Ordre Général - J/836 (18 July 2002), establishing *La Commission d'Evaluation Juridique des nouvelles armes, des nouveaux moyens et des nouvelles méthodes de guerre* (Committee for the Legal Review of New Weapons, New Means and New Methods of Warfare) [hereinafter Belgian General Order]; **the Netherlands**: *Beschikking van de Minister van Defensie* (Directive of the Minister of Defence) nr. 458.614/A, 5 May 1978, establishing the *Adviescommissie Internationaal Recht en Conventioneel Wapengebruik* (Committee for International Law and the Use of Conventional Weapons) [hereinafter the Netherlands Directive]; **Norway**: Direktiv om folkerettslig vurdering av vapen, krigforingsmetoder og krigforingsvirkemidler, (Directive on the Legal Review on Weapons, Methods and Means of Warfare), Ministry of Defence, 18 June 2003 [hereinafter Norwegian Directive]; **Sweden**: *Förordning om folkrättslig granskning av vapenproject* (Ordinance on international law review of arms projects), Swedish Code of Statutes, SFS 1994:536 [hereinafter Swedish Monitoring Ordinance]; **the United States**: *Review of Legality of Weapons under International Law*, US Department of Defense Instruction 5500.15, 16 October 1974; *Weapons Review*, US Department of Air Force Instruction 51–402, 13 May 1994 [hereinafter US Air Force Instruction]; *Legal Services: Review of Legality of Weapons under International Law*, US Department of Army Regulation 27–53, 1 January 1979 [hereinafter US Army Regulation]; *Implementation and Operation of the Defense Acquisition System and the Joint Capabilities Integration and Development System*, US Department of Navy, Secretary of the Navy Instruction 5000.2C, 19 November 2004 [hereinafter US Navy Instruction]; *Policy for Non-Lethal Weapons*, US Department of Defense Directive 3000.3, 9 July 1996 [hereinafter Non-lethal Weapons Directive]; *The Defense Acquisition System*, US Department of Defense Directive 5000.1, 12 May 2003 [hereinafter US Acquisition Directive]. France and the United Kingdom have indicated to the ICRC that they carry out reviews pursuant to Ministry of Defence instructions, but these have not been made available. The United Kingdom's procedures are mentioned in UK Ministry of Defence, *The Manual of the Law of Armed Conflict*, Oxford University Press, 2004, at p. 119, paragraph 6.20.1 [hereinafter referred to as "UK Military Manual"]. In Germany, the Federal Agency for Defence Procurement (BWB), upon instruction of the Defence Technology Department at the Federal Ministry of Defence, commissioned a "Manual regarding a test of compliance with international law at the initial point of procurement – International arms control obligations and international humanitarian law" which was published in 2000: Rudolf Gridl, *Kriterienkatalog zur Überprüfung von Beschaffungsvorhaben im Geschäftsbereich des BWB/BMVg mit völkerrechtlichen Vereinbarungen: Internationale Rüstungskontrolle und humanitäres Völkerrecht*, Ebenhausen im Isartal: Stiftung Wissenschaft und Politik, 2000. For an overview of Article 36 and existing review mechanisms, see: Lt. Col. Justin McClelland, "The review of weapons in accordance with Article 36 of Additional Protocol I", *International Review of the Red Cross*, Vol. 85, No 850 (June 2003), pp. 397–415; I.Daoust, R. Coupland and R. Ishoey, "New wars, new weapons? The obligation of States to assess the legality of means and methods of warfare", *International Review of the Red Cross*, Vol. 84, No 846 (June 2002) at pp. 359–361; Danish Red Cross, *Reviewing the Legality of New Weapons*, December 2000.

binding on them under international humanitarian law.'' It also encouraged States ''to promote, wherever possible, exchange of information and transparency in relation to these mechanisms, procedures and evaluations.''[9]

At the Second Review Conference of the Convention on Certain Conventional Weapons (CCW) in 2001, the States Parties urged ''States which do not already do so, to conduct reviews such as that provided for in Article 36 of Protocol I additional to the 1949 Geneva Conventions, to determine whether any new weapon, means or methods of warfare would be prohibited by international humanitarian law or other rules of international law applicable to them''.[10]

In December 2003, the 28th International Conference of the Red Cross and Red Crescent reaffirmed by consensus the goal of ensuring ''the legality of new weapons under international law,'' this ''in light of the rapid developments of weapons technology and in order to protect civilians from the indiscriminate effects of weapons and combatants from unnecessary suffering and prohibited weapons.''[11] The Conference stated that all new weapons, means and methods of warfare ''should be subject to rigorous and multidisciplinary review'', and in particular that such review ''should involve a multidisciplinary approach, including military, legal, environmental and health-related considerations.''[12] The Conference also encouraged States ''to review with particular scrutiny all new weapons, means and methods of warfare that cause health effects with which medical personnel are unfamiliar.''[13] Finally, the Conference invited States that have review procedures in place to cooperate with the ICRC with a view to facilitating the voluntary exchange of experience on review procedures.[14]

In this Guide, the terms ''weapons, means and methods of warfare'' designate the means of warfare and the manner in which they are used. In order to lighten the text, the Guide will use the term ''weapons'' as shorthand, but the terms ''means of warfare'', ''methods of warfare'', ''means and methods of warfare'', and ''weapons, means and methods of warfare'' will also be used as the context requires.[15]

9 Section 21, Final Goal 1.5 of the Plan of Action for the years 2000–2003 adopted by the 27th International Conference of the Red Cross and Red Crescent, Geneva, 31 October to 6 November 1999. The Conference further stated that ''States and the ICRC may engage consultations to promote these mechanisms (…)''.

10 Final Declaration of the Second Review Conference of the States Parties to the Convention on Certain Conventional Weapons, Geneva, 11–21 December 2001, CCW/CONF.II/2, at p. 11. Available at <http://disarmament.un.org:8080/ccw/ccwmeetings.html>.

11 Final Goal 2.5 of the Agenda for Humanitarian Action adopted by the 28th International Conference of the Red Cross and Red Crescent, Geneva, 2–6 December 2003 [hereinafter Agenda for Humanitarian Action]. The full text of Final Goal 2.5 is reproduced in Annex I to this Guide. At the International Conference, two States – Canada and Denmark – made specific pledges to review their procedures concerning the development or acquisition of new weapons, means and methods of warfare.

12 *Id.*, paragraph 2.5.1.

13 *Id.*, paragraph 2.5.2.

14 *Id.*, paragraph 2.5.3.

15 See note 1 above and section 1.1 below.

STRUCTURE

This Guide is divided into two parts: the first deals with the substantive aspects of an Article 36 review, i.e. relating to its material scope of application, and the second deals with functional considerations, i.e. those of form and procedure. The material scope of application is dealt with before the functional considerations because determining the latter requires an understanding of the former. For example, it is difficult to determine the expertise that will be needed to conduct the review in advance of understanding what the review is required to do.

Part 1 on the review mechanism's material scope of application addresses three questions:

- What types of weapons must be subjected to a legal review? (**section 1.1**)
- What rules must the legal review apply to these weapons? (**section 1.2**)
- What kind of factors and empirical data should the legal review consider? (**section 1.3**)

Part 2 addresses the functional considerations of the review mechanism, in particular:

- The establishment of the review mechanism (**section 2.1**): by what type of constituent instrument and under whose authority?
- The structure and composition of the review mechanism (**section 2.2**): who is responsible for carrying out the review? what departments / sectors are represented? what kind of expertise should be considered in the review?
- The procedure for conducting a review (**section 2.3**): at what stage should the review of new weapons take place? how and by whom is the review procedure triggered? how is information about the weapon under review gathered?
- Decision-making (**section 2.4**): how are decisions reached? are decisions binding on the government or treated as recommendations? can decisions attach conditions to the approval of new weapons? is the review's decision final or can it be appealed?

Record-keeping (**section 2.5**): should records be kept of the reviews that have been carried out and the decisions reached? who can have access to such records and under what conditions?

1. Material scope of application of the review mechanism

1.1 Types of weapons to be subjected to legal review

Article 36 of Additional Protocol I refers to "*weapons, means or methods of warfare*". According to the ICRC's Commentary on the Additional Protocols:

> ''the words ''methods and means'' *include weapons in the widest sense, as well as the way in which they are used.* The use that is made of a weapon can be unlawful in itself, or it can be unlawful only under certain conditions. For example, poison is unlawful in itself, as would be any weapon which would, by its very nature, be so imprecise that it would inevitably cause indiscriminate damage. (…) However, a weapon that can be used with precision can also be abusively used against the civilian population. In this case, it is not the weapon which is prohibited, but the method or the way in which it is used.''[16]

The material scope of the Article 36 legal review is therefore very broad. It would cover:

- weapons of all types - be they anti-personnel or anti-materiel, ''lethal'', ''non-lethal'' or ''less lethal'' - and weapons systems;[17]
- the ways in which these weapons are to be used pursuant to military doctrine, tactics, rules of engagement, operating procedures and counter-measures;[18]
- all weapons to be acquired, be they procured further to research and development on the basis of military specifications, or purchased ''off-the-shelf'';[19]
- a weapon which the State is intending to acquire for the first time, without necessarily being ''new'' in a technical sense;[20]

16 Commentary on the Additional Protocols, paragraph 1402, emphasis added.

17 Subection 3(a) of the Australian Instruction defines the term ''weapon'' for the purposes of the Instruction, as ''an offensive or defensive instrument of combat used to destroy, injure, defeat or threaten. It includes weapon systems, munitions, sub-munitions, ammunition, targeting devices, and other damaging or injuring mechanisms.''. Subsection 1(a) of the Belgian General Order defines the term ''weapon'' for the purposes of the General Order as ''any type of weapon, weapon system, projectile, munition, powder or explosive, designed to put out of combat persons and/or materiel'' (unofficial translation from the French). Subsection 1.4 of the Norwegian Directive defines the word ''weapons'', for the purposes of the Directive, as ''any means of warfare, weapons systems / project, substance, etc. which is particularly suited for use in combat, including ammunition and similar functional parts of a weapon.''. In the US, review of all ''weapons or weapons systems'' is required: see US Army Regulation, subsection 2(a); US Navy Instruction, p. 23, subsection 2.6; US Acquisition Directive, p. 8, subsection E.1.1.15. The US DOD Law of War Working Group has proposed standard definitions, pursuant to which the term ''weapons'' refers to ''all arms, munitions, materiel, instruments, mechanisms, or devices that have an intended effect of injuring, damaging, destroying or disabling personnel or property'', and the term ''weapon system'' refers to ''the weapon itself and those components required for its operation, including new, advanced or emerging technologies which may lead to development of weapons or weapon systems and which have significant legal and policy implications. Weapons systems are limited to those components or technologies having direct injury or damaging effect on people or property (including all munitions and technologies such as projectiles, small arms, mines, explosives, and all other devices and technologies that are physically destructive or injury producing).'' See W. Hays Parks, Office of The Judge Advocate General of the Army, ''Weapons Review Programme of the United States'', presented at the Expert Meeting on Legal Reviews of Weapons and the SIrUS Project, Jongny sur Vevey, Switzerland, 29–31 January 2001 (both this presentation and the report of the meeting are on file with the ICRC).

18 See for example Norwegian Directive, subsection 1.4 and 2.4.

19 See also sub-section 2.3.1 below.

20 Commentary on the Additional Protocols, paragraph 1472.

- an existing weapon that is modified in a way that alters its function, or a weapon that has already passed a legal review but that is subsequently modified;[21]
- an existing weapon where a State has joined a new international treaty which may affect the legality of the weapon.[22]

When in doubt as to whether the device or system proposed for study, development or acquisition is a ''weapon'', legal advice should be sought from the weapons review authority.

A weapon or means of warfare cannot be assessed in isolation from the method of warfare by which it is to be used. It follows that the legality of a weapon does not depend solely on its design or intended purpose, but also on the manner in which it is expected to be used on the battlefield. In addition, a weapon used in one manner may ''pass'' the Article 36 ''test'', but may fail it when used in another manner. This is why Article 36 requires a State ''to determine whether its employment would, *in some or all circumstances*, be prohibited'' by international law (emphasis added).

As noted in the ICRC's Commentary on the Additional Protocols, a State need only determine ''whether the employment of a weapon *for its normal or expected use* would be prohibited under some or all circumstances. A State is not required to foresee or analyse all possible misuses of a weapon, for almost any weapon can be misused in a way that would be prohibited.''[23]

1.2 Legal framework: Rules to be applied to new weapons, means and methods of warfare

In determining the legality of a new weapon, the reviewing authority must apply existing international law rules which bind the State -- be they treaty-based or customary. Article 36 of Additional Protocol I refers in particular to the Protocol and to ''any other rule of international law applicable'' to the State. The relevant rules include *general* rules of IHL applying to *all weapons, means and methods of warfare*, and *particular* rules of IHL and international law prohibiting the use of *specific weapons and means of warfare* or restricting the methods by which they can be used.

The first step is to determine whether employment of the particular weapon or means of warfare under review is prohibited or restricted by a treaty which binds the reviewing State or by customary international law (sub-section

21 See for example Australian Instruction, section 2 and subsection 3(b) and footnote 3 thereof; Belgian General Order, subsection 5(i) and (j); Norwegian Directive, subsection 2.3 *in fine*; US Air Force Instruction, subsections 1.1.1, 1.1.2, 1.1.3; and US Army Regulation, subsection 6(a)(3).

22 See for example Norwegian Directive, subsections 2.2 (''To the extent necessary, legal review shall also be done with regard to existing weapons, methods and means of warfare, in particular when Norway commits to new international legal obligations.'') and 2.6 (''In addition, relevant rules of International Law that may be expected to enter into force for Norway in the near future, shall also be taken into consideration. Furthermore, particular emphasis shall be put on views on International Law put forward by Norway internationally.''). See also US Air Force Instruction, subsection 1.1.3.

23 Commentary on the Additional Protocols, paragraph 1469, emphasis added.

1.2.1 below). If there is no such specific prohibition, the next step is to determine whether employment of the *weapon or means of warfare* under review and the normal or expected *methods* by which it is to be used would comply with the general rules applicable to all weapons, means and methods of warfare found in Additional Protocol I and other treaties that bind the reviewing State or in customary international law (sub-section **1.2.2** below). In the absence of relevant treaty or customary rules, the reviewing authority should consider the proposed weapon in light of the principles of humanity and the dictates of public conscience (sub-section **1.2.2.3** below).

Of those States that have established formal mechanisms to review the legality of new weapons, some have empowered the reviewing authority to take into consideration not only the law as it stands at the time of the review, but also likely future developments of the law.[24] This approach is meant to avoid the costly consequences of approving and procuring a weapon the use of which is likely to be restricted or prohibited in the near future.

The sections below list the relevant treaties and customary rules without specifying in which situations these apply – i.e. whether they apply in international or non-international armed conflicts, or in all situations. This is to be determined by reference to the relevant treaty or customary rule, bearing in mind that most of the rules apply to all types of armed conflict. Besides, as stated in the *Tadic* decision of the Appeals Chamber of the International Criminal Tribunal for the former Yugoslavia in relation to prohibited means and methods of warfare, ''what is inhumane, and consequently proscribed, in international wars, cannot but be inhumane and inadmissible in civil strife''.[25]

1.2.1 Prohibitions or restrictions on specific weapons

1.2.1.1 Prohibitions or restrictions on specific weapons under international treaty law. In conducting reviews, a State must consider the international instruments to which it is a party that prohibit the use of specific weapons and means of warfare, or that impose limitations on the way in which specific weapons may be used. These instruments include (in chronological order):[26]

- Declaration Renouncing the Use, in Time of War, of Explosive Projectiles Under 400 Grammes Weight, St-Petersburg, 29 November / 11 December 1868 (hereafter the 1868 St-Petersburg Declaration).

24 See for example UK Military Manual, p. 119, paragraph 6.20.1, which states: ''The review process takes into account not only the law as it stands at the time of the review but also attempts to take account of likely future developments in the law of armed conflict.'' See also Norwegian Directive, at paragraph 2.6, which states that ''relevant rules of International Law that may be expected to enter into force for Norway in the near future shall also be taken into consideration.'' The same provision adds that ''particular emphasis shall be put on views on International Law put forward by Norway internationally.''

25 ICTY, *Prosecutor v. Tadic*, Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction (Appeals Chamber), 2 October 1995, Case no. IT-94-1, para. 119 and 127.

26 Reference is made only to the instruments and not to the specific prohibitions or restrictions contained therein, except in the case of the Rome Statute of the International Criminal Court.

- Declaration (2) concerning Asphyxiating Gases. The Hague, 29 July 1899.
- Declaration (3) concerning the Prohibition of Using Bullets which Expand or Flatten Easily in the Human Body, The Hague, 29 July 1899.
- Convention (IV) respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, The Hague, 18 October 1907, Article 23 (a), pursuant to which it is forbidden to employ poison or poisoned weapons.
- Convention (VIII) relative to the Laying of Automatic Submarine Contact Mines. The Hague, 18 October 1907.
- Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, Geneva, 17 June 1925.
- Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction. Opened for Signature at London, Moscow and Washington, 10 April 1972.
- Convention on the Prohibition of Military or Any Hostile Use of Environmental Modification Techniques, 10 December 1976 (ENMOD Convention).
- 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 (CCW), Geneva, 10 October 1980, and Amendment to Article 1, 21 December 2001. The Convention has five Protocols:
    - Protocol on Non-Detectable Fragments (Protocol I), Geneva, 10 October 1980;
    - Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices (Protocol II). Geneva, 10 October 1980; or Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices as amended on 3 May 1996 (Protocol II to the 1980 Convention as amended on 3 May 1996);
    - Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III), Geneva, 10 October 1980;
    - Protocol on Blinding Laser Weapons (Protocol IV to the 1980 Convention), 13 October 1995;
    - Protocol on Explosive Remnants of War (Protocol V), 28 November 2003.[27]

27 The Protocol on Explosive Remnants of War does not prohibit or restrict the use of weapons, but stipulates the responsibilities for dealing with the post-hostilities effects of weapons that are considered legal *per se*. However, Article 9 of the Protocol encourages each State Party to take ''generic preventive measures aimed at minimising the occurrence of explosive remnants of war, including, but not limited to, those referred to in Part 3 of the Technical Annex.''

- Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, Paris, 13 January 1993.
- Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, 18 September 1997.
- Rome Statute of the International Criminal Court, 17 July 1998, Article 8(2)(b), paragraphs (xvii) to (xx), which include in the definition of war crimes for the purpose of the Statute the following acts committed in international armed conflict:[28]

> "(xvii) Employing poison or poisoned weapons;
> "(xviii) Employing asphyxiating, poisonous or other gases, and all analogous liquids, materials or devices;
> "(xix) Employing 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;
> "(xx) Employing weapons, projectiles and material and methods of warfare which are of a nature to cause superfluous injury or unnecessary suffering or which are inherently indiscriminate in violation of the international law of armed conflict, provided that such weapons, projectiles and material and methods of warfare are the subject of a comprehensive prohibition and are included in an annex to this Statute, by an amendment in accordance with the relevant provisions set forth in articles 121 and 123."[29]

1.2. Prohibitions or restrictions on specific weapons under customary international law

In conducting reviews, a State must also consider the prohibitions or restrictions on the use of specific weapons, means and methods of warfare pursuant to customary international law. According to the ICRC study on *Customary International Humanitarian Law*,[30] these prohibitions or restrictions would include the following:

- The use of poison or poisoned weapons is prohibited.[31]
- The use of biological weapons is prohibited.[32]

28 These are not new rules of IHL, but instead criminalize prohibitions that exist pursuant to other treaties and to customary international law.
29 At the time of writing, there is no such annex to the Statute.
30 J.-M. Henckaerts and L. Doswald-Beck (eds.), *Customary International Humanitarian Law*, Cambridge: Cambridge University Press, 2005.
31 *Id.*, Vol. I, Rule 72, at 251.
32 *Id.*, Rule 73, at 256.

- The use of chemical weapons is prohibited.[33]
- The use of riot-control agents as a method of warfare is prohibited.[34]
- The use of herbicides as a method of warfare is prohibited under certain conditions.[35]
- The use of bullets which expand or flatten easily in the human body is prohibited.[36]
- The anti-personnel use of bullets which explode within the human body is prohibited.[37]
- The use of weapons, the primary effect of which is to injure by fragments which are not detectable by x-ray in the human body is prohibited.[38]
- The use of booby-traps which are in any way attached to or associated with objects or persons entitled to special protection under international humanitarian law or with objects that are likely to attract civilians is prohibited.[39]
- When landmines are used, particular care must be taken to minimize their indiscriminate effects. At the end of active hostilities, a party to the conflict which has used landmines must remove or otherwise render them harmless to civilians, or facilitate their removal.[40]
- If incendiary weapons are used, particular care must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects. The anti-personnel use of incendiary weapons is prohibited, unless it is not feasible to use a less harmful weapon to render a person *hors de combat*.[41]
- The use of laser weapons that are specifically designed, as their sole combat function or as one of their combat functions, to cause permanent blindness to unenhanced vision is prohibited.[42]

1.2.2 General prohibitions or restrictions on weapons, means and methods of warfare

If no specific prohibition or restriction is found to apply, the weapon or means of warfare under review and the normal or expected methods by which it is to be

33 *Id.*, Rule 74, at 259.
34 *Id.*, Rule 75, at 263.
35 *Id.*, Rule 76, at 265. The rule sets out the conditions under which the use of herbicides as a method of warfare is prohibited as follows: ''if they: a) are of a nature to be prohibited chemical weapons; b) are of a nature to be prohibited biological weapons; c) are aimed at vegetation that is not a military objective; d) would cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which may be expected to be excessive in relation to the concrete and direct military advantage anticipated; or e) would cause widespread, long-term and severe damage to the natural environment.''
36 *Id.*, Rule 77, at 268.
37 *Id.*, Rule 78, at 272.
38 *Id.*, Rule 79, at 275.
39 *Id.*, Rule 80, at 278.
40 *Id.*, Rules 81–83, at 280, 283, and 285 respectively. Rule 82 specifies that a party to the conflict using landmines must record their placement as far as possible.
41 *Id.*, Rules 84 and 85, at 287 and 289 respectively.
42 *Id.*, Rule 86, at 292.

used must be assessed in light of the general prohibitions or restrictions provided by treaties and by customary international law applying to all weapons, means and methods of warfare.

A number of the rules listed below are primarily context-dependent, in that their application is typically determined at field level by military commanders on a case-by-case basis taking into consideration the conflict environment in which they are operating at the time and the weapons, means and methods of warfare at their disposal. But these rules are also relevant to the assessment of the legality of a new weapon before it has been used on the battlefield, to the extent that the characteristics, expected use and foreseeable effects of the weapon allow the reviewing authority to determine whether or not the weapon will be capable of being used lawfully in certain foreseeable situations and under certain conditions. For example, if the weapon's destructive radius is very wide, it may be difficult to use it against one or several military targets located in a concentration of civilians without violating the prohibition on the use of indiscriminate means and methods of warfare[43] and/or the rule of proportionality.[44] In this regard, when approving such a weapon, the reviewing authority should attach conditions or comments to the approval, to be integrated into the rules of engagement or operating procedures associated with the weapon.

1.2.2.1 General prohibitions or restrictions on weapons, means and methods of warfare under international treaty law. A number of treaty-based general prohibitions or restrictions on weapons, means and methods of warfare must be considered. In particular, States party to Additional Protocol I must consider the rules under that treaty, as required by Article 36. These include:[45]

- Prohibition to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering (Art. 35(2)).
- Prohibition to employ methods or means of warfare which are intended, or may be expected to cause widespread, long-term and severe damage to the natural environment (Articles 35(3) and 55).
- Prohibition to employ a method or means of warfare which cannot be directed at a specific military objective and consequently, that is of a nature to strike military objectives and civilians or civilian objects without distinction (Art. 51(4)(b)).
- Prohibition to employ a method or means of warfare the effects of which cannot be limited as required by Additional Protocol I and consequently, that is of a nature to strike military objectives and civilians or civilian objects without distinction (Art. 51(4)(c)).

43 See Additional Protocol I, Article 51(4)(b) and (c), referred to under sub-section 1.2.2.1 below, and the rule of customary international law prohibiting indiscriminate attacks, under sub-section 1.2.2.2 below.
44 See Article 51(5)(b) of Additional Protocol I, referred to under sub-section 1.2.2.1 below, and rule of proportionality under customary international law, under sub-section 1.2.2.2 below.
45 Selected provisions of Additional Protocol I are reproduced in Annex III to this Guide.

- Prohibition of attacks by bombardment by any methods or means which treats as a single military objective a number of clearly separated and distinct military objectives located in a city, town, village or other area containing a similar concentration of civilians or civilian objects (Art. 51(5)(a)).
- Prohibition of attacks which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated (proportionality rule) (Art. 51(5)(b)).

1.2.2.2 General prohibitions or restrictions on weapons, means and methods of warfare under customary international law. General prohibitions or restrictions on the use of weapons, means and methods of warfare pursuant to customary international law must also be considered. These would include:

- Prohibition to use means and methods of warfare which are of a nature to cause superfluous injury or unnecessary suffering.[46]
- Prohibition to use weapons which are by nature indiscriminate.[47] This includes means of warfare which cannot be directed at a specific military objective, and means of warfare the effects of which cannot be limited as required by IHL.[48]
- Prohibition of attacks by bombardment by any method or means which treats as a single military objective a number of clearly separated and distinct military objectives located in a city, town, village or other area containing a similar concentration of civilians or civilian objects.[49]
- Prohibition to use methods or means of warfare that are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment. Destruction of the natural environment may not be used as a weapon.[50]
- Prohibition to launch an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated (proportionality rule).[51]

46 Henckaerts and Doswald-Beck (eds.), note 30 above, Rule 70, at 237.
47 *Id.*, Rule 71, at 244. See also Rule 11, at 37.
48 *Id.*, Rule 12, at 40.
49 *Id.*, Rule 13, at 43.
50 *Id.*, Rule 45, at 151. The summary of the rule notes that: "It appears that the United States is a "persistent objector" to the first part of this rule. In addition, France, the United Kingdom and the United States are persistent objectors with regard to the application of the first part of this rule to the use of nuclear weapons." See also Rule 44.
51 *Id.*, Rule 14, at 46.

1.2.2.3 Prohibitions or restrictions based on the principles of humanity and the dictates of public conscience (the "Martens clause"). Consideration should be given to whether the weapon accords with the principles of humanity and the dictates of public conscience, as stipulated in Article 1(2) of Additional Protocol I, in the preamble to the 1907 Hague Convention (IV), and in the preamble to the 1899 Hague Convention (II). This refers to the so-called "Martens clause", which Article 1(2) of Additional Protocol I formulates as follows:

> "In cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from dictates of public conscience."

The International Court of Justice in the case of the *Legality of the Threat or Use of Nuclear Weapons* affirmed the importance of the Martens clause "whose continuing existence and applicability is not to be doubted"[52] and stated that it "had proved to be an effective means of addressing rapid evolution of military technology."[53] The Court also found that the Martens clause represents customary international law.[54]

A weapon which is not covered by existing rules of international humanitarian law would be considered contrary to the Martens clause if it is determined *per se* to contravene the principles of humanity or the dictates of public conscience.

1.3 Empirical data to be considered by the review

In assessing the legality of a particular weapon, the reviewing authority must examine not only the weapon's design and characteristics (the "means" of warfare) but also how it is to be used (the "method" of warfare), bearing in mind that the weapon's effects will result from a combination of its design *and* the manner in which it is to be used.

In order to be capable of assessing whether the weapon under review is subject to specific prohibitions or restrictions (listed in sub-section 1.2.1 above) or whether it contravenes one or more of the general rules of IHL applicable to weapons, means and methods of warfare (listed in sub-section 1.2.2 above), the reviewing authority will have to take into consideration a wide range of military, technical, health and environmental factors. This is the rationale for the involvement of experts from various disciplines in the review process.[55]

52 *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 8 July 1996, paragraph 87.
53 *Id.*, paragraph 78.
54 *Id.*, paragraph 84.
55 The importance of ensuring a multidisciplinary approach to the legal review of weapons is emphasised in Action 2.5.2 of Agenda for Humanitarian Action adopted by the 28th International Conference of the Red Cross and Red Crescent and was noted by the Expert Meeting on Legal Reviews of Weapons and the SIrUS Project referred to in note 17 above. See also section 2.2 below.

For each category of factors described below, the relevant general rule of IHL is referred to, where appropriate.

1.3.1 Technical description of the weapon

An assessment will logically begin by considering the weapon's technical description and characteristics, including:

- a full technical description of the weapon;[56]
- the use for which the weapon is designed or intended, including the types of targets (e.g. personnel or materiel; specific target or area; etc.);[57]
- its means of destruction, damage or injury.

1.3.2 Technical performance of the weapon

The technical performance of the weapon under review is of particular relevance in determining whether its use may cause *indiscriminate effects*. The relevant factors would include:

- the accuracy and reliability of the targeting mechanism (including e.g. failure rates, sensitivity of unexploded ordnance, etc.);
- the area covered by the weapon;
- whether the weapons' foreseeable effects are capable of being limited to the target or of being controlled in time or space (including the degree to which a weapon will present a risk to the civilian population after its military purpose is served).

1.3.3 Health-related considerations

Directly related to the weapon's mechanism of injury (damage mechanism) is the question of what types of injuries the new weapon will be capable of inflicting. The factors to be considered in this regard could include:[58]

- the size of the wound expected when the weapon is used for its intended purpose (as determined by wound ballistics);

56 In addition to the design, material composition and fusing system of the weapon, the technical description would include "range, speed, shape, materials, fragments, accuracy, desired effect, and nature of system or subsystem employed for firing, launching, releasing or dispensing": see US Department of Air Force Instruction 51–402, Weapons Review, 13 May 1994 (implementing US Department of Air Force Policy Directive 51–4, Compliance with the Law of Armed Conflict, 26 April 1993 and US Department of Defence Directive 5100.77, DoD Law of War Program, 9 December 1998), at subsection 1.2.1.

57 This is referred to by some as the weapon's "mission" or "military purpose".

58 See for example US Air Force Instruction, subsection 1.2.1, which requires that the reviewer be provided with information *inter alia* on the "nature of the expected injury to persons (including medical data, as available)".

- the likely mortality rate among the victims when the weapon is used for its intended purpose;
- whether the weapon would cause anatomical injury or anatomical disability or disfigurement which are specific to the design of the weapon.

If a new weapon injures by means other than explosive or projectile force, or otherwise causes health effects that are qualitatively or quantitatively different from those of existing lawful weapons and means of warfare, additional factors to be considered could include:[59]

- whether all relevant scientific evidence pertaining to the foreseeable effects on humans has been gathered;
- how the mechanism of injury is expected to impact on the health of victims;
- when used in the context of armed conflict, what is the expected field mortality and whether the later mortality (in hospital) is expected to be high;
- whether there is any predictable or expected long term or permanent alteration to the victims' psychology or physiology;
- whether the effects would be recognised by health professionals, be manageable under field conditions and be treatable in a reasonably equipped medical facility.

These and other health-related considerations are important to assist the reviewing authority in determining whether the weapon in question can be expected to cause *superfluous injury or unnecessary suffering*. Assessing the legality of a weapon in light of this rule involves weighing the relevant health factors together against the intended military purpose or expected military advantage of the new weapon.[60]

59 The 28th International Conference of the Red Cross and Red Crescent encouraged States "to review with particular scrutiny all new weapons, means and methods of warfare that cause health effects with which medical personnel are unfamiliar": paragraph 2.5.2 of Agenda for Humanitarian Action. In addition, the Expert Meeting on Legal Reviews of Weapons and the SIrUS Project noted that "we are familiar with the effects of weapons which injure by explosives, projectile force or burns and weapons causing these effects need to be reviewed accordingly" and that "there is a need for particularly rigorous legal reviews of weapons which injure by means and cause effects with which we are not familiar" (report of the meeting at p. 8, note 17 above).

60 According to the ICRC Study on Customary International Humanitarian Law, "The prohibition of means of warfare which are of a nature to cause superfluous injury or unnecessary suffering refers to the effect of a weapon on combatants. Although there is general agreement on the existence of the rule, views differ on how it can actually be determined that a weapon causes superfluous injury or unnecessary suffering. States generally agree that suffering that has no military purpose violates this rule. Many States point out that the rule requires that a balance be struck between military necessity, on the one hand, and the expected injury or suffering inflicted on a person, on the other hand, and that excessive injury or suffering, i.e., that which is out of proportion to the military advantage sought, therefore violates the rule. Some States also refer to the availability of alternative means as an element that has to go into the assessment of whether a weapon causes unnecessary suffering or superfluous injury." Henckaerts and Doswald-Beck (eds.), note 30 above, under Rule 70, at 240 (footnotes ommitted).

1.3.4 Environment-related considerations

In determining the effects of the weapon under review on the natural environment, and in particular whether they are expected to cause excessive incidental damage to the natural environment or widespread, long-term and severe damage to the natural environment,[61] the relevant questions to be considered would include:

- have adequate scientific studies on the effects on the natural environment been conducted and examined?
- what type and extent of damage are expected to be directly or indirectly caused to the natural environment?
- for how long is the damage expected to last; is it practically/economically possible to reverse the damage, i.e. to restore the environment to its original state; and what would be the time needed to do so?
- what is the direct or indirect impact of the environmental damage on the civilian population?
- is the weapon specifically designed to destroy or damage the natural environment,[62] or to cause environmental modification?[63]

2. Functional aspects of the review mechanism

In setting up a weapons review mechanism, a number of decisions need to be made relating to the manner in which it is to be established, its structure and composition, the procedure for conducting a review, decision-making and record-keeping.

The following questions are indicative of the elements to be considered. Reference to State practice is limited to published procedures only.

2.1 How should the review mechanism be established?

2.1.1 By legislation, regulation, administrative order, instruction or guidelines?

Article 36 of Additional Protocol I does not specify in what manner and under what authority reviews of the legality of new weapons are to be constituted. It is the responsibility of each State to adopt legislative, administrative, regulatory and/

61 See Articles 35(3) and 55 of Additional Protocol I, referred to above under sub-section 1.2.2.1, and rules of customary international law under sub-section 1.2.2.2. Of relevance to the consideration of environmental factors is Rule 44 of ICRC Study on Customary International Humanitarian Law, which states *inter alia*: ''Lack of scientific certainty as to the effects on the environment of certain military operations does not absolve a party to the conflict from taking'' all feasible precautions ''to avoid, and in any event to minimise, incidental damage to the environment''. See Henckaerts and Doswald-Beck (eds.), note 30 above.

62 See customary international law rule referenced in note 50 above.

63 See ENMOD Convention, listed under sub-section 1.2.1.1 above.

or other appropriate measures to effectively implement this obligation. At a minimum, Article 36 requires that each State Party set up a formal procedure and, in accordance with Article 84 of Additional Protocol I, other States parties to the Protocol may ask to be informed about this procedure.[64] The establishment of a formal procedure implies that there be a standing mechanism ready to carry out reviews of new weapons whenever these are being studied, developed, acquired or adopted.

Of the six States that have made available their weapons review procedures, one has established its review mechanism pursuant to a government ordinance[65] and five have done so pursuant to instructions, directives or orders of their Ministry of Defence.[66]

2.1.2 Under which authority should the review mechanism be established?

The review mechanism can be established by, and made accountable to, the government department responsible for the study, development, acquisition or adoption of new weapons, typically the Ministry of Defence or its equivalent. This has the advantage that the Ministry of Defence is also the same authority that issues weapon handling instructions. Most States that have established review mechanisms have done so under the authority of their Ministry of Defence.

Alternatively, the review mechanism could be established by the government itself and implemented by an inter-departmental entity, which is the option preferred by one State.[67] It is also conceivable that another relevant department be entrusted with the establishment of the review mechanism, such as for example the authority responsible for government procurement.

Whatever the establishing authority, care should be taken to ensure that the reviewing body is capable of carrying out its work in an impartial manner, based on the law and on relevant expertise.[68]

2.2 Structure and composition of the review mechanism

2.2.1 Who should be responsible for carrying out the review?

The responsibility for carrying out the legal review may be entrusted to a special body or committee made up of permanent representatives of relevant sectors and departments. This is the option taken by four of the States that have made known

64 See note 7 above and note 96 below.
65 See Swedish Monitoring Ordinance.
66 The Ministries of Defence of the Netherlands and Norway and the Department of Defence of the United States have adopted ''Directives'' to establish their legal review mechanisms. The US Directive has been implemented through separate instructions by each of the three military departments (Army, Navy and Air Force). The Ministry of Defence of Belgium has adopted a ''General Order'' to establish its legal review mechanism. The Department of Defence of Australia has adopted a general ''Defence Instruction'' to establish its legal review mechanism. See note 8 above for complete references.
67 In Sweden, the *Delegation for international law monitoring of arms projects* is established by the Government, which also appoints its members. See section 8 of the Swedish Monitoring Ordinance.
68 See sub-section 2.2.2 below.

their review mechanisms.[69] Two of these have adopted a ''mixed'' system, whereby a single official – the head of defence – is advised by a standing committee that carries out the review.[70]

In the two other States, the review is the responsibility of a single official (the Director-General of the Defence Force Legal Service in one State, and the Judge-Advocate General of the military department responsible for acquiring a given weapon in the other State). In carrying out the review, the official consults the concerned sectors and relevant experts.[71]

The material scope of the review requires that it consider a wide range of expertise and viewpoints. The review of weapons by a committee may have the advantage of ensuring that the relevant sectors and fields of expertise are involved in the assessment.[72]

Whether the reviewing authority is an individual or a committee, it must have the appropriate qualifications, and in particular a thorough knowledge and understanding of IHL. In this regard, it would be appropriate for the legal advisers appointed to the armed forces to take part in the review, or to head the committee responsible for the review.

2.2.2 What departments or sectors should be involved in the review? What kinds of experts should participate in the review?

Whether it is conducted by a committee or by an individual, the review should draw on the views of the relevant sectors and departments, and a wide range of expertise. As seen under section 1 of this Guide, a multidisciplinary approach, including the relevant legal, military, health, arms technology and environmental experts, is essential in order to assess fully the information relating to the new weapon and make a determination on its legality.[73] In this regard, in addition to the relevant sectors of the Ministry of Defence and the Armed Forces, the review may need to draw on experts from the departments of foreign affairs (in particular international law experts), health, and the environment, and possibly on expert advice from outside of the administration.

In three of the States that have made available their review mechanisms, the permanent membership is taken from the relevant sectors of the Ministry of

69 Belgium, the Netherlands, Norway and Sweden: see note 8 above.

70 Belgium has a committee that advises the Head of Defence, who is responsible for ''taking action required by international law'' based on the committee's advice: see Belgian General Order, at section 2(b). Norway has a committee that advises the Chief of Defence, who in turn is responsible for advising and reporting to the Defence Military Organisation: see Norwegian Directive, at section 2.1.

71 See Australian Instruction, section 6, and US, Department of Defence Instruction 5500.15, subsection IV.A. In the US, when the Office of the Judge Advocate General of one military department conducts a legal review of a new weapon, it generally coordinates the legal review with the other military departments and services, as well as the office of General Counsel, Department of Defence, to ensure consistency in interpretation.

72 See Lt. Col. McClelland, ''The review of weapons in accordance with Article 36 of Additional Protocol I'', note 8 above, at p. 403.

73 See note 55 above and corresponding text.

Defence or equivalent. In addition to legal officers responsible for advising the Ministry (e.g. from the Judge-Advocate General's office), permanent members include a military doctor from the medical services of the armed forces,[74] and representatives of the departments responsible for operative planning, logistics and military engineering.[75] These mechanisms also provide the possibility for ad-hoc participation by experts drawn from other Ministries or external experts.[76]

Another State has included as permanent members of its review body officials outside of the Ministry of Defence – in particular researchers in weapons technology, members of the Surgeon-General's office and an international law expert of the Ministry of Foreign Affairs.[77]

Of the two States that vest the authority to review weapons in a single official, one requires defence agencies responsible for health, capability development, and science and technology (among other fields) to provide the official with "technical guidance, ballistics information, analysis and assessments of weapons effects, and appropriate… experts", while in the other State, the reviewing authority may consult with medical officers and other relevant experts.[78]

2.3 Review process

2.3.1 At what stage should the review of the new weapon take place?

The temporal application of Article 36 is very broad. It requires an assessment of the legality of new weapons at the stages of their "*study, development, acquisition or adoption*". This covers all stages of the weapons procurement process, in particular the initial stages of the research phase (i.e. conception, study), the development phase (i.e. development and testing of prototypes) and the acquisition phase (including "off-the-shelf" procurement).[79]

In practical terms this means that:

- For a State producing weapons itself, be it for its own use or for export, reviews should take place at the stage of the conception/design of the weapon, and

74 See for example Belgian General Order, subsection 4(a)(1).

75 For example, the Norwegian Committee, which includes in the Committee representatives of the Section for Operative Planning of the Department of Operational and Emergency Response Planning, the Joint Operative Headquarters, the Defence Staff College, the Defence Logistical Organisation and the Defence Research Institute: see Norwegian Directive, subsection 4.2.

76 See for example Belgian General Order, subsection 4(c) and Norwegian Directive, subsection 4.3.

77 Sweden: see Danish Red Cross, note 8 above, at p. 28 and website of "Government Offices of Sweden" at www.sweden.gov.se.

78 See Australian Instruction, section 6, and for the US, see for example US Army Regulation, subsection 5(d) ("Upon request of [the Judge Advocate General], [the Surgeon General] provides the medical consultation needed to complete the legal review of weapons or weapon systems").

79 See for example Australian Instruction, section 7 ("For Major Capital Investment Projects, [the Chief of Capability Development Group] is responsible for requesting legal reviews as these projects progress through the major project approval process."); Belgian General Order, subsection 5(a) ("When the Armed Forces study, develop, or wish to acquire or adopt a new weapon, a new means or a new method of warfare, this weapon, means or method must be submitted to the Committee for a legal review at the earliest possible stage and in any case before the acquisition or adoption" (unofficial translation)); Norwegian Directive, subsection 2.3 ("The reviews shall be made as early as possible, normally already in the concept /

thereafter at the stages of its technological development (development of prototypes and testing), and in any case before entering into the production contract.[80]

- For a State purchasing weapons, either from another State or from the commercial market including through "off the shelf" procurement, the review should take place at the stage of the study of the weapon proposed for purchase, and in any case before entering into the purchasing agreement. It should be emphasized that the purchasing State is under an obligation to conduct its own review of the weapon it is considering to acquire, and cannot simply rely on the vendor or manufacturer's position as to the legality of the weapon, nor on another State's evaluation.[81] For this purpose, all relevant information and data about the weapon should be obtained from the vendor prior to purchasing the weapon.
- For a State adopting a technical modification or a field modification to an existing weapon,[82] a review of the proposed modification should also take place at the earliest stage.

At each stage of the review, the reviewing authority should take into consideration how the weapon is proposed or expected to be used, i.e. the methods of warfare associated with the weapon.

In addition to being required by Article 36, the rationale for conducting legal reviews at the earliest possible stage is to avoid costly advances in the procurement process (which can take several years) for a weapon which may end up being unusable because illegal. The same rationale underlies the need for conducting reviews at different stages of the procurement process, bearing in mind that the technical characteristics of the weapon and its expected uses can change in the course of the weapon's development. In this connection, a new review should be carried out when new evidence comes to light on the operational performance or effects of the weapon both during and after the procurement process.[83]

study phase, when operational needs are identified, the military objectives are defined, the technical, resources and financial conditions are settled."); UK Military Manual at p. 119, paragraph 6.20.1 ("In the UK the weapons review process is conducted in a progressive manner as concepts for new means and methods of warfare are developed and as the conceptual process moves towards procurement."); US Air Force Instruction 51–402, at subsections 1.1.1 ("The Judge Advocate General (TJAG) will ensure all weapons being developed, bought, built or otherwise acquired, and those modified by the Air Force are reviewed for legality under international law prior to use in a conflict") and 1.1.2 ("at the earliest possible stage of the acquisition process, including the research and development stage").

80 See for example Belgian General Order, subsection 5(a) ("…at the earliest possible stage and in any case before the acquisition or adoption"); US Department of Defence Directive 5500.15 at subsection IV.A.1 ("The legal review will take place prior to the award of an initial contract for production").

81 See Commentary on the Additional Protocols, paragraph 1473. See also UK Military Manual at p. 119, paragraph 6.20.1 ("This obligation [Article 36 of Additional Protocol I] is imposed on all states party, not only those that produce weapons").

82 See for example US Air Force Instruction, at subsection 1.1.1: the Judge Advocate General "will ensure all weapons being developed, bought, built, or otherwise acquired, and those *modified* by the Air Force are reviewed for legality under international law prior to use in a conflict." (emphasis added). See also Australian Instruction, section 10 ("Any proposal to make field modifications to weapons shall be vetted in accordance with this instruction"). See also note 21 above.

83 See for example Belgian General Order, subsection 5(i) ("If new relevant information is made known after the file has been processed by the Committee, the weapon, means or method of warfare shall be

2.3.2 How and by whom is the legal review mechanism triggered?

Each of the authorities responsible for the study, development, acquisition, modification or adoption of a weapon should be required to submit the matter to the reviewing authority for a legal review at the stages identified above. This can be done through for example a notification[84] or a request for an advisory opinion[85] or for a legal review.[86]

In addition, the reviewing authority could itself be empowered to undertake assessments of its own initiative.[87]

2.3.3 How does the review mechanism obtain information on the weapon in question, and from what sources?

At each stage of any given case, the authorities responsible for studying, developing, acquiring or adopting the new weapon should make available to the reviewing authority all relevant information on the weapon, in particular the information described in section 1.3 above.

The reviewing authority should be empowered to request and obtain any additional information and to order any tests or experiments needed to carry out and complete the review, from the relevant government departments or external actors as appropriate.[88]

2.4 Decision-making

2.4.1 How does the review mechanism reach decisions?

This question is relevant to cases where the reviewing authority is a committee. Ideally, decisions should be reached by consensus, but another decision-making procedure should be provided in cases where consensus is not possible, either through a voting system, majority and minority reports, or by vesting in the chair of the committee final decision-making authority.

re-submitted to the Committee for legal review pursuant to the above-mentioned procedure" (unofficial translation)) and Norwegian Directive, subsection 2.3 *in fine* ("Should circumstances at a later stage change significantly, the international legal aspects shall be re-assessed").

84 See for example Swedish Monitoring Ordinance, section 9.

85 See for example Norwegian Directive, subsection 4.6.

86 See for example Australian Instruction, sections 7 and 8, and Belgian General Order, subsection 5(b).

87 As in the case of Norwegian Directive, subsection 4.3. The Swedish reviewing body also has a right of initiative: see Danish Red Cross, note 8 above, at p. 28 and I. Daoust et al., *id.*, at p. 355.

88 See for example US Army Regulation, subsections 5(b)(3) and (5), which require the Materiel Developer, when requested by the Judge Advocate General, to provide "specific additional information pertaining to each weapon or weapon system", and to conduct "experiments, including wound ballistics studies, on weapons or weapons systems subject to review…". See also Australian Instruction, sections 6 to 8, and Belgian General Order, subsection 5(e).

2.4.2 Should the reviewing authority's decision be binding or should it be treated only as a recommendation?

As the reviewing authority is making a determination on the conformity of the new weapon with the State's international legal obligations, it is difficult to justify the proposition that acquisition of a new weapon can proceed without a favourable determination by the reviewing authority. For example, if the reviewing authority finds that the new weapon is prohibited by IHL applicable to the concerned State, the development or acquisition of the weapon should be halted on this basis as a matter of law.[89]

2.4.3 May the reviewing authority attach conditions to its approval of a new weapon?

The reviewing authority is required by the terms of Article 36 to determine whether the employment of the weapon under consideration would ''in some or all circumstances'' be legal.[90] Therefore it may find that the use of the new weapon is prohibited in certain situations. In such a case the authority could either approve the weapon on condition that restrictions be placed on its operational use, in which case such restrictions should be incorporated into the rules of engagement or standard operating procedures relevant to the weapon, or it could request modifications to the weapon which must be met before approval can be granted.[91]

2.4.4 Should the reviewing authority's decision be final or should it be subject to appeal or review?

Of the States that have made known their review mechanisms, two expressly provide for the possibility of appeal or review of its decisions.[92] If an appeal mechanism is provided, care should be taken to ensure that the appellate or reviewing body is also qualified in IHL and conducts its review on the basis of legal considerations, taking into account the relevant multidisciplinary elements.

89 In the United States, a weapon cannot be acquired unless it has been subjected to a legal review: see for example US Navy Instruction, section 2.6 (''No weapon or weapon system may be acquired or fielded without a legal review''). See also Australian Instruction, sections 5 and 11.

90 See section 1.1 above.

91 For example, section 7 of the Swedish Review Ordinance states: ''If the arms project does not meet the requirement of international humanitarian law, the Delegation shall urge the party that has submitted the matter to the Delegation to undertake construction changes, consider alternative arms projects or issue limitations on the operative use of weapons.''

92 See US Department of Defence Directive 5500.15, at subsection IV.C, pursuant to which an opinion of the Judge Advocate General will be reviewed by the General Counsel of the Department of Defence when requested by the Secretary of Defence, the Secretary of a Military Department, the Director of Defence Research and Engineering, the Assistant Secretary of Defence (Installations and Logistics) or any Judge Advocate General; see also Swedish Monitoring Ordinance, section 10, which provides that a decision may be appealed ''to the Government''.

2.5 Record-keeping

2.5.1 Should records be kept of the decisions of the review mechanism?

The reviewing authority's work will be more effective over time if it maintains an archive of all its opinions and decisions on the weapons it has reviewed. By enabling the reviewing authority to refer to its previous decisions, the archive also facilitates consistency in decision-making. It is also particularly useful where the weapon under review is a modified version of a weapon previously reviewed.

Of the States that have made known their review mechanisms, two require the reviewing authority to maintain permanent files of the legal reviews.[93] At least one other has an obligation to maintain permanent files under a general obligation of the administration to archive decisions.[94]

2.5.2 To whom and under what conditions should these records be accessible?

It is up to each State to decide whether to allow access to the review records, in whole or in part, and to whom. The State's decision will be influenced by whether in a given case the weapon itself is considered confidential.

Amongst others, the following factors could be taken into account when deciding on whether to disclose reviews, and to whom:

- the value of transparency among different government departments, and towards external experts and the public;
- the value of sharing experience with other States;
- the obligation for all States to ensure respect for IHL in all circumstances, in particular in cases where it is determined that the use of the weapon under review would contravene IHL.

In at least four of the States that have made known their review mechanisms, decisions of the reviewing authority are known to be subject to legislation governing public access to information, which applies equally to other governmental bodies.[95] Pursuant to such legislation, access to information is subject to exemptions which include the non-disclosure of sensitive information affecting national security.

93 See Australian Instruction, section 13, which requires the Director-General Australian Defence Force Legal Service to "maintain a Weapons Review Register [that] will include a copy of all legal reviews and be the formal record of all weapons that have been reviewed", and US Department of Defence Instruction 5500.15, subsection IV.A.2, which requires each Judge Advocate General to "maintain permanent files or opinions issued by him". See in this regard paragraph 1.1.3 of US Air Force Instruction, paragraph 5(e)(2) of US Army Regulation, and paragraph 2.6 of US Navy Instruction.

94 See Belgium, Law on Archives, 24 June 1955.

95 In the US, the majority of review reports are unclassified and accessible to the public pursuant to the Freedom of Information Act: see H. Parks, note 17 above. In Sweden, the reports of the Delegation are subject to the Freedom of the Press Act: see Danish Red Cross, note 8 above, at p. 28 and I. Daoust et al., *id.* at p. 355. See also Belgium, Law of 11 April 1994 regarding publicity of the Administration, and Australia, Freedom of Information Act 1982.

While there is no obligation on the reviewing State to make the substantive findings of its review public nor to share them with other States, it would be required to share its review procedures with other States Parties to Additional Protocol I, in accordance with Article 84 of the Protocol.[96] In this regard, both the 27th and the 28th International Conference of the Red Cross and the Red Crescent, which includes all of the States Parties to the Geneva Conventions, have encouraged States to exchange information on their review mechanisms and procedures, and have called upon the ICRC to facilitate such exchanges.[97]

96 See Commentary on the Additional Protocols, paragraph 1470 and footnote 12 thereof. Article 84 reads: ''The High Contracting Parties shall communicate to one another, as soon as possible, through the depositary and, as appropriate, through the Protecting Powers, their official translations of this Protocol, as well as the laws and regulations which they may adopt to ensure its application.''

97 See Agenda for Humanitarian Action, paragraph 2.5.3.