

Group of Governmental Experts of the High Contracting Parties to the 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

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Examination of various dimensions of emerging technologies in the area of lethal autonomous weapons systems, in the context of the objectives and purposes of the Convention

Weapons Review Mechanisms

Submitted by the Netherlands and Switzerland

I. Summary

1. Limitations on the choice of methods and means of warfare can already be found in the oldest sources of international humanitarian law and were repeated and re-established in article 35 of the First Additional protocol (AP1). The preamble of the Convention on Certain Conventional Weapons refers to this article 35 as a general principle of law.

2. States must ensure that their methods and means of warfare are compatible with their obligations under international law. The prohibition in treaty and customary law to employ certain methods and means of warfare and the obligation to respect and apply international law in good faith already logically include an obligation to review (new) methods and means of warfare. This view is shared by the ICRC and in academic writing. For States Parties to the First Additional Protocol, this weapons review mechanism has been made explicit in article 36 of that Protocol.

3. The scope and elements of the weapons review process are subject to further study. Article 36 of the First Additional Protocol provides a sound basis for this study, from which it becomes clear that the following elements are important:

(a) “the study, development, acquisition or adoption”: The obligation to review the legality of a (new) method or means of warfare clearly applies whenever a State intends to acquire or adopt such a method or means, as the logical next step after that stage would be the employment or deployment of the method or means of warfare. Interpreting the scope of the obligation as regards the study and development of new methods and means of warfare is more complex and not internationally agreed upon. However, as an overall remark it can be demonstrated that the review should be carried out at the earliest possible opportunity.

(b) “new” (weapon, means or method of warfare): There seems to be a widespread agreement that the word “new” means “new for the State in question” whether or not bought from other States. Equally undisputed is the requirement that a (new) review takes place of methods or means of warfare following modification, even if the method or means of warfare was previously approved.



(c) “weapons, means or method of warfare”: Although apparently linguistically clear, the core component of the review requirement, that is *what* needs to be reviewed, is up for debate. However, regardless of the chosen approach, it appears clear that the wording of Article 36 was intended to be as broad and as all-inclusive as possible and that the review obligation is met if all weapons, applying a broad definition thereof, and all methods of warfare are subjected to review. And it would seem that the way a weapon is intended to be used would already be subjected to review as part of the review of the weapon itself.

(d) “in some or all circumstances”: A weapon must be reviewed not only “as such”, but also in relation to its intended use, making the review of “methods of warfare” in relation to that weapon to be an integral part of the weapon review. However, it is of considerable importance that the review is limited to the normal, expected or intended use of the weapon. Almost all of the relevant sources identify the possibility of misuse or inventive abuse of any weapon and the review need not take all of those possible alternatives into consideration.

(e) “any other rule of international law”: Acquiring and, certainly, deploying or using a weapon, method or means of warfare which would violate any of the rules of international law applicable to a State would constitute a violation of the law and it would seem logical that States are therefore under an obligation to include all relevant applicable international law in the equally logically mandatory review process.

II. Conclusions and recommendations

4. States must ensure that their weapons, means or methods of warfare are compatible with their obligations under international law. Therefore, States need to review new weapons, means or methods of warfare.

5. To enhance States’ capacities to fulfil their international obligation to review new weapons, means and methods of warfare, exchange of States’ national experiences with review procedures would be useful.

6. The encouragement of weapons review information exchange between States, which could contain national experiences/best practices on, amongst others, (1) implementation of the review process, (2) expertise and multidisciplinary teams for a weapon review and (3) reliability of review data.

III. Introduction: An Overview of Provisions on the Methods and Means of Warfare

Methods and means of warfare

7. Limitations on the choice of belligerents as regards methods and means of warfare can already be found in the oldest sources of international humanitarian law (IHL), including those which by themselves are not “law” but which may be considered precursors of later legal instruments in this regard. The earliest example can be found in section I, paragraph 16, of the Lieber Code:¹

“Military necessity does not admit of cruelty – that is, the infliction of suffering for the sake of suffering or for revenge, nor of maiming or wounding except in fight, nor of torture to extort confessions. It does not admit of the use of poison in any way, nor of the wanton devastation of a district. It admits of deception, but disclaims acts of perfidy; and, in general, military necessity does not include any act of hostility which makes the return to peace unnecessarily difficult.”

¹ Instructions for the Government of Armies of the United States in the Field, 1863.

8. The earliest formulation of this principle in a legal instrument, and the inspiration for many of the later iterations of this rule, can be found in the preamble of the Declaration of St. Petersburg:²

“That the only legitimate object which States should endeavour to accomplish during war is to weaken the military forces of the enemy; that for this purpose it is sufficient to disable the greatest possible number of men; that this object would be exceeded by the employment of arms which uselessly aggravate the sufferings of disabled men, or render their death inevitable; that the employment of such arms would, therefore, be contrary to the laws of humanity.”

9. Both of the elements set forth in the instruments presented above can be found as well in article 4 of the Oxford Manual,³ which, although not a legally binding instrument, can historically be seen as one of the earlier expressions of the principles of IHL:

“The laws of war do not recognize in belligerents an unlimited liberty as to the means of injuring the enemy. They are to abstain especially from all needless severity, as well as from all perfidious, unjust, or tyrannical acts.”

10. The Peace Conferences of The Hague of 1899 and 1907 resulted, *inter alia*, in the adoption of the Conventions and annexed Regulations that form the core of the element of IHL commonly referred to as “Hague Law”. Article 23, sub (e), of the Regulations,⁴ nearly identical in both versions, reads:

“In addition to the prohibitions provided by special Conventions, it is especially forbidden (e) to employ arms, projectiles, or material calculated to cause unnecessary suffering.”

11. These early versions of the general rule regarding methods or means of warfare, including the prohibition on unnecessary suffering, were repeated and re-established in article 35 of the First Additional Protocol (AP1):⁵

“1. In any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited.”

12. This rule is followed by specific examples of prohibited forms or types of methods or means of warfare, including those causing unnecessary suffering (paragraph 2) or causing, intended or expected to cause widespread, long-term and severe damage to the environment (paragraph 3). Although not specifically mentioned in Article 35, it is also clear from several provisions of IHL, including Article 51, paragraph 4, of AP1, that the prohibition includes indiscriminate weapons.⁶ The prohibitions are, of course, accompanied by the review obligation set forth in article 36 as will be discussed below.

13. As a final example of the principle of limitations on the choice of methods and means of warfare under international law, the preamble of the Convention on Certain Conventional Weapons (CCW)⁷ repeats the main rule of Article 35 of AP1 as a general principle of law.

14. In terms of customary law, the International Committee of the Red Cross established that the prohibition of methods and means of a nature to cause unnecessary suffering or superfluous injury and the prohibition to use weapons which are by nature indiscriminate

² Declaration Renouncing the Use, in Time of War, of Explosive Projectiles Under 400 Grammes Weight, 1868.

³ The Laws of War on Land, Oxford, 1880.

⁴ Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, 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, 1907.

⁵ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 1977.

⁶ This includes weapons which cannot be directed at a specific military objective or whose effects cannot be limited as required by IHL.

⁷ 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, 1980.

are rules of customary international law, in both international and non-international armed conflicts.⁸ In view of State practice, including military manuals from a variety of States examined by the ICRC in the course of its study on customary IHL, it would seem that the customary law nature of these principles is without question.

15. It may be concluded from the (brief) historical overview of the law above, that the limitations imposed on the choice of methods or means of warfare not only encompasses means of warfare specifically prohibited or restricted by specific instruments of law,⁹ but also includes all methods or means of warfare which by their nature would violate rules or restrictions of international law as applicable to the State intending to employ such a method or means of warfare. In other words, the scope of the principle should not be interpreted in a manner which unduly limits its effects on the choice of methods or means of warfare.

IV. Legal Basis for the Obligation to Review

16. In view of the prohibition of certain (categories of) methods and means of warfare as set forth in the introduction above, both in terms of treaty law and customary law, two principal legal bases for an obligation to review (new) methods and means of warfare can be identified. Firstly, and quite obviously, for States Parties to the First Additional Protocol the obligation as set forth in Article 36 of AP1 is binding. Although it is recognized that not all States are a party to that Protocol, Article 36 will be used as the basis for the discussion of the scope and elements of the obligation to review (new) methods and means of warfare below. The reason for this is that it is easier to discuss the various aspects related to weapons review mechanisms on the basis of exact wording and practice and using a concrete, specific provision as a framework for that discussion.

17. Alternatively, a legal obligation for all States to review the legality of new methods and means of warfare can be based on the prohibition of certain (categories of) methods and means of warfare itself and the obligation to respect and apply international law in good faith.¹⁰ One of the logical effects of that observation is that States must ensure in some way that the methods and means they wish to deploy or employ are compatible with their obligations under (treaty and customary) international law. In other words, the customary or treaty law prohibitions and restrictions to employ certain methods and means of warfare logically include an obligation to review (new) methods and means of warfare. This observation is shared by the ICRC¹¹ and in academic writing.¹²

18. While it would be beyond the scope of this paper to establish whether Article 36 of AP1 as that article is formulated has itself become part of customary law, it follows from the above that the obligation to review the legality of (new) methods and means of warfare is part of customary law and, although the scope and elements will be discussed in more detail below, would in any case encompass reviewing all new methods and means of warfare prior to their use or employment in order to ensure compliance with the obligations of the State in question under international law, as well as the circumstances under which such compliance might be called into question.

⁸ ICRC, Customary International Humanitarian Law, Volume I: Rules, Cambridge, 2005/2009, Rule 70, pp. 237 – 243 and Rule 71, p. 244.

⁹ An example of such an instrument would be Protocol IV to the 1980 Convention on Certain Conventional Weapons, which prohibits a specifically defined category of blinding laser weapons.

¹⁰ Common Art. 1 to the Geneva Conventions and the general maxim of *pacta sunt servanda*.

¹¹ ICRC, 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, Geneva, 2006, p. 4.

¹² See, for example, Boothby, W.H., *Weapons and the Law of Armed Conflict*, Oxford, 2009, p. 341; (implicitly rather than explicitly) Parks, W.H., “Conventional Weapons and Weapons Reviews,” in *Yearbook of International Humanitarian Law 2005*, TMC Asser, 2007, pp. 105 – 106, in which he discusses the obligation to abide by treaty obligations regarding prohibitions on certain types of methods and means of warfare; and Dinstein, Y., *The Conduct of Hostilities under the Law of International Armed Conflict*, Cambridge, 2004, p. 80.

V. Scope and Elements of the Review Process

19. Article 36 of API states:

“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.”

20. The wording of this provision requires further examination of some of its components in order to establish the scope and elements to be included in a weapons review process or mechanism. The components in question are: (a) “the study, development, acquisition or adoption”; (b) “new”; (c) “weapon, means or method of warfare”; (d) “in some or all circumstances”; and (e) “any other rule of international law”.

A. The study, development, acquisition or adoption

21. The temporal component of the review obligation, that is the question when the review must be carried out, would seem to provide little opportunity for debate or question as regards the acquisition or adoption stages. Clearly the obligation to review the legality of a (new) method or means of warfare applies whenever a State intends to acquire or adopt such a method or means, as the logical next step after that stage would be the employment or deployment of the method or means of warfare. Ensuring legality prior to actual use would seem to be a self-evident requirement under international law, including IHL, as set out above. As regards the obligation to review new methods or means of warfare prior to the acquisition or adoption thereof, it should be pointed out that in these situations the review should be carried out at the earliest possible opportunity. The legal requirements for the State in question, including European Union requirements regarding public tenders, and the civil law requirements as regards the stage at which negotiations with commercial entities lead to financial obligations may have some impact on determining which stage is the most expedient for carrying out the review. In some cases, a review might be carried out in two or more stages, with initial advice being given in a more generic form as regards the type of weapon or system in question and more specific advice being given when the choice between available options becomes more specific.

22. A bigger challenge exists, however, as regards interpreting the scope of the obligation as regards the study and development of new methods and means of warfare.

23. The ICRC is quite clear that the obligation set forth in Article 36 not only encompasses existing methods and means of warfare (see also below as regards the “new” component), but also future weapons.¹³ Academic writing is less specific as regards the study and development phases and emphasizes that a review must be carried out at the earliest possible stage.¹⁴ As the ICRC’s Guide also recognizes, a distinction may be made between studies and developments of new weapons as carried out by States themselves,¹⁵ and those carried out by commercial parties such as arms or ammunition manufacturers. Depending on the national laws of the State in question, it would seem that States are not normally in a position to control (or necessarily know) the plans of commercial companies at all times and cannot, therefore, be required to apply the review obligation to all study and

¹³ ICRC, Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949, Geneva, 1987, pp. 427 – 428, para. 1476 – 1478; ICRC, Guide, op. cit. note 9, pp. 23 – 24.

¹⁴ Boothby, op. cit. note 10, p. 345; Daoust, I., Coupland, R. and Ishoey, R., “New Wars, New Weapons? The Obligation of States to Assess the Legality of Means and Methods of Warfare,” in *International Review of the Red Cross*, Vol. 84, No. 846, 2002, p. 351.

¹⁵ In other words, studies and developments carried out by or on behalf of the government or an agency of the government. The statements apply mutatis mutandis to methods of warfare as well. It would seem, however, that “methods”, including tactics, are more likely to be developed by or on behalf of the government exclusively and that commercial entities would not normally develop methods of warfare without prior governmental contracting or procurement, even though the dividing line between armed forces and certain types of private military companies is admittedly increasingly vague.

development initiatives carried out by private commercial parties.¹⁶ As regards projects to study and develop new weapons initiated by or on behalf of the State, the review obligation does apply. Here, too, a further distinction must be made, in this case between actual study and development with a view to future implementation or deployment, and studies of a more general or exploratory nature. The point at which “exploratory studying” turns into a form of study (or even development) requiring review under the mechanisms under discussion would, however, seem to be driven not only by legal considerations but also by considerations of financial expediency. As is pointed out by some academic writers, the legal requirement for review prior to actual adoption or employment would logically (or in some cases based on actual directives) preclude considerable spending of governmental funds on studies without ensuring at least their potential viability.¹⁷

B. New

24. There appears to be little debate as regards the explanation of the word “new” as meaning “new for the State in question” and that the obligation to review new methods and means of warfare applies equally to existing (or even old) methods or (more likely) means of warfare acquired for the first time by the acquiring State, whether or not from other States.¹⁸ Realistically, however, some small level of latitude may be considered to apply to such inter-State acquisition, if the acquiring State can sufficiently verify that (a) the selling State has carried out a review as would be required by the acquiring State when the selling State initially developed or acquired the weapon in question and (b) the selling State is under the same obligations and applies the same interpretations of the relevant applicable instruments of international law. In such cases, the verification by the acquiring State of the review carried out by the selling State may be considered a review in itself. Given the obligations in question, however, and the common interpretation of those obligations, it must be pointed out that such an approach should only be considered with a considerable degree of caution and would require in any case a formal decision of the competent authority.

25. Equally undisputed is the requirement that a (new) review takes place of methods or means of warfare following modification, even if the method or means of warfare was previously approved.¹⁹ Although obviously not every modification of a weapon would require a new review, a due diligence approach to the obligation to review new methods and means of warfare would indicate that a new review is in any case required if the modification affects the function, functioning, effect or type of use (employment or deployment) of the method or means of warfare.²⁰

¹⁶ This observation raises a question as to the obligations of States as regards weapons developed and subsequently sold by a private commercial company if the State itself does not intend to acquire the weapon in question itself. As this question is more related to the domestic criminal law, laws regarding export, and domestic implementation of international law obligations in the domestic legislation of the State in question, and not related to the weapons review obligations of States as under discussion in this paper, this question will not be answered here. The question is also not new, since concerns in that regard may equally apply to the private manufacture of weapons (or components thereof) already prohibited under international law as it applies to the State in question. See also the view expressed in Daoust [et al.], op. cit. note 12, p. 352, as regards the relationship between export control and supervision in this regard and the obligations under Article 1 common to the four Geneva Conventions.

¹⁷ Parks, op. cit. note 10, p. 113; Boothby, op. cit. note 10, p. 345.

¹⁸ ICRC, Commentary, op. cit. note 11, p. 425 - 426, para. 1472 - 1473; ICRC, Guide, op. cit. note 9, p. 10; Daoust [et al.], op. cit. note 12, p. 352; Boothby, op. cit. note 10, p. 345. One reason for applying this obligation even if the means are acquired from another State is that the receiving State and the sending State may have different obligations under, or different interpretations of, international law.

¹⁹ Boothby, op. cit. note 10, p. 345; Daoust [et al.], op. cit. note 12, p. 352; ICRC, Guide, op. cit. note 9, p. 10.

²⁰ At the risk of introducing a *reductio ad absurdum* into the discussion, changing the composition of the grips on a pistol would, for example, obviously not require a new review of the pistol itself, nor would changing the magazine to one capable of holding more of the same rounds. Modifying an

C. Weapon, means or method of warfare

26. Although apparently linguistically clear, the core component of the review requirement, that is *what* needs to be reviewed, can give rise to disagreements and confusion. This is not the result of over-ambitious legal analysis of the provision in question, but rather the result of discrepancies between the commendable intentions of the drafters of the text in question to be sufficiently inclusive in the scope of the review obligation on the one hand, and the different terminology used (and concomitant challenges faced) by those actually applying the review in practice.

27. The term “weapon” would seem to be the easiest of the three terms in question, yet already gives rise to some debate. From a tactical point of view, almost anything can be used as a weapon, while some of the less-lethal systems available on the commercial market (some even to private owners) are not readily or easily labeled as “weapons”, including by their manufacturers. Furthermore, even with more apparent and less disputable objects such as missiles or rockets, the question may be raised whether the “weapon” includes the platform from which it is launched, or only the actual projectile, or elements of both. In this case, the ICRC Guide and the ICRC Commentary do not provide much guidance. Academic literature indicates that in some States, definitions have been established as to what constitutes a “weapon” in the sense of the obligation to review,²¹ but this may not be the case for all States. Generic or descriptive definitions of “weapon” can prove useful in this context, provided the definition is sufficiently inclusive to avoid situations in which certain means of warfare are excluded from mandatory review (or creative interpretation of the definition leads to that effect) but also sufficiently specific to avoid situations in which objects clearly not intended by the IHL provisions are nonetheless subjected to mandatory review.²² What is clear from the proposed definitions is that the term “weapon” is not limited to weapons in the traditional sense (firearms, artillery pieces, etc.) but includes all objects, devices, etc., including ammunition of any kind, provided that those objects, etc., are intended²³ to cause harm to persons (including injury or death) or damage to objects (including destruction, capture and neutralization) as well as incapacitation of persons or objects. The last element just mentioned is relevant, in order to avoid certain categories of less-lethal weapons from being erroneously excluded from the review requirement. As the ICRC also points out, less-lethal devices (or non-lethal, although that term is generally considered to reflect an unjustified level of optimism regarding the possible effects of such devices) are certainly also subject to mandatory review.²⁴

28. Returning to the issue of platforms, the proposed definition (or approach) as regards the term “weapon” set forth above leads to the conclusion that platforms as such are not

existing bullet type to change its ballistic characteristics would, however, require review of the – essentially – newly created bullet.

²¹ Parks, op. cit. note 10, pp. 115 – 116. ICRC, Guide, op. cit. note 9, p. 9 (esp. footnote 17 on that page). Note that in the United States definitions, platforms are excluded from the review requirement.

²² See the comment above as regards the operational/tactical perspective that almost anything can be turned into a weapon. However, review of every conceivable object as being a potential weapon is clearly unfeasible. See also the definition proposed by Boothby, under reference to the Guide (footnote 19, above), which is generic in nature but introduces the complication of using the term “offensive” as a characteristic; Boothby, op. cit. note 10, p. 344. It would seem that the infliction of harm, etc., as discussed in this paragraph is the more relevant or decisive element of any definition, regardless of the object’s offensive or defensive purpose (regardless of how those terms could be defined or interpreted).

²³ Although “intent” is no less problematic than some of the other terms mentioned above, it would appear that it is irrelevant whether the intent to cause harm, etc., exists on the part of the user or on the part of the manufacturer/provider. In the first case, review would be mandatory either on the basis of the object in question meeting the relevant definition or on the basis of the intended use of a non-weapon object to cause harm, etc., as being considered a “method of warfare” equally subject to review. In the second case, the object in question will more readily meet the definition establishing the requirement for review as a weapon.

²⁴ ICRC, Guide, op. cit. note 9, p. 9.

subject to review and, as will be explained further below, the general purpose and requirements of the review process make it difficult to envisage a meaningful review in the sense of the present discussion as regards a platform by itself (that is, devoid of any weapons as defined above). While most of the main weapon systems of any military platform rely on the targeting and launching elements of the platform's (integrated or other) systems, most or perhaps all platforms may be outfitted with any variety of weapons and concomitant systems and such weapon systems²⁵ may be replaced as needed by other weapon systems on the same platform. This makes the platform itself less relevant than the weapon systems installed on that platform. Additionally, several systems integral to the platform may act in support of the weapon system, but serve other purposes as well. Examples would include radar or other sensor systems not dedicated to target acquisition or similar fire support tasks. Without turning this analysis into a metaphysical discussion of "the sum of its parts," it would seem that the platform itself is not such an integral element of the weapon systems or weapons it carries that it becomes relevant to a review as intended here. Rather, the weapons intended to be deployed on the platform and such elements or components that form an integral part of that system are the focus of the review. As a merely illustrative example, a warship stripped of its missiles and guns, but still equipped with radar and sonar, is not a weapon or means of warfare in the sense of the mandatory review, as it lacks the ability to cause harm as set forth above. The same would apply to an aircraft similarly stripped of its weapons and, for example, an armored (or combat) engineer vehicle as compared to a main battle tank. As regards the question which components should be considered an integral part of the weapon system under review, that will need to be decided on a case-by-case basis on the basis of the nature, type, brand and model of the weapon and weapon system in question and on the basis of evaluating the level of integrality between the weapon or weapon system and the other components or systems on the platform in question. Clearly a separate navigational radar, although perhaps useful in support of weapons deployment, need not be considered in the review of a missile system but a targeting sensor which is acquired and installed as part of, or perhaps as a critical component of the missile system as a whole, does need to be considered when reviewing that missile system.

29. As regards "means" of warfare, this term can be found as well in Article 35 of API which sets forth the general principle as discussed in part I of this paper. The confusing aspect of this term is that while Article 35 refers to "methods and means", the addition of "weapon" in Article 36 renders the meaning of "means" unclear. The ICRC Commentary does not provide much help in this regard either, as it explains that "'methods and means' include weapons in the widest sense, as well as the way in which they are used."²⁶ It would seem, however, that "the way in which they are used" would refer to the word "methods", leaving as a definition of "means" only the explanation that this includes (but therefore is not limited to) "weapons in the widest sense." As some authors point out, this makes it rather unclear what else should fall under the category of "means" apart from, of course, weapons.²⁷ Other authors have suggested that "means of warfare" not only refers to weapons, but also to "tactical means utilized to accomplish a military mission or achieve a military objective," in other words the actions undertaken in the context of a method of warfare.²⁸ Still others simply group weapons and means of warfare together as one category.²⁹ In each of these approaches, it appears clear that the wording of Article 36 was intended to be as broad and as all-inclusive as possible and that grouping "weapons" and "means" together or interpreting "means" as a sub-set of "methods" would in any case mean that the review obligation is met if all weapons, in the broad definition given above, and all methods of warfare are subjected to review.

²⁵ This term is used here to indicate the combination of the actual weapon, such as a missile or main gun, and the concomitant systems used to aim, arm and launch or fire the weapon.

²⁶ ICRC, Commentary, op. cit. note 11, p. 398, para. 1402.

²⁷ Daoust [et al.], op. cit. note 12, p. 352, footnote 19 on that page.

²⁸ Parks, op. cit. note 10, p. 119.

²⁹ Boothby, op. cit. note 10, p. 344.

30. Finally, as regards “methods of warfare,” the ICRC Commentary, the ICRC Guide and some authors interpret this concept as referring, at least in this context, to the way in which the weapons (and means of warfare) are used.³⁰ Others, however, include acts or conduct (composed of separate “means”) that may or may not require the use of weapons, such as starvation of the population of enemy territory.³¹ Either approach leads to challenges in practice as regards the review obligation, at least as regards the type of process or mechanism under discussion in this paper. Methods which are devised or considered in the course of a military operation are frequently time-sensitive and a full review may not be possible under the circumstances. While in such cases military commanders may seek advice from their staff legal adviser, if available,³² it seems self-evident that not every tactic or operational decision in an on-going combat situation can be subjected to a full review. Methods of warfare of a more structural or long-term nature, such as those which have become (or are intended to become) part of the State’s military doctrine, are more amenable to a full review. Such an approach would also be in keeping with the term “adoption” as used in the wording of Article 36, as ad-hoc methods are not “adopted” but merely applied. As a final comment regarding methods of warfare as the concept is described by the ICRC, it would seem that the way a weapon is intended to be used would already be subjected to review as part of the review of the weapon itself. This observation is discussed in the next element.

D. In some or all circumstances

31. The ICRC Commentary states that in the review of a weapon, the State must “analyse whether the employment of a weapon for its normal or expected use would be prohibited under some or all circumstances.”³³ In other words, the weapon must be reviewed not only “as such”, but also in relation to its intended use. This would seem to make the review of “methods of warfare” in relation to that weapon to be an integral part of the weapon review, rather than a separate or additional review. This also follows from the explanation of this part of the review obligation in the ICRC’s Guide, which states that “[a] weapon or means of warfare cannot be assessed in isolation from the method of warfare by which it is to be used.”³⁴

32. Of considerable importance in reviewing a weapon and its intended use is that the review need only consider the normal, expected or intended use of the weapon. Almost all of the relevant sources identify the possibility of misuse or inventive abuse of any weapon and the review need not take all of those possible alternatives into consideration.³⁵ Notwithstanding this broadly shared view on the scope of the review, it would nonetheless appear evident that possible misuse already known to be considered (or even outright intended) by those seeking acquisition of a weapon at the time of the review should be included in the review process if the reviewers are aware of those intentions.

E. By this Protocol or by any other rule of international law

33. It was pointed out above that the obligation to review new methods and means of warfare follows from the obligations under customary law, at least as regards weapons. For States which are not party to Additional Protocol I, the first part of the element establishing what the weapons, methods and means of warfare need to be reviewed against would of course only apply as regards those parts of AP1 which are considered to be customary law.

³⁰ ICRC, Commentary, op. cit. note 11, p. 398, para. 1402; ICRC, Guide, op. cit. note 9, p. 9; Daoust [et al.], op. cit. note 12, p. 352.

³¹ Parks, op. cit. note 10, p. 119.

³² Article 82 of AP1 requires the States Parties to make legal advice available at “the appropriate level.” National practice may vary as regards the level at which such legal advice is available.

³³ ICRC, Commentary, op. cit. note 11, p. 424, para. 1469.

³⁴ ICRC, Guide, op. cit. note 9, p. 10.

³⁵ ICRC, Commentary, op. cit. note 11, p. 424, para. 1469; ICRC, Guide, op. cit. note 9, p. 10; Boothby, op. cit. note 10, p. 345; Parks, op. cit. note 10, pp. 119 – 120; Dinstein, op. cit. note 10, p. 80.

The second part of the element makes it clear, however, that the review obligation is not limited to AP1 but includes all rules of international law which are relevant in reviewing the weapon, method or means of warfare in question. Note that the provision does not limit the scope to instruments of IHL, thus also including all other elements and provisions of international law. Instruments to be considered include, consequently, the instruments listed in this paper, but also all weapon-specific or method-specific instruments such as the Protocols of the CCW, the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, etc., to which the State conducting the review is a Party, as well as all relevant rules of customary international law. Finally, it should be noted that the review not only includes specific provisions of international law related to individual weapons, etc., but also the more general prohibitions such as the one relating to weapons that are indiscriminate by nature or that cause superfluous injury and unnecessary suffering as set forth in the instruments discussed above.

34. Following the same legal logic as applied in the previous section of this paper, it would seem that the inclusive nature of this part of the provision of Article 36 is a self-evident obligation. States are under an obligation to abide by the rules of international law as applicable to them. Acquiring and, certainly, deploying or using a weapon, method or means of warfare which would violate any of the rules of international law applicable to that State would therefore constitute a violation of the law. Consequently, States are under an obligation to include all relevant applicable international law in the equally logically mandatory review process.

VI. Methodology and Composition of Weapon Review Mechanisms

35. Article 36 does not indicate how or by whom the review should be conducted and neither does the ICRC Commentary. Quite obviously, the ICRC Guide provides extensive advice and guidance on this aspect, which will not be repeated here. A few general observations and general principles regarding this aspect are worth discussing in this context, however.

A. Expertise and multidisciplinary review

36. Conducting a full review of a weapon, ammunition or other means of warfare requires knowledge of both the law and of the technical and operational aspects of the subject of the review. Depending on the nature of the weapon, ammunition, etc., medical knowledge or other specific expertise may also be required to evaluate and properly assess whether the object under review is compatible with the international law obligations of the State in question. Although not impossible, it would seem at least unlikely that a single person can possess all the requisite categories of expertise to the level required to conduct a full review. Consequently, regardless of whether the review is carried out by a single person or by a committee, a multidisciplinary approach or access to the various relevant areas of expertise is required at some stage in the process.³⁶ Additionally, although not required by either Article 36 or customary international law, the review process may take into consideration national requirements, such as aspects of a general environmental³⁷ or health-related nature, such as the use of hazardous materials in the composition of the object under review or released upon its use. Such additional factors may require consultation of additional experts in the course of the review.

³⁶ See also Daoust [et al.], *op. cit.* note 12, p. 352 – 354; Parks, *op. cit.* note 10, p. 128; Boothby, *op. cit.* note 10, p. 351.

³⁷ In other words, incidental environmental effects, since direct (intentional) environmental effects would already need to be taken into consideration on the basis of Article 55 of the First Additional Protocol and the ENMOD treaty.

37. The expertise required to carry out the evaluation extends not only to the (mechanical, electronic, etc.) functioning of the weapon or means of warfare but also to the effects thereof on persons, objects, the environment, etc., as part of its normal functioning. This applies to methods of warfare as well, *mutatis mutandis*. These effects are relevant for evaluating the device in connection with certain specific provisions of international law, but also for the evaluation of whether the device causes superfluous injury or unnecessary suffering and can be limited as required by the principle of distinction.³⁸ Establishing the functioning and effects of a device under normal conditions of employment or deployment provides one of the main practical challenges for any review process, as is also addressed by the following issue regarding reliability of the data.

B. Reliability of data

38. Conducting a full review in compliance with the legal obligation under discussion requires the use of reliable data. While this statement may seem self-evident, it is equally self-evident that the review often needs to be undertaken at an early stage in the procurement process, before testing can be conducted. In such cases, the reviewer must seek such data from other sources and must ensure that those sources are reliable. While a wealth of information, including complex technical data on a variety of weapons and ammunition, is available on the internet, it goes without saying that not all such information meets the requirements of a review. Similarly, while many manufacturers either provide or are willing to provide the type of data or information required to carry out a proper review, care should obviously be taken with regard to the objectivity of such data or information. Prior experience with select manufacturers may to some extent mitigate this factor, just as prior experience with other States may make it possible to use the data or information, or even the outcome of prior reviews of the object in question by those States, to the extent that those other States are willing to share or disclose such information. It is ultimately up to the reviewing State, however, to ensure that the review is carried out in such a way that the State can be satisfied that its obligation to review has been met.

C. Compliance with the review process and outcome

39. Quite clearly, States can only expect to be able to abide by the review obligation if the personnel in charge of procurement, acquisition, development, etc., of weapons, methods and means of warfare are aware of the requirement for review. While there are many ways to achieve this, making the review a mandatory step in the development and procurement of new weapons is a simple and effective method.³⁹ Equally important is ensuring that the outcome of the review process becomes binding. While Article 36 only requires that the review takes place, the binding nature of the outcome follows logically from the purpose of the review and the observations made above regarding the duty of States to comply with their obligations under international law, including customary international law.

D. Communication

40. There is no duty to disclose or publish the outcome of the review process,⁴⁰ and in many cases the information used in the review process precludes releasing the outcome of the review to the public, including military operational information (such as the intended

³⁸ This evaluation of effects also renders evaluations of “empty” platforms problematic, as those do not cause relevant effects in the sense of the review requirement.

³⁹ This observation is shared by Boothby, *op. cit.* note 10, at p. 351. Including the review as a mandatory element in military procurement is applied in some States, including the United States (Parks, *op. cit.* note 10, pp. 134 – 135) and The Netherlands.

⁴⁰ This observation is shared by Parks, *op. cit.* note 10 at p. 135, and the ICRC, *Commentary*, *op. cit.* note 10, p. 424.

use of the subject under review) and proprietary information provided by the manufacturer. Nonetheless, some States have made some of their reviews public and such disclosure can be of significant benefit to other States, as discussed above in relation to the reliability of data. It would seem beneficial, therefore, whether from a viewpoint of overall transparency of government or in the interest of encouraging or assisting weapons reviews, that States consider making the outcomes of their reviews available where possible, whether to the general public or to other States on a confidential basis.
