



AUSTRALIAN RED CROSS

**Potential use of unmanned air, maritime and land
platforms by the Australian Defence Force**

**SENATE FOREIGN AFFAIRS, DEFENCE AND TRADE
REFERENCES COMMITTEE INQUIRY SUBMISSION**

February 2015



EXECUTIVE SUMMARY

Australian Red Cross welcomes the opportunity to make this submission to the Senate Foreign Affairs, Defence and Trade References Committee inquiry into “The potential use by the Australian Defence Force (ADF) of unmanned air, maritime and land platforms” (the Inquiry).

These platforms will be referred to throughout this submission as “unmanned platform systems”. This submission includes considerations in relation to both remotely controlled platforms which, albeit from a distance, include human decision-making or oversight; and autonomous weapons platforms and systems, which are capable of selecting and engaging targets without human oversight with varying degrees of autonomy.¹

To ensure compliance with international humanitarian law (IHL), Australian Red Cross submits the following three recommendations:

1. That unmanned platform systems as either weapons, means, or method of warfare must be thoroughly tested to ensure that they are capable of complying with IHL at all times² including the potential to be able to abort an operation in progress, to distinguish between civilians (including those who might be legitimately armed and those directly participating in hostilities) and combatants (including the difference between active combatants and those rendered hors de combat or surrendering);
2. That unmanned platform systems should not be used, controlled, programmed or operated by individuals who are not fully conversant with and understand the principles of IHL;
3. That unmanned platform systems should not be used, controlled, programmed or operated by individuals whose accountability lies outside military mechanisms of control in relation to potential breaches of IHL. States party to the Geneva Conventions and their Additional Protocols must respect and ensure respect for IHL³ and this requires States to investigate potential breaches and be able to, if necessary, prosecute violations.⁴ Violations of IHL can entail both individual and command responsibility.⁵

Australian Red Cross’ position is the following:

Australian Red Cross urges the ADF to only employ unmanned platform systems if respect for IHL can be guaranteed.

¹ Autonomous weapons systems can involve differing levels of autonomy and levels of human control. While fully autonomous weapons do not yet exist, semi-autonomous are being employed by some actors and we note the Australian Government (2013) *Defence White Paper* assertion that ‘it is possible that they will be deployed by defence forces in the mid-2020s’ at [2.81].

² *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, 1125 UNTS 3, (entered into force 7 December 1978), Article 36

³ *The Geneva Conventions of August 12 1949*, 75 UNTS 287 (entered into force 21 October 1950) Common Article 1 and *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above, n 2, Article 1

⁴ *The Geneva Conventions of August 12 1949*, above, n 3, Geneva Convention I, Article 49; Geneva Convention II, Article 50; Geneva Convention III, Article 129; Geneva Convention IV, Article 146 and *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above, n 2, Article 85.

⁵ *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above, n 2, Article 86 (2)



BACKGROUND

The promotion of IHL – those laws which in times of armed conflict protect people and objects that are not, or that are no longer, taking part in the fight, and which limit the methods and means of warfare – is one of the key priorities of Australian Red Cross; indeed it is a crucial part of the unique mandate of the International Red Cross and Red Crescent Movement (the Movement).⁶

In light of Australian Red Cross' expertise in relation to the Geneva Conventions of 1949 and their Additional Protocols of 1977, Australian Red Cross makes this submission with consideration to the potential deployment during armed conflict of weapons systems from and by unmanned air, maritime and land platforms. The submission addresses only the IHL framework applicable to unmanned platform systems and provides some observations about the challenges, opportunities and risks associated with the deployment of unmanned platform systems.

Australian Red Cross does not comment either on any other legal framework which may be applicable to the potential use of unmanned platform systems by the ADF or the potential other uses for such unmanned platform systems which may require analysis under other international or domestic legal frameworks including those, for example, relating to human rights law and the law of the sea.

The work of Australian Red Cross to disseminate IHL is done within the wider framework of the seven Fundamental Principles of the Movement. Like other of the 189 National Societies in the Movement, Australian Red Cross is legally recognised as auxiliary to the public authorities in the humanitarian field and is independent, neutral and impartial.⁷

⁶ There are a range of legal obligations for the State to disseminate IHL. These can be found in *The Geneva Conventions of August 12 1949*, above n 3 (Geneva Convention I, Article 47; Geneva Convention II, Article 48; Geneva Convention III, Article 127; Geneva Convention IV, Article 144) and the *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above n 2, Article 83 and *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II)*, 8 June 1977, 1125 UNTS 609, (entered into force 7 December 1977), Article 19. The Statutes of the Movement require National Societies such as Australian Red Cross to disseminate IHL (article 3(2)) (see <https://www.icrc.org/eng/assets/files/other/statutes-en-a5.pdf>) and numerous resolutions and pledges at the International Conference of the Movement reaffirm these obligations (For example Geneva, 1986, Resolution IV and Geneva 2007 Resolution 3).

⁷ More about the seven Fundamental Principles of the Movement can be found at: <http://www.redcross.org.au/principles.aspx>



INTERNATIONAL HUMANITARIAN LAW ANALYSIS

Recommendation 1

Weapons law and compliance with the principles of IHL

Key IHL obligations require thorough testing of “a new weapon, means or method of warfare” to ensure that it is capable of complying with IHL at all times – including the potential to be able to abort an operation in progress and the ability to distinguish between civilians and combatants.⁸ Australian Red Cross sees significant new challenges to the ADF in meeting these existing legal obligations when using unmanned platform systems. Thus this submission focuses primarily on these legal issues of achieving compliance.

The Geneva Conventions of 1949 and their Additional Protocols, to which Australia is a State party, set out the fundamental principles of IHL with which all weapons systems must comply if they are to be lawful. In addition there exist treaties which regulate specific types of weapons, for example the Convention on Certain Conventional Weapons. There is no specific treaty regulating the deployment of weapons from or by unmanned platform systems.

While all lawful weapons have the potential to be used unlawfully, the issue for the Inquiry is whether or not the remote use or semi-autonomous/autonomous nature of the unmanned platform systems means that the weapons will be capable of being employed in accordance with IHL.

Whether the use of a particular weapon is lawful under IHL requires two separate but complementary processes of analysis. The first being a review of legality of the weapon and the second an analysis pursuant to targeting law.

Review of Legality

The employment of any weapons system by the ADF requires a review pursuant to Article 36 of Additional Protocol I (1977) to the Geneva Conventions of 1949.⁹ Australia ratified Additional Protocol I in 1991 and the protocol was incorporated into domestic legislation that year.¹⁰

As weapons are becoming more technologically complex, so too must be the reviewing requirements to ensure compliance with the legal obligations of Article 36.¹¹ Understanding and reviewing of the design characteristics, the production intricacies and testing methods and the intended use of the weapons now

⁸ *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above n 2, Articles 36 and 48

⁹ Ibid Article 36 “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”.

¹⁰ Geneva Conventions Amendment Act 1991, No 27 1991 (date of assent 4 March 1991), <http://www.comlaw.gov.au/Details/C2004A04102>

¹¹ *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above n 2, Article 36



demands a multi-disciplinary approach that engages computer scientists, engineers, intended operators and lawyers.¹²

IHL prohibits indiscriminate attacks: those which fail to distinguish between military objectives and civilians and civilian objects. The use of weapons – and methods and means of combat – are similarly prohibited where they have the following characteristics:

- Are of a nature to strike military objectives and civilians and civilian objects without distinction, being either
 - unable to be directed at a specific military objective; or
 - indiscriminate in that their effects can't be limited as required by Additional Protocol I¹³
- cause superfluous injury or unnecessary suffering¹⁴
- are intended, or may be expected, to cause widespread, long-term, and severe damage to the natural environment.¹⁵

Of particular significance with regards unmanned platform systems is the first characteristic, namely indiscriminate attacks which fail to distinguish between military objectives and civilians and civilian objects, or are indiscriminate in their effects. The other two criteria are not affected by the remotely deployed or semi-autonomous/autonomous nature of these weapons, but rather by the munitions employed on the unmanned platform systems. As such, whether the weapons are deployed from or by an unmanned platform is not going to impact on whether that weapon causes superfluous injury or unnecessary suffering or widespread, long-term, and severe damage to the natural environment.

However, a weapon which has inherently indiscriminate effects is unlawful *per se*. It has been noted that there is an important distinction that must be drawn between a weapon which is indiscriminate by nature and one which has the capacity to be used in a discriminate manner but retains the potential for indiscriminate effects if misused. Only the former will always breach IHL as there is no possibility that it can be used in a discriminate manner.¹⁶

¹² Alan Backstrom and Ian Henderson (2012) – 'New Capabilities in warfare: an overview of contemporary technological departments and the associated legal and engineering issued in Article 36 weapons reviews' in *International Review of the Red Cross* Vol 94 Number 886 2012, 513

¹³ *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above n 2, Article 51(4)

¹⁴ Ibid Article 35 (2)

¹⁵ Ibid Article 35 (3)

¹⁶ William Boothby, *Weapons and the Law of Armed Conflict* (Oxford University Press, 2009), 81-82



Indiscriminate attacks are those which are not directed at a specific military objective; employ a method or means of warfare that cannot be directed at a specific military objective or employ a method or means of combat the effects of which cannot be limited as required by law.¹⁷

Although, as stated, weapons systems employed from unmanned platforms are not necessarily inherently indiscriminate, it is the strongly held view of Australian Red Cross that a cautious and comprehensive analysis of the capacity of the individual responsible for deploying the weapon from afar and/or the ability of the semi-autonomous or autonomous weapon to distinguish is essential.

Analysis of Targeting Capabilities

The second part of the analysis pursuant to targeting law considers, in particular, the circumstances of an attack, and whether or not the IHL principles of distinction, proportionality and precaution can be complied with utilising the weapon, means or method under review. It is worth noting briefly that these principles are reflected in customary international humanitarian law for both international and non-international armed conflict.¹⁸ As such these rules are binding on all states, not only those which have signed Additional Protocol I.

The principle of distinction, between military and civilian objects, fundamental to international humanitarian law, is articulated by Article 48 of Additional Protocol I (1977). Article 48 provides that:

“In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives.”¹⁹

The principle of proportionality requires that it is prohibited to launch an attack that may be expected to cause incidental loss of civilian life, injury to civilians, or damage to civilian property that would be excessive in relation to the concrete and direct military advantage anticipated.²⁰

The final consideration is the principle of precaution; namely, that in the conduct of military operations, constant care is taken to spare the civilian population, civilians and civilian objects.²¹ The principle of precaution requires that in cases of doubt about the military nature of the target or the possibility of launching a disproportionate attack, attacks must not be launched.²²

¹⁷ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), above n 2, Article 51(4)

¹⁸ Jean-Marie Henckaerts and Louise Doswald-Beck (eds), *Customary International Humanitarian Law – Volume 1: Rules*, (Cambridge University Press, 2005) rules 1, 14 and 15 respectively.

¹⁹ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), above n 2, Article 48

²⁰ Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), above n 2, Articles 51(5)(b) and 57(2)(a)(iii)

²¹ Ibid Article 57 (1).

²² See for example, Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), above n 2, Articles 52(3) and art 57(2)b.



Remote controlled weapons may have greatly enhanced real-time aerial surveillance possibilities and therefore provide greater opportunities to take precautions in attack. However, studies have shown that disconnecting a person by means of distance (physical and emotional) from a potential adversary makes targeting easier and abuses more likely.²³ Further, there is limited capacity of controllers to process large amounts of data, which may possibly be contradictory, at a given time. Supervision of more than one system at a time gives rise to questions about the operator's ability to fully comply with relevant IHL rules in these circumstances.²⁴

Despite the distance between the persons operating remote controlled weapons or weapons systems and a battlefield, the technology requires that a human operator activate, direct and fire the weapon concerned. The responsibility for respecting IHL, including the suspension of an attack if the IHL rules cannot be respected belong to the individual(s) concerned and the relevant party to an armed conflict. There are a number of factors, (such as system errors or enemy actions that impede the controllers task), to consider when determining potential liability of the controller of a remote weapons platform system and in essence these are the same as those that apply to, for example, a pilot undertaking a similar mission.²⁵

The issue is the ability or not of the planners and decision-makers to undertake required precautions and to obtain information to support a valid evaluation of the lawfulness of the planned attack. Clearly making these decisions from a remote location does not automatically mean that IHL cannot be complied with, but it certainly increases the complexity of the evaluation.

²³ 'International Humanitarian Law and the challenges of contemporary conflicts' ICRC Report, 31st International Conference of the Red Cross and Red Crescent, Oct 2011, 39 <https://www.icrc.org/eng/assets/files/red-cross-crescent-movement/31st-international-conference/31-int-conference-ihl-challenges-report-11-5-1-2-en.pdf>

²⁴ Ibid, 39

²⁵ William Boothby, 'Some legal challenges posed by remote attack' in *International Review of the Red Cross* Vol 94 Number 886 2012, 590



Recommendation 2

Ensuring understanding of IHL

Common Article 1 to the Geneva Conventions 1949 requires that States “undertake to respect and ensure respect for the present Convention in all circumstances.” This undertaking means that States must make sure that all their citizens know about the contents of the four Geneva Conventions.

Together with this general requirement, each of the four 1949 Geneva Conventions include explicit directions that everyone should be made aware of the laws which apply during times of armed conflict. States are thus required to disseminate the text of each specific Convention “as widely as possible” during “time of peace as in time of war” to the entire population, but with the “armed forces” or “military” being expressly mentioned in each of the four Conventions as a special group to whom the text should be disseminated.²⁶

Similar provisions appear in each Additional Protocol. For instance, Article 83 of Additional Protocol I (1977) reinforces the requirement to disseminate the contents of the Conventions and Additional Protocol I “in time of peace as in times of armed conflict... and, in particular, to include the study thereof in their programmes of military instruction”.²⁷

It is the firm belief of Australian Red Cross that in order for the Australian government to “ensure respect” for the Geneva Conventions (1949) and Additional Protocols (1977) it is necessary to ensure that all those who might use, control, programme or operate an unmanned platform system must be conversant with IHL. It is likely that the drafters of the Geneva Conventions of 1949 did not envisage that civilians not under military command might be involved in the process of programming an unmanned platform system. However the clear intent that the Conventions be widely disseminated but particularly to those with a direct involvement with the operation of the laws and with conflict (such as the armed forces) coupled with the general requirement that States party to the Geneva Conventions and Additional

²⁶ *The Geneva Conventions of August 12 1949*, above n 3 Geneva Convention I, Article 47; Geneva Convention II, Article 48; Geneva Convention III, Article 127; Geneva Convention IV, Article 144

²⁷ *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above n 2, Articles 83 and 87(2). Article 19 of *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of Non-International Armed Conflicts*, above n 6, requires the Protocol “shall be disseminated as widely as possible”.



Protocols must “ensure respect” for these laws would indicate that instruction must be made available to anyone involved in such processes.²⁸

Australian Red Cross commends the ADF for their consistent and thorough training on IHL and for the variety of ways in which they engage Australian Red Cross to contribute to the education of the Australian armed forces to provide a holistic understanding of IHL and civ-mil relations. Training requirements must adapt to changing technology and operational contexts, and Australian Red Cross expects that additional training would be provided to a range of members of the armed forces, (including for example legal officers, weapons’ operators, production and computer programming personnel) should a decision be made for the ADF to use unmanned platform systems. Similarly, training would be required for civilians working for civilian companies to whom that part of the unmanned system’s “stage” is outsourced

Australian Red Cross would also emphasise that this obligation to ensure respect and disseminate IHL are ongoing obligations. The law does not remain static and therefore the process of incorporating IHL requirements into use of unmanned platform systems must remain under constant review to ensure that revisions to the law are incorporated immediately upon entry into force.

Recommendation 3

Ensuring accountability for potential breaches of IHL

As noted above, States are obliged to respect and ensure respect for IHL and IHL prohibits attacks that are indiscriminate. Australian Red Cross sees the use of unmanned platform systems potentially challenging these legal requirements²⁹ and draws attention to Article 85 of Additional Protocol I (1977).³⁰ This Article defines an indiscriminate attack affecting the civilian population or civilian objects – launched in the knowledge that it will cause death, injury and damage excessive in relation to the concrete and direct military advantage anticipated – as a Grave Breach of Additional Protocol I. Article 87 of Additional Protocol I (1977) obliges military commanders to prevent, suppress and report breaches – not only of Protocol I but also breaches of the 1949 Conventions – by those members of the armed forces under

²⁸ Further, Article 83 states “Any military or civilian authorities who, in times of armed conflict, assume responsibilities in respect of the application of the Conventions and this Protocol shall be fully acquainted with the text thereof.” *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above n 2, Article 83

²⁹ Ibid, Articles 1, 48 and 51 (4)

³⁰ Ibid, Article 85



their command and other persons under their control.³¹ Article 87 also requires commanders to, where appropriate, initiate disciplinary or penal action against those responsible for violations.³²

Commanders, designers, engineers, programmers, producers, reviewers and operators are all connected to the stages that ultimately see the use of unmanned platforms. A debate could arise regarding questions of over whom do military commanders have control for the purposes of their legal obligation to prevent, suppress and report breaches of the Conventions and Additional Protocol I.³³ For example, a military commander may have control over a civilian operating an unmanned platform system however, it is unclear if the same could be said for a civilian programmer, (should they be actually identifiable) who failed to ensure the software could comply with IHL obligations.³⁴ Despite this possible complexity, the legal requirement for States to be able to respect and ensure respect remains. Therefore, should militaries be unable to identify and attribute responsibility and liability for breaches of IHL involving the use of unmanned platform systems, it is the view of Australian Red Cross that it is not lawful to employ them.³⁵

³¹ Grave Breaches of the 1949 Conventions are defined in *The Geneva Conventions of August 12 1949*, above n 3 (Geneva Convention I, Article 50; Geneva Convention II, Article 51; Geneva Convention III, Article 130; Geneva Convention IV, Article 147)

³² *Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I)*, above n 2, Article 87(3)

³³ *Ibid* Article 87

³⁴ Accountability gaps for serious violations of IHL were identified in the Report of the ICRC Expert Meeting on 'Autonomous weapon systems: technical, military, legal and humanitarian aspects', 26-28 March 2014, Geneva, <https://www.icrc.org/en/document/report-icrc-meeting-autonomous-weapon-systems-26-28-march-2014#.VMbxkf4cSuk>

"Error and malfunction, as well as deliberate programming of an autonomous weapons systems to violate IHL, would require that responsibility is apportioned to persons involved in various stages ranging from programming and manufacturing through to the decision to deploy the weapon system", 15

³⁵ Although it is made clear that experts believe that a fully autonomous weapon programmed to make qualitative targeting choices did not exist and would not for some time, there was still the belief that it would be difficult to find a programmer or even the person who deploys a fully autonomous weapon criminally liable for war crimes. Beyond the scope of this submission, the meeting also considered the possible applicability of broader legal frameworks such State responsibility for violations of international human rights law, international criminal law, manufacturers or product liability and corporate criminal liability. See the Report of the ICRC Expert Meeting on 'Autonomous weapon systems: technical, military, legal and humanitarian aspects', 26-28 March 2014, Geneva, above n 34, 2



Conclusion

While unmanned platform systems represent rapid advancements in technology and do pose legal questions, Australia has clear existing IHL obligations as regards their use and must ensure that current and future applications for these weapons are in compliance with IHL. Australian Red Cross understands military interest in increasing autonomy of weapons systems, utilising unmanned platforms, to be driven by the potential for increased military capability while simultaneously providing reduced risks to Australia's armed forces, operating costs, personnel requirements and reliance on communication links.³⁶ However, challenges arise from their use. These challenges include ensuring the employment of the weapon system by the unmanned platform system does not result in an indiscriminate use of an otherwise lawful weapon, for example because the technology fails to discriminate between military and civilian targets; honouring the responsibility to educate all those involved in the production of such unmanned platform systems in IHL and ensuring attribution of liability and responsibility for their use.

Australian Red Cross urges Australia to consider the fundamental legal (and ethical) issues related to the increasing levels of autonomy in the critical functions of emerging weapons systems, including unmanned platform systems, before they are further developed or deployed in armed conflict.

Australian Red Cross urges the ADF to only employ unmanned platform systems if respect for IHL can be guaranteed

³⁶ Ibid 1