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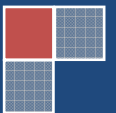
Dangerous Ambiguities: *Regulation of Riot Control Agents and Incapacitants under the Chemical Weapons Convention*

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Acronyms

ARDEC	Army Research Development and Engineering Center
BNLWRP	Bradford Non-Lethal Weapons Research Project
BWC	Biological Weapons Convention
BZ	3-Quinuclidinyl benzilate
CAS	Chemical Abstracts Service
CN	2-Chloro-1-phenyl-ethanone
CS	[(2-Chlorophenyl)-methylene]propanedinitrile
CSP	Conference of States Parties
CWC	Chemical Weapons Convention
DM	Diphenylaminochloroarsine (adamsite)
ECBC	Edgewood Chemical Biological Center
EDA	European Defence Agency
EO [11850]	Executive Order 11850 – Renunciation of Certain Uses in War of Chemical Herbicides and Riot Control Agents
EU	European Union
FAC	Foreign Affairs Committee
GC-MS	Gas Chromatograph - Mass Spectrometer
ICC	International Criminal Court
ICRC	International Committee of the Red Cross
IHL	international humanitarian law
IUPAC	International Union of Pure and Applied Chemistry
JAG	Judge Advocate General
JNLWD	Joint Non-Lethal Weapons Directorate
LEC	law enforcement chemicals
NAM	Non-Aligned Movement
NATO	North Atlantic Treaty Organization
NGO	non-governmental organization
NIJ	National Institute of Justice
NLW	‘non-lethal’ weapon
OC	Oleoresin capsicum
OCAD	OPCW Central Analytical Database
OPCW	Organisation for the Prohibition of Chemical Weapons
PAVA	Pelargonic acid vanillylamide
PMC	private military company
POW	prisoner of war
PSC	private security company
R&D	research and development
RCA	riot control agent
SAB	Scientific Advisory Board
SP	States Parties
STOA	Scientific and Technology Options Assessment Panel
TS	Technical Secretariat
VCLT	Vienna Convention on the Law of Treaties
WHO	World Health Organization
WMD	weapons of mass destruction

Executive Summary

Dangerous ambiguities and weaknesses in the CWC control regime

The Chemical Weapons Convention (CWC) is a multilateral treaty that proscribes the development, production, stockpiling, transfer and use of chemical weapons and requires their destruction within a specified time period. As well as prohibiting the more lethal chemical weapons such as nerve agents and blistering agents, the CWC covers a wide range of chemicals within its scope of regulation including certain so-called 'non-lethal' weapons such as riot control agents (RCAs) and incapacitants. A review of the CWC and its related mechanisms and structures has highlighted the following limitations in both design and implementation of the control regime with regard to RCAs and incapacitants:

- **Serious weaknesses in the CWC's textual architecture:**

A number of Articles detailing States Parties' obligations are ambiguous and there is a lack of clarity regarding their inter-relationship. Such ambiguity is exacerbated by the lack of definition of certain key terms used in the Convention. For example, although RCAs are defined under the CWC, the scope and nature of their permissible use in situations of armed conflict and in law enforcement operations are ambiguously regulated, due in part to the Convention's failure to describe and demarcate 'method of warfare' and 'law enforcement'. The situation is even more uncertain regarding incapacitants, which are not specifically defined under the Convention.

- **Limitations in declaration and transparency mechanisms:**

Whilst the Convention establishes declaration and transparency mechanisms for three groupings of Scheduled chemicals, the comparable mechanisms that relate to RCAs have severe limitations. Furthermore, there are no effective declaration or transparency mechanisms for those incapacitants that are not Scheduled chemicals.

- **Failure of States Parties to fully utilise multilateral consultation and investigation mechanisms:**

Although States Parties have employed bi-lateral consultation mechanisms, the potentially powerful multilateral consultation, investigation and fact-finding procedures that could be applied to cases of concern under the Convention, have never been utilised. The consequences of this apparent failure by States Parties to use such mechanisms are exacerbated by the very circumscribed ability of the OPCW Technical Secretariat to undertake independent information gathering and monitoring activities. For example, there are no formal mechanisms for the Technical Secretariat to receive and act upon information provided by the media, NGOs or academia. Furthermore, the Technical Secretariat cannot undertake consultation, investigation and fact-finding mechanisms unless requested to do so by a State Party.

- **Failure of oversight bodies to respond to possible breaches:**

There has been a marked failure by the OPCW oversight and policy making organs to effectively monitor implementation of the Convention with regard to RCAs and incapacitants and to take action where reports of possible breaches of the Convention have become public.

Questionable State practice

Whilst the international governmental community has been unable or unwilling to address the dangerous ambiguities and weaknesses in the CWC regulatory regime, a number of countries have permitted activities that may undermine (and potentially breach) the Convention and/or may be in contravention of relevant international law, in the following areas:

- **The misuse of riot control agents:**

Law enforcement: A survey of the use of RCAs by law enforcement officials highlights reported human rights abuses utilising RCAs in at least 35 countries from 2004 to 2008. The survey reveals that RCAs have reportedly been used in a variety of human rights abuses including suppression of the right to assembly, excessive use of force, ill-treatment and torture. In some instances misuse of RCAs, particularly in enclosed spaces, has reportedly resulted in serious injury or death. As well as potentially breaching international human rights standards or agreements, some of these actions may also be inconsistent with Articles 2.1 or 2.9 of the CWC.

Military: The reported use of an RCA by Turkish armed forces against armed Kurdish fighters in 1999 and subsequent reports in 2004 of the training of Turkish anti-terrorist forces in the use of RCAs for such military operations, may potentially have breached Article 1.5 of the CWC.

Private military and security companies: The reported misuse of an RCA by a US private military company in Iraq in 2005 highlights potential difficulties with interpretation and application of the CWC with regard to private military and security companies.

- **Development and use of incapacitants**

In October 2002, Russian Federation security forces employed a still unidentified incapacitant in their attempt to free approximately 800 hostages held by Chechen armed fighters. Although the majority of the hostages were saved, over 120 were killed by the incapacitant and many more suffer long term health effects.

Subsequently, Russia, the Czech Republic and the US have undertaken research into incapacitants and/or possible delivery mechanisms. Reports indicate that a number of other States including China, France and the UK, as well as NATO and the European Defence Agency, have shown interest in this area. Concerns about State research into incapacitants are exacerbated by the extremely rapid advances in relevant science and technology, particularly genomics, synthetic biology, biotechnology, neuroscience and the understanding of human behaviour.

- **Means of delivery and dispersal**

Although the CWC includes munitions and means of delivery within its definition of chemical weapons, there is continuing ambiguity as to the type and specifications of those means of delivery that are permissible (primarily for law enforcement operations) and those that are prohibited under the Convention. Research for this report has uncovered evidence of the manufacture of munitions by Russian and Turkish companies which may potentially breach Articles 1.1 and 1.5 of the Convention.

Introduction

The Chemical Weapons Convention (CWC)¹ is a multilateral treaty that prohibits the development, production, stockpiling, transfer and use of chemical weapons and requires their destruction within a specified time period. The Treaty is of unlimited duration and is designed to be far more comprehensive in scope and application than any prior international agreement on chemical weapons. It is overseen by its own treaty body, the Organisation for the Prohibition of Chemical Weapons (OPCW), which includes a Technical Secretariat of some 500 staff headed by the Director General which carries out the daily work of monitoring compliance with, and facilitating implementation of, the Convention.²

The CWC entered into force on 29th April 1997 and, at the time of writing, comprises 188³ States Parties that have ratified, acceded or succeeded to it⁴ - the highest number of any comparable arms control or disarmament treaty. The OPCW Member States now represent about 98% of the global population and landmass, as well as 98% of the worldwide chemical industry.⁵ The CWC has become an important bulwark, preventing the use of chemical weapons against both military personnel and civilian populations under any circumstances.

As well as prohibiting the more lethal chemical weapons such as nerve agents and blistering agents, the CWC covers a wide range of chemicals within its scope of regulation including certain so-called 'non-lethal' weapons⁶ such as riot control agents (RCAs) and incapacitants.

'Non-lethal' chemical agents are designed and employed so as to incapacitate personnel, while minimising fatalities and serious injuries, or, in the case of RCAs, to threaten such incapacitation unless people exposed do not move away. However concerns have been expressed by a number of arms control organisations, human rights monitors, humanitarian organisations, members of the scientific and medical communities, and a number of governments, about the use and misuse of certain 'non-lethal' chemical agents.

This report will seek to review how two specific classes of 'non-lethal' chemical agents - RCAs and incapacitants – and related means of dispersal and delivery, are regulated under the CWC. It will also seek to assess, through case studies, how effectively the Convention's reporting, verification and compliance mechanisms have been applied to these chemical agents and means of delivery. The report will present a range of policy recommendations for the consideration of CWC States Parties and highlight areas where further research would be beneficial.

¹ OPCW, Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention); <http://www.opcw.org/chemical-weapons-convention/articles>. (accessed 3rd June 2009).

² The Chemical Weapons Convention at a glance, Chemical/Biological Arms Control Fact Sheet, Arms Control Association, October 2008 <http://www.armscontrol.org/factsheets/cwvglance>.

³ For details of States Parties see: [Http://www.opcw.org](http://www.opcw.org) (accessed 3rd June 2009).

⁴ An additional two Signatory States (Israel and Myanmar) have signed the CWC, thus rendering political support to the objectives and principles of the Convention and committing themselves to not undermining the Convention's objectives. Only five Non-Signatory States (Angola, DPRK, Egypt, Somalia and Syria) have not taken any action on the Convention.

⁵ OPCW, About the OPCW, <http://www.opcw.org/about-opcw/> (accessed 26th February 2009).

⁶ There is continuing controversy over the nature and scope of the term 'non-lethal' weapons. In recognition of this, the term will be placed in quotation marks. Such weapons are also commonly called 'less lethal' or 'disabling' weapons.

Chapter 1: An overview of the Chemical Weapons Convention and related implementation mechanisms and structures

Introduction:

This chapter will review the textual architecture of the Chemical Weapons Convention (CWC),⁷ highlighting ambiguities in the text that could potentially limit the effectiveness of the control regime. The chapter will then explore the mechanisms and structures established to implement the Treaty and examine how effectively the CWC's reporting, verification and compliance mechanisms have been applied in practice. Whilst much of this analysis is applicable to the regulation of toxic chemicals in general under the Convention, the specific implications for the control of RCAs and incapacitants are highlighted.

Chemical Weapons Convention Text

General Obligations

Article 1 establishes the basic overarching obligations of States Parties under the Convention. Firstly, each State Party undertakes “*never under any circumstances*” to “*use a chemical weapon*.”⁸ Article 1 also prohibits the development, production, stockpiling or transfer “*directly or indirectly*” of “*chemical weapons to anyone*.”⁹ Furthermore, States Parties are prohibited from engaging in “*any military preparations to use chemical weapons*”¹⁰ or to “*assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention*.”¹¹ In addition, Article 1 also requires that all existing stocks of chemical weapons¹² and chemical weapons production facilities¹³ be destroyed.

As Krutzsch and Trapp¹⁴ note in their commentary to the Convention, the chapeau phrase to Article 1.1 (a) - (d): “*never under any circumstances*”, emphasizes the comprehensive and totally binding nature of all the prohibitions set out under these paragraphs. This also relates to the geographical scope of the prohibitions, which extend to all activities of States Parties everywhere. This is further underlined by the Article 7 provisions on national implementation which oblige each State Party to “*adopt the necessary measures to implement its obligations under this Convention*”¹⁵ specifically including legislation which is extra-territorial in nature.¹⁶

Furthermore, Krutzsch and Trapp contend that the wording of Article 1 excludes any justification for the prohibited activities, and “*covers all intents and purposes for such activities, independent of the character of the armed conflict, whether, an international or non-*

⁷ OPCW, Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention); <http://www.opcw.org/chemical-weapons-convention/articles>, (accessed 3rd June 2009).

⁸ OPCW, Chemical Weapons Convention, Article 1.1.b.

⁹ OPCW, Chemical Weapons Convention, Article 1.1.a.

¹⁰ OPCW, Chemical Weapons Convention, Article 1.1.c.

¹¹ OPCW, Chemical Weapons Convention, Article 1.1.d.

¹² OPCW, Chemical Weapons Convention, Article 1.3.

¹³ OPCW, Chemical Weapons Convention, Article 1.4.

¹⁴ Krutzsch, W. and Trapp, R. (1994) *A Commentary on the Chemical Weapons Convention*. Dordrecht: Martinus Nijhoff Publishers, pp.12-13.

¹⁵ OPCW, Chemical Weapons Convention, Article 7.1.

¹⁶ OPCW, Chemical Weapons Convention, Article 7.1.c.

*international one, whether the parties involved had recognized themselves or whether or not it is a civil strife.*¹⁷ The comprehensive nature of the CWC's obligations are further established under Article 22 which permits no reservations by States Parties to the Convention.¹⁸

Toxic chemicals

The comprehensive nature of the Convention is further established under Article 2.2 which defines a 'toxic chemical' as:

*"...any chemical, regardless of its origin or method of production, which, through chemical action on life processes, can cause death, **temporary incapacitation** or permanent harm to humans or animals."*¹⁹ [Emphasis added].

The Convention therefore covers a wide range of chemicals within its scope including certain so-called 'non-lethal' weapons,²⁰ such as riot control agents (RCAs) and incapacitants, as well as the more lethal chemical weapons, such as nerve agents and blistering agents.

Article 2.2 also states that *"For the purpose of implementing this Convention, toxic chemicals which have been identified for the application of verification measures are listed in Schedules contained in the Annex on Chemicals."*²¹

The Chemical Weapons Convention categorises certain individual toxic chemicals and families into three Schedules,²² which should be reviewed and updated as required.²³ Schedule 1²⁴ chemicals and precursors pose a 'high risk' to the Convention and are rarely used for peaceful purposes. Schedule 2²⁵ chemicals are toxic chemicals that pose a 'significant risk' to the Convention. Schedule 3²⁶ chemicals are usually produced in large quantities for 'purposes not

¹⁷ Krutzsch, W. and Trapp, R. (1994) *op.cit.*, p.13

¹⁸ OPCW, Chemical Weapons Convention, Article 22.

¹⁹ OPCW, Chemical Weapons Convention, Article 2.2.

²⁰ There is continuing controversy over the nature and scope of the term 'non-lethal' weapons. In recognition of this, the term will be placed in quotation marks. Under one common definition, developed by NATO, 'non-lethal' weapons are *"weapons which are explicitly designed and developed to incapacitate or repel personnel, with a low probability of fatality or permanent injury, or to disable equipment with minimal undesired damage or impact on the environment."* NATO Policy on Non-Lethal Weapons, NATO, 13th October 1999, at <http://www.nato.int/docu/pr/1999/p991013e.htm>, (accessed 3rd June 2009).

²¹ OPCW, Chemical Weapons Convention, Article 2.2.

²² OPCW, Annex on Chemicals, Guidelines for Schedules of Chemicals, <http://www.opcw.org/chemical-weapons-convention/annex-on-chemicals/a-guidelines-for-schedules-of-chemicals/>. For a summary see: The Chemical Weapons Convention at a glance, Chemical/Biological Arms Control Fact Sheet, Arms Control Association, October 2008 <http://www.armscontrol.org/factsheets/cwcglance>, (accessed 3rd June 2009).

²³ It is unclear how successfully this review process is working in practice as the Schedules were not discussed in any depth at either of the CWC Review Conferences and to date there have been no formal proposals to amend them. For a discussion of the potential negative impact of this upon the verification regime see: Thranert, O. and Tucker, J. (2007) *Freeing the World of Chemical Weapons*, German Institute for International and Security Affairs, p.21.

²⁴ OPCW, Annex on Chemicals, Schedule 1, <http://www.opcw.org/chemical-weapons-convention/annex-on-chemicals/b-schedules-of-chemicals/schedule-1/>.

²⁵ OPCW, Annex on Chemicals, Schedule 2, <http://www.opcw.org/chemical-weapons-convention/annex-on-chemicals/b-schedules-of-chemicals/schedule-2/>.

²⁶ OPCW, Annex on Chemicals, Schedule 3, <http://www.opcw.org/chemical-weapons-convention/annex-on-chemicals/b-schedules-of-chemicals/schedule-3/>.

prohibited' by the CWC but still pose a risk to the Convention. Some of these Schedule 3 chemicals have been stockpiled as chemical weapons.²⁷

Chemical weapons and the 'general purpose criterion'

To determine whether the application of a specific toxic chemical is in conformity with the CWC, the intention or purpose for its use needs to be determined.

Under Article 2.1 of the Convention, chemical weapons are defined as:

*"(a) toxic chemicals or their precursors, except where intended for purposes not prohibited by the Convention, as long as the types and quantities are consistent with such purposes;"*²⁸ [Emphasis added].

This Article, called the 'general purpose criterion' is at the heart of the Convention and allows the Convention to accommodate and reflect the advance of science, for *"even toxic chemicals whose existence is not yet known are covered"* by its provisions.²⁹

"Purposes not prohibited" and limitations on use

The *"purposes not prohibited"* are defined under Article 2.9 as:

- (a) Industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes;*
- (b) Protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons;*
- (c) Military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare;*
- (d) Law enforcement including domestic riot control purposes."*³⁰

Toxic chemicals used for purposes not provided for in Article 2.9 will then constitute a chemical weapon and be prohibited under the CWC.

Krutzsch and Trapp have highlighted the fact that the CWC Verification Annex relating to Schedule 1 chemicals is more restrictive in terms of the 'purposes not prohibited' than Article 2.9.³¹ Under Part VI (A), paragraph 2 of the Annex *"A State Party shall not produce, acquire, retain or use Schedule 1 chemicals unless the chemicals are applied to research, medical, pharmaceutical or protective purposes."*³² Krutzsch and Trapp contend that *"a Schedule 1 chemical cannot be used for any other purposes than those listed even if such a purpose were a*

²⁷ Facilities that produce Scheduled chemicals must be declared if their annual output exceeds specific amounts, and must be open to inspection on a routine basis if their annual production exceeds a higher set of quantitative thresholds. Other Chemical Production Facilities (OCPFs) are industrial plant sites that do not currently produce Scheduled chemicals, but an increasing fraction of them are capable of doing so. Given the large number of such facilities that may pose a risk of misuse, the OPCW Scientific Advisory Board has called for stepping up routine inspections at OCPFs. See Tucker, J. (2007) Verifying the Chemical Weapons Ban: Missing Elements, *Arms Control Today*, January-February 2007, Arms Control Association, <http://www.sussex.ac.uk/Units/spru/hsp/Papers/Seminar%206/Tucker.pdf>. (accessed 3rd June 2009).

²⁸ OPCW, Chemical Weapons Convention, Article 2.1.

²⁹ Meselson, M. and Perry Robinson, J. (1994) New Technologies and the Loophole, Editorial, *Chemical Weapons Convention Bulletin* 23, March 1994, Harvard Sussex Program. <http://fas-www.harvard.edu/hsp/bulletin/cwcb23.pdf>. (Accessed 16th November 2008), p.1.

³⁰ OPCW, Chemical Weapons Convention, Article 2.9.d.

³¹ Krutzsch, W. and Trapp, R. (1994) *op.cit.*, p.418.

³² OPCW, Chemical Weapons Convention, Verification Annex, Part VI(A), Paragraph 2, <http://www.opcw.org/chemical-weapons-convention/verification-annex/part-vi/>.

peaceful one not related to the development, production or use of chemical weapons.”³³ Consequently they argue that Schedule 1 chemicals would not be permitted for use in law enforcement operations.

A further important limitation on the use of toxic chemicals for all ‘purposes not prohibited’ is detailed under Article 2.1 of the Convention. Such use is acceptable only “*as long as the types and quantities [of toxic chemicals] are consistent with such purposes.*”³⁴ The implications for the legitimate use of RCAs and incapacitants will be explored in Chapters 2 and 3, respectively.

Ambiguities in the CWC text

An analysis of the CWC shows that while many of the terms utilised in the Convention are defined elsewhere in the text, several important concepts were left undefined by the negotiators.

For example, Article 1.5 of the CWC specifically prohibits the use of “*riot control agents as a method of warfare.*”³⁵ However, the Convention fails to define ‘method of warfare.’ Similarly, although toxic chemicals are permitted for “*law enforcement including domestic riot control purposes*” under Article 2.9(d), neither the term ‘law enforcement’ nor ‘domestic riot control purposes’ are defined. In this case, the ambiguity caused by a lack of definition of these terms is exacerbated by the fact that there is a potential overlap between permissible ‘law enforcement’ activities and prohibited ‘methods of war.’ Certain commentators believe that such ambiguity was intentional, accommodating the interests of certain States. For example, the March 1994 editorial of the *Chemical Weapons Convention Bulletin* noted:

*“Some, by no means a majority, of the negotiating States wished to protect possible applications of disabling chemicals that would either go beyond, or might be criticized as going beyond, applications hitherto customary in the hands of domestic police forces.”*³⁶

It can be argued that a degree of ‘constructive ambiguity’ was useful and perhaps was indispensable in developing a Convention text that all negotiating States could sign up to, given the opposing positions of some States on certain issues.

Where such ambiguity exists in international agreements, States have recourse to legal tools and guidelines to aid them in their interpretations of the text, most importantly the Vienna Convention on the Law of Treaties.

Vienna Convention on the Law of Treaties:

The Vienna Convention on the Law of Treaties³⁷ codifies the customary international law on treaties between States. Drafted by the International Law Commission of the United Nations, it entered into force on 27th January 1980, and to date has been ratified by 109 States.³⁸

³³ Krutzsch, W. and Trapp, R. (1994) *op.cit.* p.418.

³⁴ OPCW, Chemical Weapons Convention, Article 2.1.a.

³⁵ OPCW, Chemical Weapons Convention, Article 1.5.

³⁶ Perry Robinson, J. and Meselson, M. (1994) *op.cit.* p.2.

³⁷ United Nations, Vienna Convention on the Law of Treaties, 1969, http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf. (accessed 12th June 2009).

³⁸ United Nations Treaty Collection website, http://treaties.un.org/Pages/ViewDetailsIII.aspx?&src=TREATY&mtdsg_no=XXIII~1&chapter=23&Temp=mtdsg3&lang=en (accessed 12th June 2009).

Article 31 of this Convention, establishes “a general rule of interpretation” which includes the stipulation that “a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.”³⁹ When undertaking such interpretation States must take into account:

(a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions;

(b) any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation;

(c) any relevant rules of international law applicable in the relations between the parties.”⁴⁰

In addition, under Article 32, “recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion...”⁴¹

However, even utilising such interpretive tools, textual ambiguity if left unresolved can become dangerous, leading to differing interpretations of the CWC by States Parties. This in turn can lead to breaches of the Convention by some States Parties and also to an erosion of the stability of the regime and key prohibitions.

Despite these concerns, analysis of all publicly available OPCW documents shows that no policy making body of the OPCW has made clarificatory determinations on the areas of textual ambiguity identified above,⁴² nor established processes for doing so.⁴³ To date, it has been left to States Parties to interpret the meanings and correct implementation of these Articles.

The implications of this lack of definitional clarity, for the regulation of RCAs, incapacitants and means of delivery are explored in Chapters 2, 3 and 4 respectively.

CWC implementation structures and mechanisms

The CWC is implemented by its States Parties with the assistance of the Organisation for the Prohibition of Chemical Weapons (OPCW).⁴⁴ The OPCW, which is headquartered in The Hague, Netherlands, is comprised of all States Parties of the CWC, and has three statutory organs:

The **Conference of the States Parties (CSP)** which is the main policy-making organ of the OPCW. Under the CWC, the CSP “shall consider any questions, matters or issues within the scope of this Convention.”⁴⁵ It has particular responsibility for overseeing “the implementation of this Convention, and act in order to promote its object and purpose. The Conference shall review compliance with this Convention.”⁴⁶ It is composed of all Member States of the OPCW,

³⁹ United Nations, Vienna Convention on the Law of Treaties, Article 31.1.

⁴⁰ United Nations, Vienna Convention on the Law of Treaties, Article 31.3.a-c.

⁴¹ United Nations, Vienna Convention on the Law of Treaties, Article 32.

⁴² Additional terms that were left undefined or inadequately defined in the Convention, and have not subsequently been adequately addressed by the OPCW policy making organs, include ‘incapacitation’, ‘life processes’, ‘munitions and devices’ and ‘toxicity’. It should, however, be noted that for other areas of ambiguity, the OPCW policy making organs have taken decisions that clarified terms used in the CWC and provided agreed understandings (interpretations) of them.

⁴³ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>) since the organisation’s inception.

⁴⁴ OPCW, Chemical Weapons Convention, Articles 8.1 to 8.8.

⁴⁵ OPCW, Chemical Weapons Convention, Article 8.19.

⁴⁶ OPCW, Chemical Weapons Convention, Article 8.20.

and meets annually. Every five years a **Special Session of the CSP** is held to systematically review the operation of the Convention (**the Review Conference**);⁴⁷

The **Executive Council** which is the executive organ of the OPCW, responsible to the Conference. It is composed of representatives from 41 Member States and meets at least four times per year in regular sessions and more frequently in meetings and informal consultations;⁴⁸

The **Technical Secretariat** which assists the Conference and the Executive Council and has a staff currently numbering some 500 people, including about 200 inspectors, headed by the Director General. It carries out the daily work of monitoring, verifying and facilitating implementation of the Convention;⁴⁹

The Technical Secretariat receives States Parties' declarations, detailing chemical weapons-related activities or materials and relevant industrial activities. After receiving declarations, the Technical Secretariat inspects and monitors States Parties' facilities and activities that are relevant to the Convention, aiming to ensure compliance.⁵⁰

Factors limiting effectiveness of the OPCW structures and mechanisms

Analysts⁵¹ have highlighted a range of factors which have limited the effectiveness of the OPCW. These include budgetary restrictions, Technical Secretariat staffing and tenure policies, political interference in the Technical Secretariat's operations, inadequate national implementation measures by States Parties and difficulties in achieving universality. A number of additional factors which have direct relevance on regulation of RCAs and incapacitants are discussed below.

Delays and failures in decision making

Evidence has emerged of the apparent inability of the OPCW policy making organs to address important or pressing issues, even if a delay in action could potentially seriously weaken the effectiveness of the Convention. This situation has lasted several years. In June 2001, for example, the Harvard-Sussex Program highlighted an “*increasing paralysis in the policy making organs of the Organisation, especially the [Executive] Council.*”⁵² Similarly, Kelle described a ‘*culture of deferral*’ which had co-evolved with the Executive Council and the

⁴⁷ OPCW, Chemical Weapons Convention, Articles 8.9 to Article 8.22.

⁴⁸ OPCW, Chemical Weapons Convention, Articles 8.23 to 8.36.

⁴⁹ OPCW, Chemical Weapons Convention, Articles 8.37 to 8.47.

⁵⁰ OPCW, Chemical Weapons Convention, Articles 8.37 to 8.47.

⁵¹ See for example: Barbeschi, M. (2002) Organisational culture of the OPCW secretariat, *Disarmament Forum*, No. 4, 2002, UNIDIR, <http://www.unidir.ch/pdf/articles/pdf-art1825.pdf> (accessed 3rd June 2009); Krutzsch, W. (2005) ‘Never under any circumstances’ The CWC in The Third Year After its First Review-Conference, *CBW Conventions Bulletin* 68, Harvard Sussex Program, <http://www.bits.de/public/gast/krutzsch0905e.htm>. (accessed 3rd June 2009); Mathews, R. (2003) Reviewing the Chemical Weapons Convention: gently does it, *Verification Yearbook 2003*, VERTIC; Perry Robinson, J. (2008) Difficulties facing the Chemical Weapons Convention, *International Affairs*, vol 84 no 2, 2008; Smithson, A. (2004) Recharging the Chemical Weapons Convention, *Arms Control Today*, March 2004, http://www.armscontrol.org/act/2004_03/Smithson; VERTIC (2002) *Getting verification right: Proposals for Enhancing Implementation of the Chemical Weapons Convention*; Zanders, J. P. (2002) The Chemical Weapons Convention and universality: A question of quantity over quality? *Disarmament Forum*. No. 4, 2002, UNIDIR.

⁵² Mills, P. (2001) Progress in The Hague: Quarterly Review no 34. *CBW Conventions Bulletin*, No 52, June 2001, pp 3-15 at p 3, Harvard Sussex Program.

Conference of States Parties; “a reluctance to grasp thorny and potentially divisive issues in a timely and effective fashion.”⁵³

In January 2003, concerns about the effective implementation of the Convention led to the circulation of an ‘Appeal’ from former negotiators and interested scientists, calling for the nurturing and full implementation of the CWC, and stating that “*regrettably, governments have reduced, to less than a routine level, the attention they give to the Convention.*”⁵⁴ Among its recommendations was a call for “*resolute effort by the political organs of the Organization to concentrate on issues of compliance and to inform the public about those issues – they must be prepared to take difficult decisions more effectively and more transparently...*”⁵⁵

Concerns about the OPCW decision making processes have continued. In October 2007, for example, Perry Robinson highlighted “*a turning of blind eyes*” amongst the policy organs of the OPCW with regard to the danger of “*creeping legitimization*” of the use of toxic chemicals other than RCAs for law enforcement. Perry Robinson contended that this, in turn, meant that the Director General had “*been obliged*” to take the position in public “*that the issue is not yet ripe for resolution.*”⁵⁶

Certain analysts have highlighted the role of consensus decision-making in this situation. In 2002, Scott asserted that “*There can be little doubt that the paralysis that has afflicted the OPCW two decision making bodies [the CSP and the Executive Council] is due solely to the tradition of making decisions by consensus...*”⁵⁷ Krutzsch also believes that a major factor contributing to such paralysis has been the reliance upon decision making by consensus, particularly in the Executive Council. “*The CWC stipulates that the Council shall decide on matters of substance by a two-thirds majority vote of all its members (see Article 8, paragraph 29)...However, shortly after entry into force of the Convention in 1997, the rule for decision making of the Council by vote was in practice disposed of and replaced by a consensus rule... The end result is that agreement in the Council generally becomes set at the lowest common denominator...Endless lists of unresolved issues mark the way of this failed organ.*”⁵⁸ Krutzsch has also highlighted how the failure of the Executive Council to function hampers the work of other organs of the OPCW. “*The paralysis of the Council necessarily negatively affects the*

⁵³ Kelle, A. (2003) The CWC After Its First Review Conference: Is the Glass Half Full or Half Empty? *Disarmament Diplomacy*, Issue No.71, June-July 2003, Acronym Institute, <http://www.acronym.org.uk/dd/dd71/71cwc.htm> (accessed 3rd June 2009).

⁵⁴ *An asset for the sake of peace and humanity - 10th anniversary the Chemical Weapons Ban, 2003*, available at: <http://www.cwc-support.org>, as cited in Krutzsch, W. (2005) ‘Never under any circumstances’ The CWC in The Third Year After its First Review-Conference, *CBW Conventions Bulletin* 68, 2005, p.11, Harvard Sussex Program, <http://www.sussex.ac.uk/Units/spru/hsp/documents/CBWCB68.pdf> (accessed 3rd June 2009).

⁵⁵ *Ibid.*

⁵⁶ Perry Robinson, J. (Oct 2007) *Non lethal warfare and the Chemical Weapons Convention, Further HSP submission to the OPCW Open-Ended Working Group on Preparations for the Second CWC Review Conference*, 24th October 2007, Harvard Sussex Program, p.32 <http://www.sussex.ac.uk/Units/spru/hsp/Papers/421rev3.pdf> (accessed 24th November 2008).

⁵⁷ Scott, D. (2002) Logjam in the OPCW – Time to Limit Consensus? *CWC Special Paper No.1*, December 2002, p. 4, Acronym Institute, <http://www.acronym.org.uk/cwc/spec01.htm> (accessed 24th November 2008).

⁵⁸ Krutzsch, W. (2007) Ensuring True Implementation of the CWC, *CBW Conventions Bulletin* 76+77, 2007, Harvard Sussex Program, http://www.sussex.ac.uk/Units/spru/hsp/documents/CBWCB76_77.pdf, p.16 (accessed 3rd June 2009).

work of the Conference of the States Parties, since Article VIII mandates the Council with important general tasks and 68 special tasks which are essential for the Conference."⁵⁹

Krutzsch has also questioned whether the process of decision-making is fair and even-handed. He highlights the asymmetric response of the policy making organs to two issues: delays in the implementation of Article 7 which were made the focus of an Action Plan and compliance issues concerning Articles 1 and 4 – which were not addressed at all. He believes that "*there is now a string of issues bearing the 'too-difficult-to-deal-with' label that signals the involvement of big-power interests and, therefore, that it is advisable not to raise them.*"⁶⁰

Limitations on the autonomy of the Technical Secretariat

Under the CWC, the role of the Technical Secretariat is to "*assist the Conference and the Executive Council in the performance of their functions*" and to "*carry out the verification measures provided for in this Convention.*"⁶¹ However, the Technical Secretariat is circumscribed in the way in which it can meet such obligations. For example it has no formal remit, under the Convention, to undertake independent information gathering of State Party activities or systematically receive and monitor information on such activities provided by entities other than the State Party concerned. There is consequently no formal process for receiving and acting upon information obtained by the media, NGOs or academia. Furthermore, although the Convention establishes a range of consultation, clarification and fact-finding mechanisms, these cannot be initiated by the Technical Secretariat, without a request from a State Party.⁶²

However, there do appear to be certain Articles of the Convention which give some scope for the Technical Secretariat to bring concerns about compliance to the Executive Council, for example:

*"The Technical Secretariat shall inform the Executive Council of any problem that has arisen with regard to the discharge of its functions, including doubts, ambiguities or uncertainties about compliance with this Convention that have come to its notice in the performance of its verification activities and that it has been unable to resolve or clarify through its consultations with the State Party concerned."*⁶³

Furthermore there is potential under the assistance and protection provisions for unilateral action by the Director General.

*"If the information available from the ongoing investigation or other reliable sources would give sufficient proof that there are victims of use of chemical weapons and immediate action is indispensable, the Director-General shall notify all States Parties and shall take emergency measures of assistance, using the resources the Conference has placed at his disposal for such contingencies."*⁶⁴ [Emphasis added].

⁵⁹ Krutzsch, W. (2005) *op.cit*, p.9.

⁶⁰ Krutzsch, W. (2007) *op.cit*, p.16.

⁶¹ OPCW, Chemical Weapons Convention, Article 8.37.

⁶² OPCW, Chemical Weapons Convention, Article 9.

⁶³ OPCW, Chemical Weapons Convention, Article 8.40.

⁶⁴ OPCW, Chemical Weapons Convention, Article 10.11.

However, there is no publicly available information to indicate that the Technical Secretariat or the Director General have utilised such mechanisms to date.⁶⁵

Failure of States Parties to respect independence of the Technical Secretariat

Under the CWC, “*the Director General and the staff of the Organization shall enjoy such privileges and immunities as are necessary in the independent exercise of their functions in connection with the Organization.*”⁶⁶ Krutzsch has claimed, however, that the independence of the Technical Secretariat “*is being eroded*”⁶⁷ and “*has been compromised in many respects.*”⁶⁸ For example, under the CWC’s Verification Annex, members of inspection teams should “*be accorded the inviolability enjoyed by diplomatic agents pursuant to Article 29 of the Vienna Convention on Diplomatic Relations of 18 April 1961.*”⁶⁹ The Annex further stipulates that their living quarters and office premises, papers and correspondence (including records), samples and approved equipment are inviolable.⁷⁰ However, according to Krutzsch, these key provisions have been “*routinely violated during hundreds of inspections.*”⁷¹

Smithson has highlighted how the inviolability of inspection teams’ notebooks has been compromised by an OPCW decision that allows the host government to photocopy inspectors’ notebooks at the end of an inspection. Smithson states that whilst “*the purported reason for this change was to protect inspected States from the prospect that inspectors might write down national security or trade secrets. The practical effect was to put inspectors in a poor position to record evidence of cheating. Furthermore, this measure gives CWC members a method to preclude the entry of the toughest inspectors to their country because all States have the right to select which inspectors may work within their borders. Those who record ambiguities, uncertainties, and violations risk the chance of being parked in The Hague, not cleared for entry.*”⁷²

Limitations of the Review Conference

A regular five-yearly review of “*the operation of this Convention*” is mandated under the CWC.⁷³ Such Review Conferences have the specific responsibility to “*take into account any relevant scientific and technological developments.*”⁷⁴ Furthermore, under the Verification Annex, the First Review Conference was also tasked with examining elements of the Annex “*in the light of a comprehensive review of the overall verification regime for the chemical industry (Article VI, Parts VII to IX of this Annex) on the basis of the experience gained. The Conference shall make recommendations so as to improve the effectiveness of the verification regime.*”⁷⁵

⁶⁵ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>) since the organisation’s inception. This was supplemented by a wide ranging search of media, NGO and academic publications.

⁶⁶ OPCW, Chemical Weapons Convention, Article 8.49.

⁶⁷ Krutzsch, W. (2005) *op.cit.*, p.8.

⁶⁸ Krutzsch, W. (2007) *op.cit.*, p.15.

⁶⁹ OPCW, Chemical Weapons Convention, Verification Annex, Part 2, B, Article 11 (a), <http://www.opcw.org/chemical-weapons-convention/verification-annex/part-ii/#c1081>.

⁷⁰ OPCW, Chemical Weapons Convention, Verification Annex, Part 2, B, Article 11 (b)-(d), <http://www.opcw.org/chemical-weapons-convention/verification-annex/part-ii/#c1081>.

⁷¹ Krutzsch, W. (2007) *op.cit.*, p.15.

⁷² Smithson, A. (2004) *op.cit.*

⁷³ OPCW, Chemical Weapons Convention, Article 8.22.

⁷⁴ OPCW, Chemical Weapons Convention, Article 8.22.

⁷⁵ OPCW, Chemical Weapons Convention, Verification Annex, Part 9, Section C, Article 26.

The important opportunity that Review Conferences provide States Parties to 'take stock' of the 'health' of the Convention has been highlighted by a number of observers.⁷⁶ As Thranert and Tucker note “*Whereas the regular sessions of the Executive Council and the Conference of the States Parties focus on tactical and operational issues, the review conference provides an opportunity to take a strategic overview of CWC implementation to ensure that the Treaty remains relevant in a changing technological and security environment.*”⁷⁷

There have been two Review Conferences since the CWC came into force. Leading commentators believe that both have been only partially successful in meeting the objectives set under the Convention.⁷⁸ Writing prior to the First Review Conference, Kelle highlighted two important factors that he believed would limit Conference effectiveness. “*First, time constraints will seriously undermine the most effective outcome of the Review Conference. This constraining factor will affect both the preparation of the Review Conference and its actual conduct.*” The second limiting factor is the “*political will by States parties to take on the difficult issues and to compromise in order for consensus to be reached.*”⁷⁹ Subsequent analysis confirmed Kelle’s predictions.

At the First Review Conference, Kelle noted that “*there was a clear trend towards papering over past shortcomings.*” And that States Parties undertook “*subtle manoeuvres to get bits and pieces of text removed from the draft Review Document, which would have made it clear that some countries had not lived up to their obligations.*”⁸⁰ Furthermore, there was an unwillingness by certain States to treat the Review Conference as an opportunity for a strategic review of the Convention and its implementation, but instead “*a large number of delegations were stuck in 'business-as-usual' mode, not inclined to take the step back necessary to look at the CWC's operation in more generic terms.*”⁸¹ Despite these limitations, Kelle does note that the First Review Conference did agree a Review Document which contained over 50 paragraphs highlighting tasks to improve the future implementation of the Convention, assigning them to at least one of the OPCW's organs, States Parties in general or specific groups of States Parties.⁸²

⁷⁶ For example see: Kelle, A. (2002). The first CWC Review Conference: taking stock and paving the way ahead, in *Disarmament Forum*, No.4, pp. 3-9. Geneva: UNIDIR; Keele, A. (2003) *op.cit.*; Moodie, M., “Issues for the First CWC Review Conference”. In: *The Chemical Weapons Convention: Implementation Challenges and Solutions*, Tucker, J., (ed), Washington DC: Monterey Institute of International Studies, April 2001, pp59-65; Neill, D. (May 2007) “The Chemical Weapons Convention: Topics for the Second Review Conference”, *Chemical Disarmament Quarterly*, p.15.

⁷⁷ Thranert, O. and Tucker, J. (2007) *Freeing the World of Chemical Weapons*, German Institute for International and Security Affairs, July 2007, p31.

⁷⁸ See Kelle, A. (2003) *op.cit.*; Dando, M. Missed opportunities at the chemical weapons treaty meeting, *Bulletin of Atomic Scientists*, 12th May 2008, <http://www.thebulletin.org/web-edition/columnists/malcolm-dando/missed-opportunities-the-chemical-weapons-treaty-meeting>; Feakes, D. (2008) The Second CWC Review Conference: Success At A Price, *WMD Insights*, Issue 25, June 2008, http://www.wmdinsights.com/I25/I25_G1_SecondCWCReview.htm; Guthrie, R. (2008) The Second Chemical Weapons Convention Review Conference, *CBW Conventions Bulletin* 79, June 2008 Harvard Sussex Programme. <http://www.sussex.ac.uk/Units/spru/hsp/documents/cbwc79%20-%20Guthrie.pdf>; Meier, O. (2008) CWC Review Conference Avoids Difficult Issues, *Arms Control Today*, May 2008, http://www.armscontrol.org/act/2008_05/CWC.

⁷⁹ Kelle, A. (2002) *op.cit.*

⁸⁰ Kelle, A. (2003) *op.cit.*

⁸¹ Kelle, A. (2003) *op.cit.*

⁸² Kelle, A. (2003) *op.cit.*

The limitations highlighted by Kelle have continued, seriously affecting the Second Review Conference. Inadequate preparatory work by certain Member States together with the failure of the Open-Ended Working Group to agree a draft final document,⁸³ combined with poor chairing of the Conference itself, meant that there was a real danger that a Final Report would not be agreed.⁸⁴ Consequently, on the penultimate day of the Conference, following discussion and agreement in the Conference Bureau, a small group of about 20 States Parties undertook to draft the Final Report of the meeting.⁸⁵ The exclusiveness of this process reportedly led to considerable frustration among many of the 114 delegations participating in the meeting, particularly smaller countries that were not part of 'the other meeting', as the select group came to be known.⁸⁶ Frustration was exacerbated by poor communication between the 'other group' and the remaining delegations. This situation was worsened further by uncertainty as to the function and mandate of the Committee of the Whole (comprising all Member States) during this drafting process. According to Meier, not only were 'the other meeting' proceedings closed to other delegates, but the small group also rewrote language that had previously been discussed among all participants in the Committee of the Whole. The results of consultations in 'the other meeting' were presented to the plenary meeting at 4 a.m. on Saturday morning, and most delegations only had an hour to work through the 149 paragraphs of the Final Report, which was adopted by 6 a.m.⁸⁷

At the close of the meeting, the Philippines formally registered its (and probably other delegations') "*grave concern at the limited and closed negotiation process (involving only some selected delegates) implemented in reviewing the Chemical Weapons Convention.*"⁸⁸

It further stated that:

"Even if the objective of this move was to facilitate the conduct of negotiations, the formation of such a group without the knowledge of the rest of the Conference delegations runs counter to the basic principle that meetings, conferences, or negotiations among States Parties should be "open, transparent, and inclusive."

This working method has resulted in a draft report where the majority of the delegates could not participate fully in the deliberations. We do not want this unexpected move to be precedent setting. This should not happen again."⁸⁹

⁸³ Because the Open-Ended Working Group was unable to agree a draft Final Report to submit to the Review Conference, a Chairperson's provisional draft text was circulated to the Conference. This reflected the Chairperson's "*personal view of the state of the Working Group's deliberations*". See: *Working Group for the Preparation of the Second Review Conference, Chairperson's Provisional Text*, Agenda Item 9 of the Draft Provisional Agenda of the Second Review Conference, RC-2/CRP.1, 31st March 2008. The Hague, Netherlands.

⁸⁴ Feakes, D. (2008) *op.cit*; Guthrie, R. (2008) *op.cit*; Meier, O. (2008) *op.cit*.

⁸⁵ The known 'invitees' to a meeting of the 'other group' were: Brazil, Canada, China, Cuba, Czech Republic, France, Germany, India, Iran, Japan, Mexico, Netherlands, Pakistan, Russia, Slovenia (EU Presidency), South Africa, Sudan, United Kingdom, and United States. The meeting was chaired by Saudi Arabia as it held the chair of the Review Conference. Algeria, as it held the chair of the Committee of the Whole, also participated, as did the OPCW Director-General. See Guthrie, R. *The Final Day: Running Close to the Wire, CWC Review Conference Report*, 18th April 2008, <http://www.cbw-events.org.uk/cwrc10.pdf>.

⁸⁶ Meier, O. (2008) *op.cit*.

⁸⁷ Meier, O. (2008) *op.cit*.

⁸⁸ Statement by the Republic of the Philippines, Second Review Conference of the Chemical Weapons Convention, RC-2/NAT.21, 18th April 2008, The Hague, Netherlands.

⁸⁹ Statement by the Republic of the Philippines, Second Review Conference of the Chemical Weapons Convention, RC-2/NAT.21, 18th April 2008, The Hague, Netherlands.

Feakes, however, notes that some participants argued that this process was actually an improvement upon previous meetings at which the final outcome was decided by an even smaller group of States.⁹⁰ Indeed it is true that following an impasse at the First Review Conference, the Chairman of the Committee of the Whole called a private meeting of those delegations that had been most actively engaged in discussions. In this meeting the UK, US, India and Iran reportedly conducted the critical negotiations.⁹¹ However, as both Feakes⁹² and Guthrie⁹³ note, the unusual factor at the Second Review Conference was that the ‘other meeting’ took responsibility for drafting the entire report,⁹⁴ not just the ‘contentious sections’. The exclusiveness and speed with which this process was undertaken meant that certain issues such as full and detailed discussion of the implications of scientific and technological advances were not possible.

Transparency, accountability and interaction with civil society

Since its establishment, analysts have highlighted the limited transparency and accountability of the OPCW to civil society.⁹⁵ In 2001, Tucker highlighted how the “*lack of transparency – and hence accountability – on the part of the OPCW has been*” a “*serious problem with CWC implementation.*” He noted that “*Not only have most States Party classified their declarations to the Organisation, but documents from the Executive Council and the Scientific Advisory Committee are unavailable to the public.*”⁹⁶

Tucker stated that “*As a result of this information black-out, non-governmental organizations and the international media have had great difficulty playing their customary “watchdog” role. In addition to making it difficult for outsiders to follow the actions of the OPCW, the low profile of the Organization has deprived it of a public constituency that supports what it is trying to accomplish.*”⁹⁷

The situation still remains unsatisfactory. Krutzsch, for one, believes that the OPCW is not transparent. “*Except for a sanitised Annual Report, which avoids any assessment of the degree of compliance, or unresolved issues of compliance or non-compliance, not much information reaches the public...*”⁹⁸ He further notes that “*The annual Verification Implementation Report*

⁹⁰ Feakes, D. (2008) *op.cit.*

⁹¹ Memorandum from the Foreign and Commonwealth Office, Response by the Foreign and Commonwealth Office to Questions put by the Committee, 1st May 2003, <http://www.publications.parliament.uk/pa/cm200203/cmselect/cmfa/405/3042911.htm>.

⁹² Feakes, D. (2008) *op.cit.*

⁹³ Guthrie, R. (June 2008) *op.cit.*, p.4.

⁹⁴ It should be noted that the ‘other meeting’ did not draft the Final Report from scratch, but worked from pre-existing language derived from the OEWG process.

⁹⁵ See for example: Feakes, D. (1998) *Workshop Report: Pugwash Study Group on the Implementation of the Chemical and Biological Weapons Conventions CWC Implementation: Balancing Confidentiality and Transparency*, 15-17 May 1998, <http://www.pugwash.org/reports/cbw/cbw2.htm> (accessed 3rd June 2009); Tucker, J. (2001) Introduction, in: *The Chemical Weapons Convention: Implementation challenges and solutions* (ed Tucker, J.), Washington DC: Monterey Institute of International Studies, April 2001, <http://cns.miis.edu/pubs/reports/pdfs/tuckercwc.pdf> (accessed 3rd June 2009); Moodie, M., “Issues for the First CWC Review Conference”, in Tucker, J. (2001) *op.cit.*; Sands, A. and Pate, J., CWC Compliance Issues, in: Tucker, J. (2001) *op.cit.*; Kelle, A. (2002) *op.cit.*; Krutzsch, W. (2005) *op.cit.*; Krutzsch, W. (2007) *op.cit.*

⁹⁶ Tucker, J. (2001) *op.cit.*, p.6.

⁹⁷ Tucker, J. (2001) *op.cit.*, p.6.

⁹⁸ Krutzsch, W. (2005) *op.cit.*, p.10.

is classified 'highly protected' and remains under lock and key within the TS [Technical Secretariat] and the States Parties Governments. Under the present circumstances, most substantive information released from the OPCW Headquarters reaches the delegates of a State Party in The Hague and the desk in its foreign ministry or National Authority, but the information reaches neither the parliaments nor the public."⁹⁹

There is no public record to date of any of the OPCW policy making bodies formally addressing these concerns.¹⁰⁰ However, informal gatherings of governmental and non-governmental CWC experts have explored the complexities of these issues. At the March 2007 Pugwash CBW workshop, for example, participants whilst recognising limitations in the present system, noted that increased transparency and public accountability could potentially have negative as well as positive outcomes. The meeting report stated that: "*Democratic accountability is hugely important but should be balanced against possible effects such as decreased industry involvement, slower decision-making procedures, and an increased terrorist threat.*"¹⁰¹ The meeting also noted that "*in an international organisation that represents its Member States [i.e. the OPCW], it is the Member States who should be targeted to increase transparency.*"¹⁰²

As well as the very limited provision of information by the OPCW and its Member States to civil society, there have also been concerns raised about the Organisation's reticence to receive information from and interact with relevant civil society organisations in a systematic manner. For example, whilst representatives of civil society organisations - such as NGOs, academia, professional scientific and engineering associations, and industry - are routinely invited to address plenary sessions at Review Conferences of the Biological Weapons Convention and the Non-Proliferation Treaty, no such opportunity arises at the CWC Review Conference. Consequently, as the Harvard Sussex Program notes "*NGOs have frequently expressed their frustration at their limited ability to contribute to this Review Conference.*"¹⁰³ Indeed certain international organisations have also been denied such opportunities. For example, at the First CWC Review Conference, the International Committee of the Red Cross (ICRC) was scheduled to give a presentation to delegates on its concerns regarding incapacitating chemicals, in which it stated that: "*In an age of rapid developments in science and, in particular, in the field of chemistry and biotechnology the Convention's integrity is crucially dependent on vigilance regarding new technologies that could undermine its object and purpose. Participation of and frank debate with the scientific, industrial and medical communities on the implications of new developments are essential.*"¹⁰⁴ However although it

⁹⁹ Krutzsch, W. (2005) *op.cit.*, p.10.

¹⁰⁰ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>) since the organisation's inception.

¹⁰¹ Smallwood, K. (2007) Workshop Report, 52nd Pugwash CBW Workshop, *10 Years of the OPCW: Taking Stock and Looking Forwards*, Noordwijk, The Netherlands, 17-18 March 2007, <http://www.pugwash.org/reports/cbw/52nd-workshop-2007/52nd-workshop-report.htm>.

¹⁰² Smallwood, K. (2007) *op.cit.*

¹⁰³ Where to from here? The first CWC Review Conference and the next five years, *CBW Conventions Bulletin*, Issue 60, June 2003, Harvard Sussex Program, <http://www.sussex.ac.uk/Units/spru/hsp/documents/cbwcb60.pdf>, p4.

¹⁰⁴ *Statement of the International Committee of the Red Cross, First Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention*, The Hague 28 April-9 May 2003, [http://www.icrc.org/web/eng/siteeng.nsf/htmlall/spx6js/\\$file/irrc_850_chimiques_eng.pdf](http://www.icrc.org/web/eng/siteeng.nsf/htmlall/spx6js/$file/irrc_850_chimiques_eng.pdf), (accessed 17th January 2009).

was originally told that it could address the Conference as an international organization, it subsequently had this invitation rescinded, reportedly at the request of certain States Parties including the United States.¹⁰⁵

Despite such restrictions there have been some limited opportunities for civil society organisations to interact with delegates. For example, at each Review Conference the Technical Secretariat has hosted an ‘*Open Forum on the Chemical Weapons Convention*’,¹⁰⁶ the first of which included a panel discussion on ‘*The Chemical Weapons Ban and the Use of Incapacitants in Warfare and Law Enforcement*’¹⁰⁷ and the second a presentation on ‘*Toxic Chemicals and Law Enforcement*’.¹⁰⁸ An editorial in the *CBW Conventions Bulletin* highlighted the benefit of such initiatives. “*The interest by delegations in the Open Forum... seems to indicate that their [NGO] involvement is a valuable addition to the review process, not least for the ability to highlight sensitive topics that are politically untouchable by delegations.*”¹⁰⁹

Failures of States Parties to employ consultation, clarification and fact-finding mechanisms

Where a State Party is concerned about the possible non-compliance of another State Party it can initiate a range of consultation, clarification and fact-finding mechanisms under the Convention.¹¹⁰ These range from informal bilateral consultations to full-fledged challenge inspections and investigations of alleged use of chemical weapons. They include on-site challenge inspections of any facility or location in the territory or in any other place under the jurisdiction or control of another State Party.¹¹¹ If such procedures fail to clarify the situation or uncover evidence of non-compliance, the matter can be passed to the Executive Council or a Special Session of the CSP for resolution.¹¹²

Since entry-into-force, the ‘lower end’ of this spectrum of tools has been utilized.¹¹³ The United States, for example, “*has utilized the consultative provisions of Article IX on numerous*

¹⁰⁵ Ruppe, D. (2003) CWC: Red Cross Says It Was Muzzled Over Stand on Incapacitating Weapons, *Global Security Newswire*, 30th April 2003, http://www.nti.org/d_newswire/issues/thisweek/2003_5_1_chmw.html#1 (accessed 1st August 2008); Hanley, C. (2003) Red Cross concerned by US use of tear gas, *The Washington Times*, 18th August 2003, <http://www.washingtontimes.com/news/2003/aug/17/20030817-105448-8897r/>, (accessed 30th July 2009).

¹⁰⁶ Harvard Sussex Program (2003) *Open Forum on the Chemical Weapons Convention: Challenges to the Chemical Weapons Ban*, 1st May 2003, <http://www.sussex.ac.uk/Units/spru/hsp/documents/OpenForumCWC.pdf>; OPCW (2008) *Open Forum: Chemical Weapons Convention – recent experience and future prospects*, 9th April 2008, <http://www.opcw.org/news/news/article/open-forum-the-chemical-weapons-convention/> (accessed 3rd June 2009).

¹⁰⁷ Panel discussion: ‘*The Chemical Weapons Ban and the Use of Incapacitants in Warfare and Law Enforcement*’, *Open Forum on the Chemical Weapons Convention*, Harvard Sussex Program (2003) *op.cit.*, pp.23-39.

¹⁰⁸ Wheelis, M. (2008) *Toxic Chemicals and Law Enforcement*, Scientists’ Working Group on Biological and Chemical Weapons, Center for Arms Control and Nonproliferation Washington DC http://www.opcw.org/fileadmin/OPCW/events/2008/open_forum/wheelis-presentation.pdf (accessed 3rd June 2009).

¹⁰⁹ Editorial, *CBW Conventions Bulletin 60*, Harvard Sussex Program (June 2003) *op.cit.*, pp. 4-5.

¹¹⁰ OPCW, Chemical Weapons Convention, Article 9.

¹¹¹ OPCW, Chemical Weapons Convention, Articles 9.8 to 9.25.

¹¹² OPCW, Chemical Weapons Convention, Articles 9.3 to 9.7, 9.23.

¹¹³ Kelle, A. (2003) *op.cit.*

occasions to address our compliance concerns often with great success.”¹¹⁴ Similarly, following the Russian Federation use of an incapacitant, the UK and other States reportedly conducted bilateral consultations with the Russia authorities.¹¹⁵ The Second Review Conference has “emphasised the value and importance of bilateral consultations” and “encouraged the States Parties to make full use” of these mechanisms.¹¹⁶

However, even though some States Parties have publicly raised concerns or explicitly accused other States of breaching the Convention,¹¹⁷ a review¹¹⁸ of the publicly available OPCW documentation indicates that none of the higher level clarification mechanisms involving the Executive Council have been utilised, nor have any requests for challenge inspections or investigations of alleged use been formally brought before the OPCW.¹¹⁹ Indeed, the Second Review Conference noted “with satisfaction that the Council had received no clarification requests under paragraphs 3 to 7 of Article IX since entry into force.”¹²⁰ Furthermore, the Conference “noted with satisfaction that no challenge inspection or investigation of alleged use had been requested since the entry into force of the Convention.”¹²¹ It could be argued that, instead of being a cause for satisfaction, the non-application of these mechanisms should be a cause of concern for the States Parties, particularly given the cases of potential breaches of the Convention that have been reported since entry into force.¹²²

The non-application of the higher level clarificatory mechanisms may well be an indication of the mistrust, by certain States Parties, in the ability of the OPCW’s multilateral processes to

¹¹⁴ US Delegation to the OPCW: United States of America, *National Statement to the First Review Conference of the Chemical Weapons Convention by Assistant Secretary of State for Arms Control, Stephen G. Rademacher*, The Hague, April 28, 2003, p.4. As cited in Keele (2003) *op.cit.*

¹¹⁵ O’Brien, M. 4th November 2002, Response to Parliamentary Question, Hansard, http://hansard.millbanksystems.com/written_answers/2002/nov/04/moscow-theatre-siege [accessed 5th August 2008].

¹¹⁶ OPCW (2008) *Report of the Second Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (Second Review Conference)*, 7th-18th April, RC-2/4, 18th April 2008, para 9.83.

¹¹⁷ For example, see accusations made by the US that China, Iran, Russia and Sudan had violated the CWC contained within: *Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, Bureau of Verification and Compliance, US State Department, Washington, DC, 30th August 2005, <http://www.state.gov/t/vci/rls/rpt/51977.htm> (accessed 16th June 2009).

¹¹⁸ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>) since the organisation’s inception.

¹¹⁹ It should be noted, however, that in January 2009 the Iranian Foreign Minister wrote to the OPCW Director General regarding reported misuse of white phosphorus by the Israeli military in Gaza. The Iranian Foreign Minister called on the OPCW to initiate “an investigation into the evidence of this, urgently dispatch[ing] assistance to the victims of these attacks.” [Manouchehr Mottaki, Minister of Foreign Affairs, letter to Ambassador Rogelio Pfirter, Director General OPCW, 16th January 2009, (unofficial translation by the Iranian Embassy in the Netherlands), <http://www.iranembassy.nl/payam.htm>]. Since, technically, requests to formally initiate multilateral consultation or investigation mechanisms under the Convention must be addressed to the Executive Committee this letter does not appear to constitute an invocation of such mechanisms. It is not clear whether Iran has subsequently invoked such mechanisms. Furthermore the applicability of the CWC to these reported incidents is uncertain.

¹²⁰ OPCW (2008) RC-2/4, *op.cit.*, para 9.84.

¹²¹ OPCW (2008) RC-2/4, *op.cit.*, para 9.85.

¹²² See Chapters 2 and 3 for examples of potential breaches of the Convention with regard to RCAs and incapacitants. The fact that such cases have been reported publicly by the media or non-governmental organisations but not openly addressed by the OPCW machinery also highlights the current lack of formal mechanisms for civil society to bring concerns to the OPCW.

resolve compliance concerns in a timely and effective manner. It may also, in part, be due to concerns by States of receiving retaliatory measures from the accused State, both in terms of a counter-accusation which would trigger a challenge inspection, but also in terms of wider diplomatic or economic sanctions. Such concerns would, of course, be greater if the accused State were a major or regional power.¹²³ Other contributory factors may relate to unresolved technical questions regarding operation of the clarificatory mechanisms as well as disagreements over when and how such measures should be applied.¹²⁴ Challenge inspections, in particular, have been a matter of contention amongst States Parties and were discussed without resolution during both the First Review Conference¹²⁵ and Second Review Conference. The debate (in public at least) has been largely between the EU (which promotes the right of States to call challenge inspections without prior consultation)¹²⁶ and the NAM States and China (which believe that such inspections should only be used as a last resort after consultation and clarification processes have been tried and failed).¹²⁷ As with the First Review Conference, the Second Review Conference could not resolve this matter. Instead it tasked the Executive Council to deal with “*a number of issues related to challenge inspections*” - although without setting a concrete deadline.¹²⁸

¹²³ Thranert and Tucker highlight other ‘disincentives’ to the use of challenge inspections including the possible need to disclose sensitive intelligence information to justify a request and concern that the inspection will fail to uncover definitive evidence of a violation. Thranert, O. and Tucker, J. (2007) *op.cit.*, p.24.

¹²⁴ An important obstacle to the use of challenge inspections is the fact that in one State at least – the US – the national implementing legislation empowers the President to block an inspection (routine or challenge) on the grounds of national security. Thranert, O. and Tucker, J. (2007) *op.cit.*, p.24. The UK Government has recently stated its intention to “*encourage the new US Administration to rescind the Presidential veto.*” Response of the Secretary of State for Foreign and Commonwealth Affairs, Fourth Report from the Foreign Affairs Committee, Session 2008-09, Global Security: Non-Proliferation, August 2009, <http://www.official-documents.gov.uk/document/cm76/7692/7692.pdf> (accessed 1st September 2009), p.19.

¹²⁵ For a discussion of the States Parties’ polarised positions at the First Review Conference see Kelle, A. (2003) *op.cit.*

¹²⁶ EU position was outlined in the Statement by Ms Anita Pipan, Director General for Policy Planning and Multilateral Political Relations, Ministry of Foreign Affairs, Republic of Slovenia on Behalf of the European Union and Associated Countries, to the Second Special Session of the Conference on the States Parties to Review the Operation of the Chemical Weapons Convention, General Debate, The Hague, Netherlands, RC-2/NAT.13, 7th April 2008.

¹²⁷ Statement by Dr Jose. A. Diaz Duque, Deputy Minister of the Ministry of Science, Technology and Environment of the Republic of Cuba, on behalf of the States Parties of the Non-Aligned Movement to the Chemical Weapons Convention and China, to the Second Special Session of the Conference on the States Parties to Review the Operation of the Chemical Weapons Convention, General Debate, The Hague, Netherlands, RC-2/NAT.5, 7th April 2008.

¹²⁸ OPCW (2008) RC-2/4 *op.cit.*, para. 9.88.

Chapter 2: Riot control agents and their regulation under the CWC

Introduction:

The CWC defines riot control agents as:

*“Any chemical not listed in a Schedule, which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure.”*¹²⁹

According to Sutherland, RCAs have three common characteristics: rapid onset of effect, brief duration of effect, and high safety ratio (i.e. large margins between the dosage of an RCA that is effective [effective dose – ED] and the dosage that produces lethal effects [lethal dose – LD]).¹³⁰ RCAs can be divided into three types: lachrymators (irritants that cause tearing [watering of the eyes]), sternutators (substances that induce sneezing) and vomiting agents.¹³¹

Health and safety concerns relating to RCAs

The CWC allows the use of RCAs for “law enforcement including domestic riot control”, providing the “types and quantities” of agent employed are consistent with such purposes. However, concerns have been raised about the safety and suitability of certain “types” of chemical irritants as well as the “quantities” of RCAs employed in some law enforcement activities.

Although RCAs are intended to be safe when used according to manufacturers instructions, serious health and safety problems have resulted from their use in practice. Stoppford and Olajos note that “...despite the low toxicity of modern RCAs, these compounds are not entirely without risk, particularly if one takes into account conditions of prolonged exposure, very high concentrations, and susceptible subpopulations (asthmatics, the very old, the very young).”¹³²

Sutherland claims that: “High-level exposure can cause ocular, pulmonary and dermal injuries and the use of RCAs in enclosed spaces can produce toxic effects. There is a need for additional research to establish the biological and toxicological effects of RCAs, and this is especially true of the use of RCAs in law enforcement activities where they are often misused deliberately or through ignorance.”¹³³

Serious injuries and deaths have been associated with particular chemical irritants, notably oleoresin capscicum (OC)/pepper sprays. For example, in 2006 Amnesty International reported that: “Since the early 1990s, more than 100 people [in the USA] are reported to have died after being exposed to pepper spray during their arrest by police. While most deaths have been attributed by coroners to other causes, there is concern that OC spray could be a factor in some cases, especially when combined with other restraints, as it affects the respiratory system.”¹³⁴

¹²⁹ OPCW, Chemical Weapons Convention, Article 2.7.

¹³⁰ Sutherland, R. (2008) *Chemical and Biochemical Non-lethal Weapons, Political and Technical Aspects*, SIPRI Policy Paper 26. Stockholm, Sweden: SIPRI, p.12.

¹³¹ *Ibid.*

¹³² Stoppford, W. and Olajos, E. Issues/Concerns, Needs, Emerging Concepts/Trends, and Advances in Riot Control Agents, in: *Riot Control Agents: Issues in Toxicology, Safety, and Health*, Olajos, E. and Stoppford, W. (eds) CRC Press: Boca Raton, Florida, 2004, p.323.

¹³³ Sutherland, R. (2008) *op.cit.*, p.12.

¹³⁴ Amnesty International (2006) *USA: Updated briefing to the Human Rights Committee on the implementation of the International Covenant on Civil and Political Rights*, AMR 51/111/2006, 12th July 2006, <http://www.amnesty.org/en/library/asset/AMR51/111/2006/en/5629ea1d-d412-11dd-8743d305bea2b2c7/amr51112006en.pdf> (accessed 20th July 2009), p.4.

Furthermore, the possible long term effects of chemical irritants and the lack of adequate testing of such effects has been highlighted by the medical community.¹³⁵ In 1989, for example, a group of US medical practitioners concluded that: "Available toxicological data are deficient as to the potential of tear gas agents to cause long-term pulmonary, carcinogenic, and reproductive effects", and called for "investigation into the full toxicological potential of tear gas chemicals."¹³⁶

Such concerns are exacerbated by the partial and in many cases unverified information publicly available regarding the composition of many commercial RCA products – particularly given indications that chemical contents and mixtures can vary greatly between manufacturers.¹³⁷ With regard to OC, Sutherland notes that "Most manufacturers do not disclose the exact composition of the product, and their material safety data sheets [which provide information about the substance's properties] also state that the composition is a trade secret."¹³⁸

Furthermore, manufacturers' claims about the safety and health effects of their products are often not subject to independent analysis. A study by Hay et al of an RCA employed by the Israeli army against protesting civilians in the West Bank, highlighted the secrecy surrounding its use and showed that resulting skin injuries could be "far more severe than the effects that the material safety data sheet for the product suggests."¹³⁹

Stoppford and Olajos believe that "Clearly, there is a great need to conduct rigorous studies and to validate claims by manufacturers as to the efficacy and safety of their products. Rigorous studies similar to those utilized by the pharmaceutical industry for new drug development and approval need to be done."¹⁴⁰

Other researchers recommend a broader approach. In its report to the Scientific and Technology Options Assessment (STOA) Panel of the European Parliament, the Omega Research Foundation¹⁴¹ recommended the consideration of five criteria when examining the safety of chemical irritants used for law enforcement:

- the innate relative toxicity of the chemical used;
- the ability of security force personnel to use the dispersion mechanisms to deliver a measured dose which remains non-damaging and 'non-lethal';
- the relative toxicity and safe dose of any carrier, solvent or propellant used to deliver the chemical to target subject(s);
- the safety from blast damage or fire hazard of any pyrotechnically dispersed irritant munition;
- the professionalism and training of any operatives to ensure that such devices are used within the context of their training, codes of conduct and in accordance with manufactures instructions.

Despite long-standing concerns, the effective and comprehensive application of international standards for the testing and regulation of the chemical safety of RCAs used for law enforcement does not presently occur.

From analysing the OPCW documents the most common toxic chemicals reported to be held by States as RCAs are currently CS¹⁴² and CN.¹⁴³ Other RCAs include CR,¹⁴⁴ CA,¹⁴⁵ PS¹⁴⁶ and

¹³⁵ Euripidou, E., MacLehose, R., and Fletcher, A. (2004) An investigation into the short term and medium term health impacts of personal incapacitant sprays. A follow up of patients reported to the National Poisons Information Service (London), *Emergency Medicine Journal* 2004; vol.21, pp548-552; Hu, H., Fine, J., Epstein, P., Kelsey, K., Reynolds, P., Walker, B. (1989) Tear gas: harassing agent or toxic chemical?, *Journal of the American Medical Association*, vol 262, 1989, pp.660-3.

¹³⁶ Hu, H. et al (1989) *op.cit.*, pp.660-3.

¹³⁷ Sutherland, R. (2008) *op.cit.*, pp.22-3.

¹³⁸ Sutherland, R. (2008) *op.cit.*, p.23.

¹³⁹ Hay, A., Giacaman, R., Sansur, R., Rose, S. (2006) Skin injuries caused by new riot control agent used against civilians on the West Bank, *Medicine, Conflict and Survival*, 22(4), pp.283-91.

¹⁴⁰ Stoppford, W and Olajos, E. (2004) *op.cit.*, p.323.

¹⁴¹ Omega Research Foundation, *Crowd Control Technologies - An Assessment Of Crowd Control Technology Options For The European Union, Final Study, Working Document for the STOA Panel*, PE 168. 394/Fin.St, Luxembourg: European Parliament, 2000, http://www.europarl.europa.eu/stoa/publications/studies/19991401a_en.pdf, p.36.

¹⁴² [(2-Chlorophenyl)-methylene]propanedinitrile. A review of the OPCWs figures on the number of States Parties that had declared riot control agents, by type of agent, as of 31st December 2007, shows that 106 States had
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BA.¹⁴⁷ In addition, States have reported holdings of OC¹⁴⁸ and PAVA¹⁴⁹ which are used as chemical irritant sprays by a number of law enforcement agencies around the world.¹⁵⁰ The vomiting agent, DM¹⁵¹ or adamsite which was previously employed as an RCA, has subsequently been abandoned by the majority of States¹⁵² due to its relatively great lethal toxicity.¹⁵³

Malodorants and the CWC

As well as the 'traditional' RCAs – such as the tear gases and chemical irritants described previously - there are certain chemical agents - such as malodorants - that some arms control experts believe can be classed as RCAs, but whose position has not been clarified by the Convention or by any of the policy making organs of the OPCW.¹⁵⁴

Although no internationally agreed definition exists, malodorants have been described by one commentator as “chemicals designed to target human olfactory receptors in order to provoke a physiological response, ranging from simple aversion, to – in more extreme cases – symptoms such as nausea and vomiting.”¹⁵⁵

Some information relating to contemporary research into malodorants, particularly in the US, has been made public.¹⁵⁶ In its 1999 Annual Report, the Joint Non-lethal Weapons Program (JNLWP) reported that it was sponsoring a project that “investigates odorants and their effects on behavior. It can be used for riot control, to

declared CS as a riot control agent. See: OPCW (2008) *Report of the OPCW on the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemicals and their Destruction in 2007*, Conference of the States Parties, C-13/4, 3rd December 2008, Annex 3, p.30.

¹⁴³ 2-Chloro-1-phenyl-ethanone. A review of the OPCW's figures on the number of States Parties that had declared riot control agents, by type of agent, as of 31st December 2007 shows that 64 States had declared CN as a riot control agent. For source, see footnote 142.

¹⁴⁴ Dibenz-(b,f)1:4-oxazepine.

¹⁴⁵ Bromobenzylcyanide.

¹⁴⁶ Trichloronitromethane chloropicrin.

¹⁴⁷ Bromoacetone.

¹⁴⁸ Oleoresin capsicum is an extract of chilli peppers having (6E)-N-(4-hydroxy-3-methoxybenzyl)-8-methylon-6-enamide as its chief active principle plus, typically, 20-40 percent of other chemicals. It is a 'toxin' within the meaning of the 1972 Biological and Toxin Weapons Convention. See World Health Organization (2004) *Public health response to biological and chemical weapons: WHO guidance* (Geneva: WHO, 2004) at pp.204-06 and 214-16.

¹⁴⁹ Pelargonic acid vanillylamide.

¹⁵⁰ A review of the OPCW's figures on the number of States Parties that had declared riot control agents, by type of agent, as of 31st December 2007 shows that 20 States had declared OC and three States had declared PAVA as a riot control agent. For source, see footnote 142.

¹⁵¹ Diphenylaminochloroarsine (adamsite).

¹⁵² A review of the OPCW's figures on the number of States Parties that had declared riot control agents, by type of agent, as of 31st December 2007 shows that just two States had declared DM as a riot control agent. For source, see footnote 142.

¹⁵³ DM, being an arsenical, has a greater systemic toxicity than most other traditional RCAs and several deaths following exposure to it have been reported. See Sutherland, R. (2008) *op.cit.*, p.15. In December 2000, following a recommendation by the OPCW SAB, the Executive Council concluded that DM was not suitable as an RCA. See: 001106 & 000315-16, Harvard Sussex Events Database, retrieved 7th July 2009.

¹⁵⁴ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>) since the organisation's inception.

¹⁵⁵ Neill, D. (2007) *Riot Control and Incapacitating Chemical Agents under the Chemical Weapons Convention*, Defence R&D Canada, Centre for Operational Research and Analysis, technical memorandum DRDC CORA TM 2007-22, Ottawa, p.6.

¹⁵⁶ See in particular, the Sunshine Project's 'non-lethal' weapons online document clearing-house (<http://www.sunshine-project.org/>).

clear facilities, to deny an area, or as a taggant.”¹⁵⁷ In 2000-1, information on research by the US Army's Edgewood Chemical Biological Centre into a range of candidate odours came to light,¹⁵⁸ whilst in 2001 the Nonlethal Environmental Evaluation and Remediation Center (NEER) at Kansas State University reported on evaluations of two specific malodorant formulations for suitability as ‘non-lethal’ weapons.¹⁵⁹ In 2009 there were indications that the JNLWP continues to study malodorants, at least at the conceptual level.¹⁶⁰ Information on the research activities of other States is scarce, however there have been reports that at least one country – Israel – has developed and recently deployed such chemicals.¹⁶¹

According to Neill, the effects and duration of those malodorants that have been investigated and discussed in the open literature are similar to the effects and duration of some of the classical irritant and sternutating compounds.¹⁶² Some analysts¹⁶³ therefore consider that malodorants should be grouped with RCAs at least in terms of their regulation under the Convention. Others however believe that malodorants do not appear to come within the scope of the CWC, as they do not seem to fulfil the Convention’s definition of a toxic chemical.¹⁶⁴

In addition, since many malodorants mimic toxins, some commentators believe that the legal aspects of their development and possible use should be considered within the framework of the Biological Weapons Convention.¹⁶⁵

Although a range of toxic chemicals can be defined as ‘riot control agents’ under the Convention this phrase belies the fact that they have actually been used, in practice, for a variety of applications beyond control or dispersal of rioting crowds. Some of these applications have been questionable in nature.¹⁶⁶ As will be discussed, the CWC attempts to delineate the permissible and the non-permissible uses of such substances: whilst the CWC allows toxic chemicals to be utilised for certain “*purposes not prohibited*”¹⁶⁷ such as “*law*

¹⁵⁷ Sunshine Project (2001) *Backgrounder 8, Non-Lethal Weapons Research in the US: Calmatives and Malodorants*, July 2001, p.3, <http://www.sunshine-project.org/publications/bk/bk8en.html>, (accessed 14th July 2009).

¹⁵⁸ Bickford, L. et al (2000) *Odorous Substances for Non-Lethal Application*, Presentation at NDIA Non-Lethal Defense IV, 20-22nd March 2000, http://74.125.77.132/searchq=cache:Mcnm5nKmb_gJ:www.dtic.mil/ndia/nld4/bickford.pdf+odorous+substances+for+nonlethal+application&cd=1&hl=en&ct=clnk&gl=uk, (accessed 14th July 2009); Sunshine Project, *Backgrounder 8*, (July 2001) *op. cit.*, p.4.

¹⁵⁹ Boguski, T., Breuer, L. and Erickson, L. (2001) *Environmental Issues Associated with Malodorants*, presentation to the Non-lethal Technology and Academic Research Symposium, Kansas State University, 9th November 2001. Some candidate compounds included isovaleric acid (which produces a “sweaty, putrid, swine odour” reminiscent of rancid cheese); skatole (“putrid, faecal”); n-caproic acid (“sharp, sour, rancid, goat”); and t-butyl mercaptan (“skunk, sulphurous”). As cited by Neill, D. (2007) *op. cit.*, footnote 23.

¹⁶⁰ Hymes, K. (2009) Non-Lethal Weapons in Escalation of Force, Slide 11. *Proceedings of the 5th European Symposium on Non-Lethal Weapons*, Ettlingen, Germany, 11-13th May 2009.

¹⁶¹ Israeli forces use ‘skunk bomb’ against Palestinian protestors, *Voice of America News*, 11th August 2008, <http://www.voanews.com/english/archive/2008-08/2008-08-11-voa4.cfm?CFID=42047290&CFTOKEN=68739660> (accessed 17th January 2009); Hambling, D., Israel Unleashes First 'Skunk Bomb', *Wired Blog Network*, 21st September 2008, <http://blog.wired.com/defense/2008/09/skunk-attack.html> (accessed 17th January 2009); Hambling, D., Israel's 'Skunk Works' heads to sea, *Wired Blog Network*, 10th November 2008, <http://www.wired.com/dangerroom/2008/11/super-skunk-spr/> (accessed 14th July 2009).

¹⁶² Neill, D. (2007) *op. cit.*, p.6.

¹⁶³ See Neill, D. (2007) *op. cit.*, p.6.; Sutherland, R. (2008) *op. cit.*, p.20.

¹⁶⁴ Perry Robinson, J., email correspondence with the author, 13th April 2009.

¹⁶⁵ Sutherland, R. (2008) *op. cit.*, p.21.

¹⁶⁶ For discussions of civilian, law enforcement and military applications of RCAs see: Furmanski, M. (2007) Historical Military Interest in Low-lethality Biochemical Agents, in Pearson, A., Chevrier, M. and Wheelis, M. (eds) (2007) *Incapacitating Biochemical Weapons*, Lanham: Lexington Books; Verwey, W. (1977) *Riot Control Agents & Herbicides in War*, Leiden: Brill; Von Wagner, A. (2007) Toxic Chemicals for Law Enforcement Including Domestic Riot Control Purposes Under the Chemical Weapons Convention, in Pearson, A., Chevrier, M. and Wheelis, M. (2007) *op. cit.*

¹⁶⁷ OPCW, Chemical Weapons Convention, Article 2.1.

enforcement including domestic riot control purposes”,¹⁶⁸ it expressly prohibits the use of “riot control agents as a method of warfare”.¹⁶⁹ However, certain ambiguity over the permissible use of RCAs remains.

Prohibition on the use of RCAs as a method of warfare

In April 1975 as part of measures to ensure US Senate ratification of the Geneva Protocol, President Ford instituted Executive Order 11850¹⁷⁰ which authorised the US military to utilise RCAs in war zones under limited defensive circumstances with the approval of the US President or a senior officer designated by the President.¹⁷¹ This Executive Order remains in force today.¹⁷²

During the subsequent negotiations of the CWC, the US position, in line with EO 11850, was at odds with a significant number of other negotiating States, who initially pressed for a complete prohibition on the use of RCAs in hostilities.¹⁷³ According to Harper, the UK (which was an important voice amongst those opposing the US interpretation) “believed that any use of an RCA could too easily escalate to the use of lethal chemical weapons, and viewed RCA’s as a large loophole in the effort to eradicate chemical warfare; a loophole they were determined to close.”¹⁷⁴

A compromise position was subsequently agreed where RCAs are permitted for law enforcement (Article 2.9.d) but prohibited for use as a method of warfare (Article 1.5). A number of analysts have highlighted the ambiguities and consequent dangers inherent in this compromise.

¹⁶⁸ OPCW, Chemical Weapons Convention, Article 2.9.

¹⁶⁹ OPCW, Chemical Weapons Convention, Article 1.5.

¹⁷⁰ G. Ford, Executive Order 11850 – Renunciation of Certain Uses in War of Chemical Herbicides and Riot Control Agents, 8th April 1975. 40 FR 16187 CGR, 1971-1975 Comp., 980, <http://www.archives.gov/federal-register/codification/executive-order/11850.html> (accessed 20th November 2008).

¹⁷¹ Under EO 11850 use of riot control agents is permitted: (a) In riot control situations in areas under direct and distinct U.S. military control, to include controlling rioting prisoners of war; (b) In situations in which civilians are used to mask or screen attacks and civilian casualties can be reduced or avoided;

(c) In rescue missions in remotely isolated areas, of downed aircrews and passengers, and escaping prisoners;

(d) In rear echelon areas outside the zone of immediate combat to protect convoys from civil disturbances, terrorists and paramilitary organizations.

¹⁷² As part of its ratification of the CWC, the US added a group of circumstances where RCA use would be permitted, namely in peacetime military operations in which the US is not a party, or during UN Security Council peacekeeping operations. Another permissible circumstance was subsequently added – the protection and recovery of nuclear weapons. This expanded list was outlined in the Chairman of the Joint Chiefs of Staff Instruction 3110.07A. As cited in: Reyhani, R. (2007) The legality of the use of white phosphorus by the United States military during the 2004 Fallujah assaults (24th January 2007). *bepress Legal Series*. Working Paper 1959. <http://law.bepress.com/expresso/eps/1959> (accessed 20th November 2008).

¹⁷³ For discussions of the CWC negotiations with regard to RCAs see: Harper, E. (2001) A Call For a Definition of Method of Warfare in Relation to the Chemical Weapons Convention, *Naval Law Review*, Volume 48, pp 132-160, 2001; Perry Robinson, J. (Oct 2007) *Non-lethal Warfare and the Chemical Weapons Convention*, Further Harvard Sussex Programme submission to the OPCW Open-Ended Working Group on Preparations for the Second CWC Review Conference, October 2007, <http://www.sussex.ac.uk/Units/spru/hsp/Papers/421rev3.pdf>; Reyhani, R. (2007) *op.cit.*

¹⁷⁴ Harper, E. (2001) *op.cit.*, p.136.

Harper states: “Everyone agreed to accept the compromise language, but no one agreed on what the language meant...the CWC did address RCA’s, but used language deliberately chosen to allow different interpretations. Though each side had the opportunity, all parties chose not to clarify the meaning of method of warfare, as it related to RCAs.”¹⁷⁵

Reyhani believes that “although this is an important prohibition, it is flawed due to its ambiguity. It allowed excessive room for interpretation.”¹⁷⁶ In particular, the question of whether there were certain permitted non-offensive uses of RCAs in hostilities remained unresolved. This led to two divergent interpretations of the CWC. The US Administration considered that those uses outlined under EO11850 were permissible under the Convention,¹⁷⁷ whilst the majority of States Parties took a more absolutist interpretation of the prohibition. These interpretative fault-lines remain to this day.

Disquiet about the potential for the US position to undermine the Article 1.5 prohibition continued, particularly following statements by the Bush Administration highlighting their intention to use RCAs in armed conflict in Iraq in 2003. For example, in February 2003, the US Secretary of Defense, Donald Rumsfeld, testified before the US House Armed Services Committee, stating that with regard to RCAs “[w]e are doing our best to live within the straitjacket that has been imposed on us on this subject” [by the CWC]. He also stated that he had been trying to “fashion the rules of engagement in a way that we believe is appropriate. Where we can’t, I go to the president and get a waiver.”¹⁷⁸ This position was in stark contrast to that of the United States’ main ‘coalition partner’ - the UK. In a press conference in March 2003, Geoff Hoon, the UK Defence Secretary, stated that “‘non-lethal’ chemical weapons are permitted for dealing with riot control, the United Kingdom is fully signed up to the Chemical Weapons Convention and they would not be used by the United Kingdom in any military operations or on any battlefield.”¹⁷⁹ This divergence of policy between the US and UK was

¹⁷⁵ Harper, E. (2001) *op.cit.*, p.138.

¹⁷⁶ Reyhani, R. (2007) *op.cit.*, p.40.

¹⁷⁷ As a condition of the US Senate consent to ratification of the CWC, the US President certified that: “the United States is not restricted by the Convention in its use of riot control agents, including the use against combatants who are parties to a conflict, in any of the following cases: (i) the conduct of peacetime military operations within an area of ongoing armed conflict when the United States is not a party to the conflict (such as recent use of the United States Armed Forces in Somalia, Bosnia, and Rwanda); (ii) consensual peacekeeping operations when the use of force is authorized by the receiving State, including operations pursuant to Chapter VI of the United Nations Charter; and (iii) peace-keeping operations when force is authorized by the Security Council under Chapter VII of the United Nations Charter.”

He further stated that:

“The United States is not restricted by the Convention in its use of riot control agents in various peacetime and peacekeeping operations. These are situations in which the United States is not engaged in a use of force of a scope, duration and intensity that would trigger the laws of war with respect to US forces.”

[To the Congress of the United States, Statement by the President, The White House, Office of the Press Secretary, 25th April 1997].

For discussion of the US ratification and its implications see Harper, E. (2001) *op.cit.*; Perry Robinson, J. (October 2007) *op.cit.*; Reyhani, R. (2007) *op.cit.*; Pearson, A. (2007) *op.cit.*; Dept. of the Navy, Office of the Judge Advocate General, International & Operational Law Division, Preliminary legal review of proposed chemical-based non-lethal weapons, 30th November 1997, www.sunshine-project.org/incapacitants/jnlwdpdf/jagchemi.pdf.

¹⁷⁸ McGlinchey, D. (2003) United States: Rumsfeld Says Pentagon Wants Use of Nonlethal Gas, *Global Security Newswire*, 6th February 2003, http://www.nti.org/d_newswire/issues/thisweek/2003_2_6_chmw.html. (Accessed 20th November 2008).

¹⁷⁹ Hoon, G. Saddam Hussein’s time is running out says Hoon, 27th March 2003 press conference <http://www.number10.gov.uk/Page3363>.

long-standing and had previously surfaced, though not in public, during high-level US-UK exchanges initiated during the final months of the CWC negotiation.¹⁸⁰

In 2004 a report by an Independent Task Force of the US Council on Foreign Relations whilst supporting the existing US position as outlined under EO11850, warned of moving beyond it.

*“The Task Force believes that to press for an amendment to the CWC or even to assert a right to use RCAs as a method of warfare risks impairing the legitimacy of all NLW [‘non-lethal’ weapons]. This would also free others to openly and legitimately conduct focused governmental R&D that could more readily yield advanced lethal agents than improved nonlethal capabilities. While limited use of RCAs in accordance with the traditional U.S. position does not totally avoid these risks, we believe they are outweighed by the potential benefits.”*¹⁸¹

Despite this call for restraint, Perry Robinson¹⁸² has highlighted the process of ‘creeping legitimization’ at work with the passing by the US Senate, in November 2005, of an amendment (the Ensign Amendment) to its 2006 Defense Authorization Act. This Amendment stated that:

*“It is the policy of the United States that riot control agents are not chemical weapons and that the President may authorize their use as legitimate, legal, and non-lethal alternatives to the use of force that, as provided in Executive Order 11850 (40 Fed.Reg.16187) and consistent with the resolution of ratification of the Chemical Weapons Convention, may be employed by members of the Armed Forces in war in defensive military modes to save lives, including the illustrative purposes cited in Executive Order 11850.”*¹⁸³

On 27th September 2006 in evidence to the Senate Armed Services Subcommittee on Readiness and Management Support, Benkert, the Acting Principal Deputy Assistant Secretary of Defense for International Security Policy, testified that:

*“The Administration agrees with the policy statement in the National Defense Authorization Act for FY2006, section 1232 (the ‘Ensign Amendment’)...”*¹⁸⁴

As well as its bold statement that RCAs “are not chemical weapons,” it appears that the Ensign Amendment may have been intended, by its author, to potentially allow for the use of RCAs in

¹⁸⁰ See for example, correspondence from David Omand, Deputy Under Secretary (Policy) in the UK Defence Ministry, to Walter Slocombe, US Defense Under-Secretary, 6th June 1994, as highlighted by Perry Robinson, J. (2007) *op.cit.*, p.29 and footnote 111.

¹⁸¹ Council on Foreign Relations, Non-lethal technologies and prospects: independent task force, 2004, http://www.cfr.org/content/publications/attachments/Nonlethal_TF.pdf, (accessed 3rd June 2009) p.32.

¹⁸² Perry Robinson, J. (Jan 2007) *Improving the Governance Regime for Biological and Chemical Weapons, Harvard Sussex Program paper*, 3rd January 2007, <http://www.sussex.ac.uk/Units/spru/hsp/Papers/Seminar%206/Robinson.pdf>, (accessed 3rd June 2009) p.15.

¹⁸³ Section 1232 of the US National Defense Authorization Act for Fiscal Year 2006. The Senate adopted the Ensign Amendment by a vote of 98-1. For a record of the debate, see Congressional Record, US Senate, 8th November 2005, S12495-12497; *Congressional Record*, US Senate, 9th November 2005, S12560-12601, Amendment no 2443.

¹⁸⁴ Prepared statement of Joseph Benkert, Principal Deputy Assistant Secretary of Defense for International Security Policy (Acting), dated 27th September 2006, before the US Senate Committee on Armed Services Subcommittee on Readiness and Management Support, “US policy and practice with respect to the use of riot control agents by the US armed forces”. As cited and analysed in Perry Robinson, J. (2008) *Difficulties facing the Chemical Weapons Convention, International Affairs*, 84:2, Wiley-Blackwell/Royal Institute of International Affairs, p223-240; Perry Robinson, J. (October 2007) *op.cit.*, p.25.

certain actions beyond those scenarios outlined in EO11850.¹⁸⁵ Indeed, Senator Ensign subsequently explained how the Amendment could allow the US military to use RCAs during search operations for terrorists/insurgents in Iraq and Afghanistan.

*“American and allied troops are going through terrorist-infested neighbourhoods in Iraq and Afghanistan neighbourhood by neighbourhood and door-to-door, encountering innocent civilians as well as heavily armed insurgents... Tear gas is an effective alternative to bullets — an alternative that will protect our troops and the people they encounter on their mission to track down terrorists...”*¹⁸⁶

The Ensign Amendment also incorporates text on implementation, which its author described in the Senate debate: *“My amendment further requires the President to submit a one-time report to Congress on the availability and use of Riot Control Agents by our fighting men and women. It includes reporting language that prods the State Department to speak about and advocate the US view on this important life-saving tool in multilateral forums. Finally, my amendment presses the Pentagon to develop this capability, which has languished in our training regimens, our doctrine, and our tactics through lack of use.”*¹⁸⁷

The anxiety regarding the Bush Administration's policy was also heightened by reported incidents of US nationals in Iraq utilising RCAs and/or other chemical agents in inappropriate actions.

Use of RCA by private US military company in Iraq

The *New York Times* reported¹⁸⁸ that personnel working with the private military company (PMC) Blackwater Worldwide released CS from a helicopter and an armoured vehicle temporarily blinding drivers, passers-by and at least ten US soldiers operating a checkpoint in Baghdad in May 2005. Officers from the US Army's Third Infantry Division who were affected by the gas stated that there had previously been no evidence of violence at the checkpoint that might have triggered such CS release.¹⁸⁹ Instead, they claimed that the Blackwater convoy appeared to be stuck in traffic and may have been trying to use the riot-control agent as a way to clear a path. It is unclear whether permission was given for Blackwater to deploy or use CS under its contract with the US State Department.¹⁹⁰

¹⁸⁵ However in his September 2006 testimony Benkert emphasised the importance of EO 11850, stating that *“...we initiated a review of the authorities applicable to the use of riot control agents under various circumstances in light of the changing environment in which armed conflicts are taking place. In such a dynamic environment, the peacekeeping, law enforcement, and traditional battlefield roles of deployed units may be present at different times within the same theater of operations. The use of riot control agents will be evaluated based on the particular unit or mission involved and the particular facts and circumstances of the mission at the requested time... I would like to conclude by highlighting the continuing validity of Executive Order 11850. Executive Order 11850, which has not been modified or rescinded since it was issued, remains in effect.”* [Benkert, J. (2006) *op.cit* as cited in Perry Robinson, J. (2008) *op.cit*].

¹⁸⁶ Ensign, J. Ensign Amendment to allow troops' use of tear gas approved, Press release of Senator Ensign, 9th November 2005, http://ensign.senate.gov/public/index.cfm?FuseAction=Media.PressReleases&ContentRecord_id=ce0ab03f-d280-43cc-bcc6-0111197f0431&Region_id=&Issue_id=e95336c0-1e82-435a-b774-8bb12bc80218 (accessed 15th June 2009).

¹⁸⁷ *Congressional Record*, US Senate, 8th November 2005, S12495-12497.

¹⁸⁸ “2005 Use of gas by Blackwater leaves questions”, *New York Times*, 10th January 2008, <http://www.nytimes.com/2008/01/10/world/middleeast/10blackwater.html> (accessed 15th June 2009).

¹⁸⁹ *New York Times* (10th January 2008) *op.cit*.

¹⁹⁰ According to the *New York Times*, *“Blackwater says it was permitted to carry CS under its contract at the time with the State Department. According to a State Department official, the contract did not specifically authorize Blackwater personnel to carry or use CS, but it did not prohibit it.”* *New York Times* (10th January 2008) *op.cit*.

A review of all relevant publicly available documentary sources indicates that no State Party specifically raised this incident publicly under the auspices of the CWC nor initiated multilateral consultation or investigatory mechanisms under the Convention. Furthermore, no record of any OPCW policy making organ addressing this incident has been discovered.¹⁹¹

Consequently, it cannot be determined whether the incident resulted in a breach of the prohibition on use of RCAs as a ‘method of warfare’ – although this is doubtful, particularly as the RCA was utilised behind military front lines against a mixture of non-combatants and friendly forces, and no military advantage was obtained. However, this action does appear to have been an inappropriate use of an RCA for a purpose not covered under Article 2.9. (purposes not prohibited) of the Convention.

More importantly, the case highlights broader concerns and far-reaching potential difficulties with interpretation and application of the Convention with regard to PMCs and private security companies (PSCs). This issue is of particular concern given the continuing use of such companies by governments and a range of non-governmental entities for a variety of security and military activities.¹⁹² Concern is further heightened because PSCs and PMCs are often inadequately integrated into State command structures, and their accountability for breaches of international humanitarian law¹⁹³ and international human rights law¹⁹⁴ remains disputed. Attempts are being made by certain States to explore and describe the application of international law to PSCs and PMCs, most notably under the so-called Swiss Initiative.¹⁹⁵ However, to date, the effective application of the CWC to PSCs and PMCs does not appear to have been addressed by the OPCW policy making organs.¹⁹⁶

During the 2008 CWC Second Review Conference, one State Party, Iran, did apparently refer to the US deployment of a chemical agent in Iraq, but without specifically naming the States Parties involved or the agent utilised.

¹⁹¹ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

¹⁹² See for example: Avant, D., *The Market for Force: The Consequences of Privatizing Security*, Cambridge University Press, Cambridge, 2005; Singer, P., *Corporate Warriors. The Rise of the Privatized Military Industry*, Cornell University Press, Ithaca, 2003.

¹⁹³ See for example: Chiara-Gillard, E. “Business goes to war: private military/security companies and international humanitarian law”, *International Review of the Red Cross Vol. 88 No. 863*, September 2006, pp.525-572. Chiara-Gillard argues that while PMCs/PSCs themselves have neither status nor obligations under international humanitarian law (IHL), their employees may have status under IHL. However this would be dependent upon “the nature of any relationship they may have with a State and on the type of activities they carry out. Status is thus something that must be determined on a case-by-case basis.” Chiara-Gillard, E. (2006) *op.cit.*, p.530.

¹⁹⁴ See for example: Droege, C. *Private military and security companies and human rights: A rough sketch of the legal framework*, Swiss Initiative on PMCs/PSCs Workshop in Küsnacht, 16th-17th January 2006, available at <http://www.eda.admin.ch/psc>; Kontos, A. “Private” security guards: Privatized force and State responsibility under international human rights law, in: *Non-State Actors and International Law No. 4 (2005)*, pp. 228-237.

¹⁹⁵ As part of an initiative launched by Switzerland and the ICRC (the Swiss initiative), 17 States - Afghanistan, Angola, Australia, Austria, Canada, China, France, Germany, Iraq, Poland, Sierra Leone, South Africa, Sweden, Switzerland, the United Kingdom, Ukraine, and the United States of America - agreed the so-called “Montreux Document”. [Montreux Document on Pertinent International Legal Obligations and Good Practices for States related to Operations of Private Military and Security Companies during Armed Conflict, United Nations, General Assembly Sixty-third session, Agenda item 76, Status of the Protocols Additional to the Geneva Conventions of 1949 and relating to the protection of victims of armed conflicts, A/63/467-S/2008/636, 6th October 2008]. The Montreux Document is the first international document to describe international law as it applies to the activities of private military and security companies (PMSCs) whenever these are present in the context of an armed conflict. It also contains a compilation of good practices designed to assist States in implementing their obligations under international law through a series of national measures. For further information see Swiss initiative website (<http://www.eda.admin.ch/psc>).

¹⁹⁶ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

*“The obligation not to use chemical weapons explicitly includes the use of riot control agents as a method of warfare. We deplore the recent use of such nonlethal weapons as means of warfare and stress that the States Parties have the obligation not to resort to these weapons for military purposes.”*¹⁹⁷

The May 2008 edition of *Arms Control Today* reported that an unnamed Iranian official subsequently asked to detail the specific case Iran was referring to in its statement declared: *“If people were discussing this statement against the background of the U.S. attacks on Fallujah, our statement has fulfilled its purpose.”*¹⁹⁸ This statement may refer to the reported use of white phosphorus by US armed forces in the military operation against Fallujah. If this is so, the applicability of the CWC to this case is disputed.¹⁹⁹

Despite this intervention, there is no public record of Iran or any other State Party seeking to initiate multilateral consultation or investigatory mechanisms under the CWC with regard to the use of RCAs or other chemical agents in Iraq.²⁰⁰

Although the issue of US use of RCAs or other chemical agents in Iraq was not specifically addressed (except in a coded manner by Iran) during the Second Review Conference, a number of States Parties did reaffirm their commitment to the Article 1.5 prohibition. This position was forcefully expressed by Switzerland.

*“Switzerland maintains the inviolability of [Article 1.5]. It was included in the Convention due to the recognition that history is replete with incidents in which riot control agents were used as a preliminary to lethal force – be it to mask the use of lethal force, to simplify its application, or to multiply its effects. In view of the historical experience, any arguments which support the use of riot control agents in order to avoid recourse to lethal force in the context of armed conflict are not admissible.”*²⁰¹

Similarly the Statement by Slovenia on behalf of the European Union and Associated Countries declared that:

*“The EU also recalls that riot control agents are only permitted for purposes not prohibited under the Convention and in types and quantities that are consistent with such purposes. Their use as a method of warfare is prohibited by the Convention.”*²⁰²

¹⁹⁷ Statement by H.E. Bozorgmehr Ziaran, Ambassador and Permanent Representative of the Islamic Republic of Iran to the OPCW, Second Review Conference of the Chemical Weapons Convention, General Debate, The Hague, Netherlands, 7th-18th April 2008.

¹⁹⁸ CWC Review Conference Avoids Difficult Issues, *Arms Control Today*, 2008, http://www.armscontrol.org/act/2008_05/CWC.

¹⁹⁹ For contrasting legal analyses see: Fidler, D. The use of white phosphorus munitions by US military forces in Iraq, *American Society of International Law Insights*, 6th December 2005; Reyhani, R. (2007) *op.cit.*

²⁰⁰ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

²⁰¹ Switzerland Working Paper, Riot Control and Incapacitating Agents Under the Chemical Weapons Convention, The Hague, Netherlands, RC-2/NAT.12, 9th April 2008.

²⁰² Statement by Ms Anita Pipan, Director General for Policy Planning and Multilateral Political Relations, Ministry of Foreign Affairs, Republic of Slovenia on Behalf of the European Union and Associated Countries, to the Second Special Session of the Conference on the States Parties to Review the Operation of the Chemical Weapons Convention, General Debate, The Hague, Netherlands, RC-2/NAT.13, 7th April 2008.

Another important reference to this issue was contained in the “*Proposal by the NAM CWC States Parties and China on the Draft Report of the Second Review Conference.*” The paper recommended the following wording for the Review Conference Report: “*TSRC [The Second Review Conference] categorically condemned the use of chemical weapons including incapacitating agents or riot control agents as a method of warfare by any State, group or individual under any circumstances.*”²⁰³ [Emphasis added].

The Second Review Conference subsequently “*reaffirmed the undertaking of States Parties not to use riot control agents as a method of warfare.*”²⁰⁴

However, despite these important reaffirmations by States Parties (and the subsequent election of a new US President), the divergent US interpretation both of Article 1.5 and of the fundamental CWC definition of a chemical weapon still publicly remain.²⁰⁵ There is consequently a danger that the failure of CWC States Parties to collectively address this issue may lead certain States to consider the use of RCAs in armed conflict as permissible and thereby erode the Article 1.5 prohibition of the CWC.

Use of RCAs in counter-insurgency operations

The ambiguity in the wording of Article 1.5, due to the fact that ‘method of warfare’ has not been explicitly defined under the Convention, has also led to uncertainty with regard to the types of conflict (and consequently the scope of military actions) covered by this provision.²⁰⁶

Under a narrow reading, ‘method of warfare’ could just refer to military actions which take place during international armed conflict. However, a number of international legal scholars²⁰⁷ take a more comprehensive reading of the text. Such scholars believe that the prohibition on the use of RCAs as a ‘method of warfare’ may refer not only to armed conflict between States but also to certain counter-insurgency operations taking place within the context of internal armed conflicts. In such circumstances international humanitarian law on non-international armed conflict is of relevance.

²⁰³ Note by the delegation of the Republic of Cuba addressed to the Chairperson of the Second Special Session of the Conference of the States Parties to review the operation of the Chemical Weapons Convention (Second Review Conference), The Hague, Netherlands, RC-2/CRP.2, 8th April 2008, paragraph 2.bis. Although this is an official paper on behalf of NAM and China it should not be considered as a consensus text of the 107 States Parties covered by this document, but rather a compilation of proposed amendments.

²⁰⁴ OPCW, ‘Report of the Second Special Session of the Conference of the States Parties to review the operation of the Chemical Weapons Convention (Second Review Conference), 7–18 April 2008’, document RC-2/4, 18 Apr. 2008.

²⁰⁵ Although the Obama Administration may review and possibly seek to amend the current US policy on RCAs, there has been no public statement, to date, altering the US position on this issue.

²⁰⁶ For a range of legal interpretations of this Article see: Chayes, A. and Meselson, M., Proposed Guidelines on the Status of Riot Control Agents and Other Toxic Chemicals Under the Chemical Weapons Convention, *Chemical Weapons Convention Bulletin*, Volume 35, March 1997; Fidler, D. Incapacitating Chemical and Biochemical Weapons and Law Enforcement Under the Chemical Weapons Convention. In: Pearson, A., Chevrier, M. and Wheelis, M. (eds) *Incapacitating Biochemical Weapons*, Lanham: Lexington Books, 2007; Koplów, D. (2006), *Non-Lethal Weapons: The Law and Policy of Revolutionary Technologies for the Military and Law Enforcement*, New York: Cambridge University Press; Neill, D. (2007) *op.cit.*; Von Wagner, A., Toxic Chemicals for Law Enforcement Including Domestic Riot Control Purposes Under the Chemical Weapons Convention. In: Pearson, A., Chevrier, M. and Wheelis, M. (2007) *op.cit.*

²⁰⁷ For example see: Fidler, D. (2007) *op.cit.*; Koplów, D. (2006) *op.cit.*; Neill, D. (2007) *op.cit.*; Von Wagner, A. (2007) *op.cit.*

Article 1.1. of Additional Protocol II to the Geneva Conventions defines the scope of application to those non-international armed conflicts that:

*“take place in the territory of a High Contracting Party between its armed forces and dissident armed forces or other organized armed groups which, under responsible command, exercise such control over a part of its territory as to enable them to carry out sustained and concerted military operations and to implement this Protocol.”*²⁰⁸

However, the Protocol would not apply to *“situations of internal disturbances and tensions, such as riots, isolated and sporadic acts of violence and other acts of a similar nature, as not being armed conflicts.”*²⁰⁹

Fidler believes that this *“threshold provides a demarcation point between armed conflict and law enforcement within a state.”* He therefore contends that *“Additional Protocol II is a relevant source of applicable rules that should inform the interpretation of Article II.9 (d) [of the CWC].”*²¹⁰

He further states:

*“Military action taken against insurgents who exercise control over part of a state’s territory and carry out sustained and concerted military operations constitutes armed conflict rather than law enforcement, and thus falls outside Article 2.9(d). The CWC’s prohibition of the use of chemical weapons “under any circumstances” (Article 1.1) encompasses civil armed conflicts as well as international armed conflict. This reasoning also holds that riot control agent use in counter-insurgency operations would be a method of warfare prohibited by Article 1.5 of the CWC. The state practice of military forces in Iraq to date supports this interpretation because such forces have not used riot control agents or incapacitating chemicals in counter-insurgency operations.”*²¹¹

However, according to Neill, a further complicating factor potentially arises in situations where ‘insurgents’ have themselves violated international humanitarian law, for example by breaching the prohibitions in Article 3 of the 4th Geneva Convention against the taking of hostages, cruel treatment, outrages upon personal dignity, torture, mutilation and murder.²¹² In circumstances where these rules have not been followed, Neill believes that it is *“unclear whether [such] “insurgents” forfeit their status as combatants, and therefore the prohibitions on the use of riot control or incapacitating chemical agents against them.”*²¹³ (Neill also applies a similar interpretation to armed forces engaged in international armed conflicts who *“routinely violate the laws intended to regulate the brutality of war, and who obey no chain of command...”*²¹⁴ thus breaching relevant provisions of the Geneva Conventions and the First Additional Protocol

²⁰⁸ Protocol II Additional to the Geneva Conventions of 12 August 1949, Relating to the Protection of Victims of International Armed Conflict, 1977, Article 1.1.

²⁰⁹ Protocol II Additional to the Geneva Conventions of 12 August 1949, Relating to the Protection of Victims of International Armed Conflict, 1977, Article 1.2.

²¹⁰ Fidler, D. (2007) *op.cit*, p.183.

²¹¹ Fidler, D. (2007) *op.cit*, p.183.

²¹² Geneva Convention Relevant to the Protection of Civilian Persons in Time of War, 12th August 1949, Article 3.

²¹³ Neill, D. (2007) *op.cit*, p.17, footnote 54.

²¹⁴ Neill, D. (2007) *op.cit*, p20.

to the Geneva Conventions.)²¹⁵ However, this interpretation, which potentially allows the use of RCAs and incapacitants against such forces, has been strongly challenged by other legal scholars.²¹⁶

A further layer of complication arises when there is uncertainty or competing claims as to whether the opposition forces are ‘insurgents’ or ‘terrorists’ and hence whether the State sanctioned operation is a counter-insurgency or a counter-terrorist law enforcement operation.

As Dando states “...there is clearly a grey area where different interpretations of what is permitted are possible – when, in short, does law enforcement end and a method of warfare begin?”²¹⁷

To date, none of the CWC policy making organs have made interpretative statements on these complex issues.²¹⁸ It is therefore left to individual States Parties to interpret the scope and nature of their obligations under this Article. One State Party at least, Turkey, appears to have followed a narrow interpretation of the Article 1.5 prohibition, allowing it to use RCAs in counter-insurgency operations.

Use of CS by Turkish armed forces

On 27th October 1999, German TV broadcast allegations of the reported use of CS gas by Turkish armed forces against Kurdish armed fighters hiding in a cave near Balikaya, southeast of Sirmak, on 11th May 1999.²¹⁹ The military engagement resulted in the deaths of 20 Kurdish combatants. It is unclear whether they died from high concentrations of tear gas or whether they were shot when leaving the cave. Munition fragments reportedly collected from the cave were provided by a Kurdish member of the Red Crescent to a German television journalist.²²⁰ An analysis of the munition fragments at the Institute for Forensic Medicine at the University of Munich identified the presence of CS gas on the sample.²²¹ The munitions used were reportedly identified as CS cartridges made in Germany and exported under licence to Turkey.²²² A Turkish Foreign Ministry spokesperson, Sermet Atacanli, subsequently countered the allegations made by German TV, stating that Turkey had assumed the obligation not to develop, produce, store or use chemical weapons, which it meticulously observed. He declared that “It is logical to infer that Turkey cannot use such weapons if they do not exist in Turkey.”²²³

²¹⁵ Neill, D. (2007) *op.cit.*, pp.20-21.

²¹⁶ Krutzsch, W. Implementation of the CWC, 2008, presentation at meeting of NGOs and *OPCW Open-Ended Working Group for the Second Review Conference*, 19th November 2007, <http://cwc2008.files.wordpress.com/2008/04/krutzsch-impl-of-the-cwc.pdf>, (accessed 15th June 2009) p5.

²¹⁷ Dando, M. (2002) Scientific and technological change and the future of the CWC: the problem of non-lethal weapons. *Disarmament Forum*. No.4. 2002, p.34.

²¹⁸ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

²¹⁹ Report from Kennzeichen D (ZDF, German TV), 27th October 1999. As cited in News Chronology, *CBW Conventions Bulletin*, No.46, December 1999, Harvard Sussex Program, p.41; Sunshine Project, *Country Study No. 3, A Survey of Biological and Biochemical Weapons Related Research Activities in Turkey, 2004*, www.sunshine-project.org/countrystudies/Turkey_BW_Report.pdf, (accessed 15th June 2009), p.15

²²⁰ Report from Kennzeichen D (ZDF, German TV), 27th October 1999. As cited in Harvard Sussex Program (1999) *op.cit.*, p.41; Sunshine Project (2004) *op.cit.*, p.15.

²²¹ According to the Sunshine Project Report, although the chemical analysis was conclusive, there was no independent proof that the shrapnel provided to the laboratory was removed from the cave in Sirmak, hence there is some uncertainty about this incident. Sunshine Project, (2004) *op.cit.*, p.15.

²²² Report from Kennzeichen D (ZDF, German TV), 27 October 1999. As cited in Harvard Sussex Program (1999) *op.cit.*, p.41; Sunshine Project (2004) *op.cit.*, p.15.

²²³ Anatolia news agency (Ankara) 28th October 1999, as translated in BBC-SWB, 30th October 1999, EE/D3679/B. “Spokesperson denies manufacture, use of chemical weapons.” 991028, Harvard Sussex Program Events Database, retrieved 7th July 2009; Harvard Sussex Program (1999) *op.cit.*, p.41.

According to the Sunshine Project, subsequent video footage of training exercises by Turkish anti-terrorist forces aired on Turkish television in 2004 suggest that such forces continued to be trained to use tear gas in military combat alongside lethal firearms fire and explosive grenades.²²⁴ It is unknown whether this practice is still in place.

The Sunshine Project report stated that Turkey had previously imported CS from both Germany and the UK.²²⁵ If the Turkish use of CS was deemed to be contrary to Article 1.5 of the CWC, then there may be consequent responsibility upon any CWC States Parties that supplied these munitions or that intend to supply such munitions in future to Turkey to ensure that such munitions are not used in contravention of the CWC.²²⁶

A review of all relevant documentary sources shows that no State Party has raised this matter publicly at any CWC fora, nor initiated multilateral consultation or investigatory mechanisms under the Convention. Furthermore, there is no record of the OPCW policy making organs addressing this issue.²²⁷ Turkey has not made a public clarificatory statement about this issue in any of the policy making organs. It did, however, align itself to the EU statement at the Second Review Conference, reaffirming prohibition of RCAs as a method of warfare.²²⁸ It is unclear how Turkey's use of RCAs in counter-insurgency operations is compatible with such a position and it is not publicly known whether any EU (or other) CWC State Party has raised this issue with Turkey.

Use of RCAs for law enforcement

As discussed previously, under Article 2.9.(d) toxic chemicals are permitted for 'law enforcement, including domestic riot control purposes'.²²⁹ Whilst this Article clearly allows the use of tear gas and other RCAs by law enforcement personnel, the scope of permissible activities – beyond that of domestic riot control - is ambiguous.²³⁰

During the CWC negotiations, certain States outlined their interpretation of the meaning of "law enforcement". In May 1992 Ambassador Ledogar, head of the US CWC negotiating team described the US interpretation: "*We understand the language 'law enforcement activities including domestic riot control' to mean that domestic riot control is a subset of law enforcement activities. We understand other law enforcement activities to include: controlling*

²²⁴ Turkish training video, broadcast on 8 May 2004 on channel TRT 1 in the program TSK Saati [stills in Sunshine Project (2004) *op.cit.*, p.16].

²²⁵ Sunshine Project, (2004) *op.cit.*, p.16.

²²⁶ Furthermore, depending upon the specific circumstances, a transfer of CS from an EU Member State to Turkish armed forces utilising these agents in such counter-insurgency operations may potentially breach other multilateral agreements such as the EU Code of Conduct on Arms Exports. [European Union, EU Code of Conduct on Arms Exports, European Union 8675/2/98

<http://consilium.europa.eu/uedocs/cmsUpload/08675r2en8.pdf> (accessed 25th June 2009)]. For further discussion of obligations under the EU Code see page 50.

²²⁷ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

²²⁸ Ambassador Selahattin Alpar, Permanent Representative of the Republic of Turkey to the OPCW, Statement of the Republic of Turkey at the Second Review Conference of the Chemical Weapons Convention General Debate, 8th April 2008, The Hague, Netherlands.

²²⁹ OPCW, Chemical Weapons Convention, Article 2.9.d.

²³⁰ Certain States Parties also consider that the use of particular toxic chemicals for judicial execution falls within the ambit of 'law enforcement' as provided for under Article 2.9 (d) and this interpretation appears to be generally accepted by States and legal commentators. See Fidler, D. (2007) *op.cit.*, p.173; Sutherland, R. (2008) *op.cit.*, p.5; Von Wagner, A. (2007) *op.cit.*, pp.198-199. For an analysis of State practice in this area see: Amnesty International, *Execution by lethal injection: A quarter century of State poisoning*, 4th October 2007, <http://www.amnesty.org/en/library/asset/ACT50/007/2007/en/dom-ACT500072007en.html>, (accessed 14th July 2009). This report provides details of the use of toxic chemicals for State executions in China, Guatemala, The Philippines, Thailand and the USA.

rioting prisoners of war; rescuing hostages; counterterrorist operations; drug enforcement operations; and non-combatant evacuation.”²³¹

At the conclusion of negotiations, however, no definition of the scope of “law enforcement” was agreed, and the ambiguity remained. As the *Chemical Weapons Convention Bulletin* noted: “[Article 2.9 (d)] fully protects the use of chemicals such as tear gas for domestic riot control. But what is “law enforcement?” Nowhere in the Convention is it defined. Whose law? What law? Enforcement where? By whom?”²³²

Use of RCAs by military forces in extra-territorial law enforcement

Although this issue has not been formally resolved by the OPCW, a number of legal scholars believe that military forces can legitimately utilise RCAs when engaged in certain extra-territorial law enforcement activities.²³³ Interpretations differ, but potentially permissible activities²³⁴ include:

(1) Controlling prisoners of war (POW):

According to Fidler, IHL allows military forces to enforce laws against POWs and in extreme cases use weapons against them. He cites an ICRC legal commentary, declaring that the detaining power may use force against POWs engaged in rebellious or mutinous behaviour, and that “*Before resorting to weapons of war, sentries can use others which do not cause fatal injury... – tear gas, truncheons, etc.*”

In addition, Von Wagner states that during the CWC negotiations “*It was uncontradicted that such [riot control] agents could well be used in cases of a riot, for example, in a prisoner of war camp or in similar situations.*”²³⁵ There have been contemporary reports of at least one State utilising RCAs in this context.²³⁶

(2) Extra-jurisdictional law enforcement:

Fidler contends that the CWC permits the use of RCAs for the following law enforcement purposes undertaken by military forces during military occupation or peacekeeping operations,²³⁷ as long as they are directed against non-combatants:

- (a) maintaining public order and safety in areas subject to their control;
- (b) ensuring security of their members and property, the occupying administration, and the lines of communication used by them;
- (c) enforcing the laws of the occupied territory and the laws promulgated by the occupying authority pursuant to its responsibilities under the international law of occupation.²³⁸

Although Von Wagner believes that the CWC permits use of RCAs in a police or peacekeeping action,²³⁹ he does not elaborate upon the range of permissible actions.

²³¹ See the written response by Ambassador Ledogar to the US Senate Committee on Foreign Relations. [102d US Congress, 2nd Session, Senate, Committee on Foreign Relations, hearing, 1st May 1992, Chemical Weapons Ban Negotiations Issues, S.Hrg.102-719, 1992, pp.34-35].

²³² Editorial, New Technologies and the Loophole in the Convention, *Chemical Weapons Convention Bulletin*, No.23, March 1994, Harvard Sussex Program, p1.

²³³ See Fidler, D. (2007) *op.cit*; Neill, D. (2007) *op.cit*; Von Wagner, A. (2007) *op.cit*;

²³⁴ Such activities would also need to be in full accordance with international humanitarian law and/or international human rights law, as appropriate.

²³⁵ Von Wagner, A. (2007) *op.cit*, p.202.

²³⁶ On 3rd August 2007, the Multi-National Forces in Iraq reportedly used tear gas against rioting inmates at the Badoush detention center outside of Mosul. See: Ballard, K. (2007) Convention in Peril? Riot Control Agents and the Chemical Weapons Ban, *Arms Control Today*, September 2007, http://www.armscontrol.org/act/2007_09/RiotFeature (accessed 22nd July 2009).

²³⁷ According to Fidler, non-traditional military operations would be legitimate under international law if they were conducted pursuant to (a) a request for peacekeeping forces from a sovereign State; (2) the authorization of peacekeeping operations by the UN Security Council under Chapter VII of the UN Charter. Fidler, D. (2007) *op.cit*, p.181.

²³⁸ Fidler, D. (2007) *op.cit*, pp.180-183.

²³⁹ Von Wagner, A. (2007) *op.cit*. p202.

The policy and practice of certain States indicates a degree of acceptance of the use of RCAs in peacekeeping operations. For example, in June 2004, Germany announced its intention to equip its peacekeepers with RCAs. This decision came in reaction to incidents in March 2004 when German peacekeepers in Kosovo were unable to use RCAs (due to a prohibition under German law) to prevent violent Albanian mobs from attacking Serbian homes and monasteries.²⁴⁰ The French military have reportedly used RCAs against rioting civilians in the Cote d'Ivoire, on a number of occasions including October 2002, January 2003, December 2003²⁴¹ and November 2004.²⁴²

Ambiguity however remains as to the scope and nature of permissible RCA use by the military, prompting calls for greater clarity. For example, the Research and Technology Organisation of NATO has stated: “*Are international peacekeeping operations a law enforcement operation? It is conceivable that riot control agents may be justified as non-lethal weapons in low key law enforcement operations, but violate the CWC if the operations become more aggressive. The definition of whether law enforcement equates to peacekeeping is a crucial grey area requiring international clarification if chemicals are to be considered as NLT [Non-Lethal Technologies]...*”²⁴³

Although a range of international legal experts have explored the scope and nature of ‘law enforcement’ activities utilising toxic chemicals (including RCAs) that are permitted under the Convention both domestically and internationally,²⁴⁴ the issue has not been resolved by the OPCW. Indeed analysis of the OPCW website shows that no policy making body of the OPCW has made a determination on this issue, nor formally discussed the matter in detail.²⁴⁵ Once again, it is left to individual States Parties to interpret the scope and nature of permissible activities under Article 2.9(d). In such interpretations, States should be guided by the Vienna Convention on the Law of Treaties²⁴⁶ and be cognisant of the constraints imposed upon them by relevant Articles of the CWC as well as applicable international law.

‘Law enforcement’: types and quantities restriction

An important limitation on the use of toxic chemicals (including RCAs) for purposes not prohibited (such as law enforcement) is detailed under Article 2.1 of the Convention. Such use is acceptable only “*as long as the types and quantities [of toxic chemicals] are consistent with such purposes.*”²⁴⁷ According to certain arms control and international legal experts,²⁴⁸ the

²⁴⁰ Von Wagner, A. (2007) *op.cit*, p.202.

²⁴¹ Sunshine Project (2004) *Biological and Biochemical Weapons Related Research in France*, 16th November 2004, http://www.sunshine-project.org/countrystudies/France_BW_Report.pdf, (accessed 3rd August 2009), p.26.

²⁴² Kouassi, P. (2004) French Unleash Force Against Chaos in Ivory Coast. *The Washington Post*, 8th November 2004. Available at: <http://www.washingtonpost.com/ac2/wp-dyn/A31795-2004Nov7?language=printer>.

²⁴³ NATO, Research and Technology Organisation, AC/323(HFM-073)TP/65, *The Human Effects of Non-Lethal Technologies*, August 2006, <http://www.rta.nato.int/Pubs/RDP.asp?RDP=RTO-TR-HFM-073>, (accessed 20th July 2009) chapter 6, p9.

²⁴⁴ Further questions arise as to which entities can legitimately use toxic chemicals and what toxic chemicals can be used for such purposes. (The implications of such ambiguity for the regulation of incapacitants are explored in Chapter 3.) See Fidler, D. (2007) *op.cit*; Neill, D. (2007) *op.cit* and Von Wanger, A. (2007) *op.cit*, for divergent argumentation on this issue.

²⁴⁵ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

²⁴⁶ United Nations, Vienna Convention on the Law of Treaties, 1969, http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf.

²⁴⁷ OPCW, Chemical Weapons Convention, Article 2.1.a

²⁴⁸ Fidler, D. (2007) *op.cit*, pp.174-175; Perry Robinson, J., interview with author, 7th July 2009; author's interview with former OPCW official, 1st September 2008.

‘types and quantities’ restriction refers to the manner in which toxic chemicals are employed as well as to their development and stockpiling by a State Party.

As Perry Robinson states: “*RCA use falls under the ambit of the Treaty in so far as it sheds light on the intention of the State Party. The intention behind the use is important. **The use of an RCA is certainly covered under Article 2.1.a. The use of an RCA, like that of all toxic chemicals, must be consistent with the types and quantities restriction.***”²⁴⁹[Emphasis added].

However, there have been indications that one State Party, the US, may not consider that RCA use should be restricted in this way. A preliminary legal review undertaken by the Office of the U.S. Navy Judge Advocate General (JAG) in 1997 – and taking into account EO1850 – concluded that “...*traditional principles of treaty interpretation indicate that RCAs, while they may well contain toxic chemicals, are subject [only] to Article I(5)’s limitation on the use of RCAs as a ‘method of warfare,’ and are not subject to Article II’s proscriptions.*”²⁵⁰ It should be noted that the JAG analysis was a preliminary one and it is currently unclear whether it actually reflects current US policy or practice. It does not appear to be publicly supported by any other State Party.

‘Law enforcement’: obligations and constraints arising from international human rights law

When interpreting the meaning of “law enforcement” and the activities that are permitted under its rubric, States should take into account “*any relevant rules of international law applicable in the relations between the parties.*”²⁵¹ Of particular relevance are those rules and restrictions on the use of force by law enforcement officials²⁵² that arise from international human rights law. Constraints upon States include obligations to protect the right to life, as enshrined, for example, in the International Covenant on Civil and Political Rights,²⁵³ Article 6 of which states that: “*every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.*” Similarly, all States are bound to prohibit torture and cruel, inhuman, or degrading treatment or punishment. This obligation is recognised in all major human rights instruments and is considered as a *jus cogens* norm, which allows for no derogation.²⁵⁴ The rules by which law enforcement officials should operate are further codified in three important normative (though non-legally-binding) agreements: the UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials,²⁵⁵ the UN Code of

²⁴⁹ Perry Robinson, J. Interview with author, 7th July 2009.

²⁵⁰ Dept. of the Navy, Office of the Judge Advocate General, International & Operational Law Division, *Preliminary legal review of proposed chemical-based non-lethal weapons*, 30th November 1997, www.sunshine-project.org/incapacitants/jnlwdpdf/jagchemi.pdf, (accessed 30th July 2009), pp.19-20. See Chapter 3 of this report for further discussion of the JAG review in relation to incapacitants.

²⁵¹ United Nations, Vienna Convention on the Law of Treaties, Article 31.3.a-c.

²⁵² The UN Code of Conduct for Law Enforcement Officials defines such officials as including “*all officers of the law, whether appointed or elected, who exercise police powers, especially the powers of arrest or detention...In countries where police powers are exercised by military authorities, whether uniformed or not, or by State security forces, the definition of law enforcement officials shall be regarded as including officers of such services.*” United Nations, UN Code of Conduct for Law Enforcement Officials (December 1979) *op.cit.*, Article 1.

²⁵³ United Nations, International Covenant on Civil and Political Rights, 16th December 1966, http://www.unhchr.ch/html/menu3/b/a_cescr.htm.

²⁵⁴ See Aceves, J. Human Rights Law and the Use of Incapacitating Biochemical Weapons, in Pearson, A., Chevrier M. & Wheelis, M. (2007) *op.cit.*, p.268.

²⁵⁵ United Nations, UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials, 7th September 1990, http://www.unhchr.ch/html/menu3/b/h_comp43.htm.

Conduct for Law Enforcement Officials²⁵⁶ and the UN Standard Minimum Rules for the Treatment of Prisoners.²⁵⁷ Of particular relevance are the UN Basic Principles which restrict the manner in which force can be employed and specifically address the development and use of ‘non-lethal’ incapacitating weapons (see below for pertinent Articles).

UN Basic Principles on the Use of Force and Firearms²⁵⁸

Article 2: Governments and law enforcement agencies should develop a range of “non-lethal’ incapacitating weapons for use in appropriate situations, with a view to increasingly restraining the application of means capable of causing death or injury to persons.”

Article 3: “The development and deployment of ‘non-lethal’ incapacitating weapons should be carefully evaluated in order to minimize the risk of endangering uninvolved persons, and the use of such weapons should be carefully controlled”

Article 4: “Law enforcement officials, in carrying out their duty, shall, as far as possible, apply non-violent means before resorting to the use of force and firearms. They may use force and firearms only if other means remain ineffective or without any promise of achieving the intended result.”

Article 5: “Whenever the lawful use of force and firearms is unavoidable, law enforcement officials shall:

(a) Exercise restraint...and act in proportion to the seriousness of the offence and the legitimate objective to be achieved;

(b) Minimize damage and injury, and respect and preserve human life;

(c) Ensure that assistance and medical aid are rendered to any injured or affected persons at the earliest possible moment...”

Article 6: “Where injury or death is caused by the use of force and firearms by law enforcement officials, they shall report the incident promptly to their superiors...”;

Article 7: “Governments shall ensure that arbitrary or abusive use of force and firearms by law enforcement officials is punished as a criminal offence under their law;”

Article 8: “Exceptional circumstances such as internal political instability or any other public emergency may not be invoked to justify any departure from these basic principles.”

It could be argued that activities by police, security or other law enforcement officials that are grossly contrary to international human rights standards and agreements should not be considered as legitimate law enforcement activities but rather should be classed as human rights abuses.²⁵⁹ Furthermore, States that encourage, permit, or fail to actively halt such human rights abuses, fail to investigate such abuses and, where appropriate, bring those responsible to justice may, in turn, be contravening international human rights standards or international human rights law. Potentially, this may have implications for States Parties’ implementation of the CWC. If RCAs (or indeed other toxic chemicals) are used by law enforcement officials to carry out serious human rights abuses, such as torture or ill-treatment, then it can be argued that such actions should not be considered to be legitimate ‘law enforcement’ activities under Article 2.9(d) of the Convention.

²⁵⁶ United Nations, UN Code of Conduct for Law Enforcement Officials, adopted by General Assembly resolution 34/169 of 17 December 1979, http://www.unhchr.ch/html/menu3/b/h_comp42.htm.

²⁵⁷ United Nations, UN Standard Minimum Rules for the Treatment of Prisoners, adopted by the First United Nations Congress on the Prevention of Crime and the Treatment of Offenders, held at Geneva in 1955, and approved by the Economic and Social Council by its resolution 663 C (XXIV) of 31 July 1957 and 2076 (LXII) of 13 May 1977, http://www.unhchr.ch/html/menu3/b/h_comp34.htm.

²⁵⁸ United Nations, UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials (September 1990) *op.cit.*

²⁵⁹ In certain cases, the inappropriate use of RCAs by law enforcement officials may be due to inadequate knowledge of the chemical agents and their effects, and inexperience in their appropriate use (potentially due to inadequate training and supervision), rather than deliberate and intentional misuse of such chemical agents. States have a responsibility to ensure that all law enforcement officials equipped with RCAs are rigorously trained in the appropriate use of these chemical agents, both in terms of the technical aspects of the safe use of such agents and also with regard to relevant international human rights standards.

In this regard, Perry Robinson believes that although RCAs do have a legitimate role in law enforcement activities their intentional misuse would be inconsistent with the CWC:

*“RCAs are designed and intended to work by causing people to move away from a particular area, to depart from a riotous assembly, to stop being a mob. You do not want people to be disabled or injured by RCAs, you want them to move away from a given area or stop participating in a violent situation. The intention behind the use is important. To use RCAs to intentionally disable and injure people is not consistent with the CWC. Such use would only be consistent if you had a weird interpretation of the Treaty.”*²⁶⁰[Emphasis added].

Analysis of misuse of RCAs by law enforcement personnel

RCAs, when used in accordance with manufacturers’ instructions and in line with international human rights standards, can provide an important alternative to other applications of force more likely to result in injury or death e.g. firearms. They are legitimately employed by law enforcement officials for activities such as the dispersal of assemblies posing an imminent threat of serious injury, or the incapacitation of violent individuals. However they are also open to misuse.

To provide a preliminary indication of the nature of the misuse of RCAs by law enforcement personnel,²⁶¹ an analysis of documentation produced by relevant UN monitoring bodies²⁶² and leading human rights organisations²⁶³ relating to reported human rights abuses over a five year period was undertaken.²⁶⁴ The survey indicated that since 2004, law enforcement personnel have reportedly utilised RCAs to facilitate human rights abuses in a wide range of countries, including Bahrain,²⁶⁵ Brazil,²⁶⁶ Cambodia,²⁶⁷ China,²⁶⁸ Côte d'Ivoire,²⁶⁹ Democratic Republic of the Congo,²⁷⁰ Dominican Republic,²⁷¹ East Timor,²⁷² Egypt,²⁷³ Georgia,²⁷⁴ India,²⁷⁵

²⁶⁰ Perry Robinson, J., interview with author, 7th July 2009.

²⁶¹ There is no data available in the public domain recording the frequency of RCA employment by law enforcement officials nor of the amounts of such chemical agents employed. Consequently the relative frequency of reported misuse of RCAs could not be established. Instead the analysis is intended to indicate the types of reported RCA misuse and the range of countries where such misuse has occurred.

²⁶² The public documentation of relevant UN bodies including the UN Human Rights Council, UN Commission on Human Rights, UN Special Rapporteur on Torture and UN Special Rapporteur on Extra-Judicial Executions, covering reported human rights violations from the start of 2004 till the end of 2008, was analysed.

²⁶³ The public documentation of Amnesty International and Human Rights Watch, covering reported human rights violations from the start of 2004 till the end of 2008, was analysed.

²⁶⁴ It should be noted that this review gives only a 'snapshot' of reported misuse of RCAs by law enforcement personnel during a discrete time-frame. Analysis of other respected information sources, such as the Harvard Sussex Program's CBW Events Data-Base, may well provide further cases of reported misuse of RCAs by law enforcement officials in these and additional countries.

²⁶⁵ Human Rights Watch, Bahrain: Activists face prison for political leaflets, police attack peaceful demonstrators supporting detainees, News Statement, 29th January 2007, <http://www.hrw.org/en/news/2007/01/29/bahrain-activists-face-prison-political-leaflets>, (accessed 17th June 2009).

²⁶⁶ Amnesty International, Brazil: Fear for safety/ forced eviction: About 500 members of the Pataxó Hãhãhãe indigenous community, AI index number: AMR 19/011/2006, 16th March 2006, <http://www.amnesty.org/en/library/info/AMR19/011/2006/en>, (accessed 17th June 2009).

²⁶⁷ Human Rights Watch, Cambodia: events of 2008, Annual Report 2009, <http://www.hrw.org/en/world-report/2009/cambodia>, (accessed 17th June 2009).

²⁶⁸ United Nations, Statement by the UN High Commissioner for Human Rights on Demonstrations in Tibet Autonomous Region in China, 14th March 2008, <http://www.unhchr.ch/huricane/huricane.nsf/0/D52236B213A1042CC125740F002F784A?opendocument>, (accessed 17th June 2009).

²⁶⁹ Amnesty International, AI Index: AFR 31/003/2004, News Service No: 070, 26 March 2004, <http://asiapacific.amnesty.org/library/Index/ENGAFR310032004?open&of=ENG-CIV>, (accessed 17th June 2009).

²⁷⁰ Human Rights Watch, DR Congo: civilians killed as army factions clash, unnecessary force also used against those protesting election delays, News statement, June 30, 2005, <http://www.hrw.org/en/news/2005/06/30/dr-congo-civilians-killed-army-factions-clash>, (accessed 17th June 2009).

²⁷¹ Amnesty International, Dominican Republic: Submission to the UN Universal Periodic Review: Sixth session of the UPR Working Group of the Human Rights Council, November - December 2009, AI Index: AMR 27/002/2009, 20th April 2009, <http://www.amnesty.org/en/library/asset/AMR27/002/2009/en/c3b47a35-5c17-4805-8ace-f73b5c065789/amr270022009en.pdf>, (accessed 17th June 2009), p.8.

²⁷² Human Rights Watch, East Timor: Torture and Mistreatment by Police - Government Must Check Abuse Before It Spreads, 18th April 2006, <http://www.hrw.org/en/news/2006/04/18/east-timor-torture-and-mistreatment-police> (accessed 25th June 2009); Human Rights Watch, Tortured Beginnings: Police Violence and the Beginnings of Impunity in East Timor, April 2006, <http://hrw.org/reports/2006/easttimor0406/6.htm>, (accessed 17th June 2009).

²⁷³ Amnesty International, Egypt: AI voices concern over pattern of reckless policing, MDE 12/023/2008, 25th November 2008, <http://www.amnesty.org/en/library/asset/MDE12/023/2008/en/cee40cb1-bba6-11dd-a0a0-599e4c28c8aa/mde120232008eng.pdf>, (accessed 17th June 2009).

²⁷⁴ Amnesty International, Georgian government urged to end police abuse, 13th March 2008, <http://www.amnesty.org/en/news-and-updates/news/georgian-government-urged-introduce-police-id-20080313>, (accessed 17th June 2009); UN Human Rights Council, Seventh Session, Report submitted by the Special Representative of the Secretary-General on the situation of human rights defenders, Hina Jilani, Addendum: summary of cases transmitted to Governments and replies received, A/HRC/7/28/Add.1, 5 March 2008, paragraphs 869-871, <http://daccessdds.un.org/doc/UNDOC/GEN/G08/114/44/PDF/G0811444.pdf?OpenElement>, accessed 17th June 2009).

²⁷⁵ Human Rights Watch, India: Protect Honored Kashmiri Rights Lawyer From Attacks, Authorities Should Act Against Those Responsible, 30th June 2008, (accessed 25th June 2009), <http://www.hrw.org/en/news/2008/06/30/india-protect-honored-kashmiri-rights-lawyer-attacks>; Amnesty International, India: Excessive force used against protesting factory workers by police, AI Index number: ASA 20/029/2005, 31st July 2005, <http://www.amnesty.org/en/library/info/ASA20/029/2005/en>, (accessed 17th June 2009).

²⁷⁶ Amnesty International, Indonesia: investigate forcible destruction of homes by the police in Riau, 23rd December 2008, press release, <http://www.amnesty.org/en/for-media/press-releases/indonesia-investigate-forcible-destruction-homes-police-riau-20081223>, (accessed 25th June 2009).

²⁷⁷ Amnesty International, Arbitrary arrest/fear of torture or ill-treatment, UA 169/08, MDE 13/084/2008, 17th June 2008, <http://www.amnesty.org/en/library/asset/MDE13/084/2008/en/cc558e93-3c8c-11dd-a518-c52d73496467/mde130842008eng.pdf>, (accessed 17th June 2009); UN Human Rights Council, Fourth session, Implementation of General Assembly Resolution 60/251, Report of the Special Representative of the Secretary-General on the situation of human rights defenders, Hina Jilani, Addendum: summary of cases transmitted to Governments and replies received A/HRC/4/37/Add.1, 27 March 2007, paragraphs 329-330, <http://www2.ohchr.org/english/bodies/hrcouncil/docs/4session/A-HRC-4-37-Add-1.pdf>, (accessed 17th June 2009).

²⁷⁸ Amnesty International, Urgent Action: Fear for safety / Excessive use of force / Land Rights Israel/ Palestinian villagers and Israeli peace activists in Bil'in village in the West Bank, 22nd September 2005, AI Index: MDE 15/047/2005, <http://www.amnesty.org/en/library/asset/MDE15/047/2005/en/dom-MDE150472005en.pdf>, (accessed 17th June 2009).

²⁷⁹ Human Rights Watch, World Report, January 2005, <http://www.hrw.org/legacy/english/docs/2005/01/13/kenya9831.htm>, (accessed 17th June 2009).

²⁸⁰ Amnesty International, *The UN in Kosovo - a Legacy of Impunity, Serbia*, EUR 70/015/2006, 8 November 2006, p.11, <http://www.amnesty.org/en/library/asset/EUR70/015/2006/en/a257d846-d3da-11dd-8743-d305bea2b2c7/eur700152006en.pdf>, (accessed 17th June 2009).

²⁸¹ Human Rights Watch, Annual Report 2008: Malaysia, events of 2007, <http://www.hrw.org/legacy/englishwr2k8/docs/2008/01/31/malays17608.htm>, (accessed 17th June 2009); Amnesty International, Internal Security Act used to punish human rights activists, 4th September 2008, <http://www.amnesty.org/en/for-media/press-releases/malaysia-internal-security-act-used-punish-human-rights-activists-200809>, (accessed 17th June 2009).

²⁸² UN Human Rights Council, Fourth Session, Implementation of General Assembly Resolution 60/251, Report of the Special Representative of the Secretary-General on the situation of human rights defenders, Hina Jilani, Addendum: summary of cases transmitted to Governments and replies received A/HRC/4/37/Add.1, 27 Bradford Non-Lethal Weapons Research Project Report – Last updated: 7th October 2009

March 2007, paragraph 420, <http://www2.ohchr.org/english/bodies/hrcouncil/docs/4session/A-HRC-4-37-Add-1.pdf> (accessed 25th June 2009).

²⁸³ Amnesty International, Mauritania: Amnesty International calls for the release of the President of the Republic and respect for fundamental freedoms, AFR 38/007/2008, 12th August 2008, <http://www.amnesty.org/en/library/asset/AFR38/007/2008/en/abf41bf8-6a07-11dd-8e5e-43ea85d15a69/afr380072008eng.pdf>, (accessed 17th June 2009).

²⁸⁴ UN Human Rights Council, A/HRC/6/14, 7 December 2007, Human rights situations that require the Council's attention, Report of the Special Rapporteur on the situation of human rights in Myanmar, Paulo Sérgio Pinheiro, mandated by resolution S-5/1 adopted by the Human Rights Council at its 5th Special Session, paragraphs 27, 28, 30, pp.9-10 & Annex, paragraph 3, p.25, <http://www2.ohchr.org/english/bodies/hrcouncil/docs/6session/A.HRC.6.14new.pdf>, (accessed 17th June 2009).

²⁸⁵ Human Rights Watch, Nepal: end attacks, arbitrary arrests, and harassment of Tibetans, 18th March 2008, <http://www.hrw.org/en/news/2008/03/18/nepal-end-attacks-arbitrary-arrests-and-harassment-tibetans>, (accessed 18th June 2009); UN Human Rights Council, Fourth Session, Implementation of General Assembly Resolution 60/251, Report of the Special Representative of the Secretary-General on the situation of human rights defenders, Hina Jilani, Addendum: summary of cases transmitted to Governments and replies received, A/HRC/4/37/Add.1, 27 March 2007, para. 482, <http://www2.ohchr.org/english/bodies/hrcouncil/docs/4session/A-HRC-4-37-Add-1.pdf>, (accessed 18th June 2009); UN Commission on Human Rights, 62nd Session, Report of the United Nations High Commissioner for Human Rights on the situation of human rights and the activities of her Office, including technical cooperation, in Nepal, E/CN.4/2006/107, 16th February 2006, para 75, <http://www2.ohchr.org/english/bodies/chr/docs/62chr/E.CN.4.2006.107.pdf>, (accessed 18th June 2009).

²⁸⁶ Human Rights Watch, *Rest in Pieces: Police Torture and Deaths in Custody in Nigeria*, 27th July 2005, http://www.hrw.org/reports/2005/nigeria0705/6.htm#_Toc109621455, (accessed 18th June 2009); Human Rights Watch, Nigeria: arbitrary killings by security forces in Jos, 19th December 2008, <http://www.hrw.org/en/news/2008/12/19/nigeria-arbitrary-killings-security-forces-jos>, (accessed 18th June 2009).

²⁸⁷ UN Human Rights Council, Seventh Session, Report submitted by the Special Representative of the Secretary-General on the situation of human rights defenders, Hina Jilani, Addendum: summary of cases transmitted to Governments and replies received, A/HRC/7/28/Add.1, 5 March 2008, paragraphs 1541-1543, <http://daccessdds.un.org/doc/UNDOC/GEN/G08/114/44/PDF/G0811444.pdf?OpenElement>, (accessed 18th June 2009); Human Rights Watch, *Pakistan: Release Judges, Lawyers and Activists From Arbitrary Detention - Opposition Activists at Risk of Torture*, 7th November 2007, <http://www.hrw.org/en/news/2007/11/07/pakistan-release-judges-lawyers-and-activists-arbitrary-detention>, (accessed 25th June 2009); Human Rights Watch, *Pakistan: End Persecution of Political Opponents*, 27th December 2004 <http://www.hrw.org/en/news/2004/12/27/pakistan-end-persecution-political-opponents>, (accessed 25th June 2009).

²⁸⁸ Human Rights Watch, hundreds of Chechens detained in "filtration camps": detainees face torture, extortion, rape, February 2007, <http://www.hrw.org/en/news/2000/02/17/hundreds-chechens-detained-filtration-camps>, (accessed 18th June 2009).

²⁸⁹ Amnesty International, Briefing for the Committee against torture, Index Number: AFR 53/002/2006, pp14-15, <http://www.amnesty.org/en/library/asset/AFR53/002/2006/en/0d58a083-d3e0-11dd-8743-d305bea2b2c7/afr530022006en.pdf>, (accessed 18th June 2009); Human Rights Watch World Report 2009, Events of 2008, South Africa, 14th January 2009, <http://www.hrw.org/en/node/79205>, (accessed 18th June 2009).

²⁹⁰ United Nations Press Release, 11 November 2004, Sudan: UN Expert deplores ongoing displacement in Darfur, <http://www.hrea.org/lists/refugee-rights/markup/msg00538.html>, (accessed 18th June 2009); UN News Centre, UN refugee agency withdraws staff from South Darfur over Sudanese restrictions, <http://www.un.org/apps/news/story.asp?NewsID=12510&Cr=sudan&Cr1>, (accessed 18th June 2009); 2006 Sudan country report on human rights practices, Bureau of Democracy, Human Rights, and Labor, US State Department, 6th March 2007 <http://www.state.gov/g/drl/rls/hrrpt/2006/78759.htm>, (accessed 18th June 2009); UN Human Rights Council, Fourth Session, Implementation of General Assembly Resolution 60/251, Report of the Special Representative of the Secretary-General on the situation of human rights defenders, Hina Jilani, Addendum: summary of cases transmitted to Governments and replies received, A/HRC/4/37/Add.1, 27th March 2007, paragraph 620, <http://www2.ohchr.org/english/bodies/hrcouncil/docs/4session/A-HRC-4-37-Add-1.pdf>, (accessed 18th June 2009).

²⁹¹ Amnesty International, Laos/Thailand: Hmong refugees dragged from cells amid tear gas, AI Index: ASA 26/001/2007, News Service No.19, 30th January 2007; UN Human Rights Council, Seventh Session, Report submitted by the Special Representative of the Secretary-General on the situation of human rights defenders, Hina Jilani, Addendum: summary of cases transmitted to Governments and replies received, A/HRC/7/28/Add.1, 5 March 2008, paragraphs 1840-1842,

Uganda,²⁹⁴ Ukraine,²⁹⁵ USA,²⁹⁶ Venezuela,²⁹⁷ Vietnam²⁹⁸ and Zimbabwe.²⁹⁹ The cases below illustrate the range of human rights abuses reportedly perpetrated by law enforcement officials utilising RCAs.

Use of RCAs for suppression of freedom of assembly and expression

Georgia:

The UN Special Representative of the Secretary-General on the situation of human rights defenders³⁰⁰ and Amnesty International³⁰¹ have highlighted the actions of the Georgian police who have been accused of using

<http://daccessdds.un.org/doc/UNDOC/GEN/G08/114/44/PDF/G0811444.pdf?OpenElement>, (accessed 18th June 2009).

²⁹² Amnesty International, Togo: Will History Repeat Itself? AI Index: AFR 57/012/2005, 20th July 2005, <http://www.amnesty.org/en/library/asset/AFR57/012/2005/en/dom-AFR570122005en.html>, (accessed 18th June 2009).

²⁹³ Human Rights Watch, Turkey: Closing Ranks against Accountability, 5th December 2008, <http://www.hrw.org/en/node/76399/section/3>, (accessed 25th June 2009); Amnesty International, Turkey: Respect the rights and safety of demonstrators, 30th April 2008, Press Release, <http://www.amnesty.org/en/for-media/press-releases/turkey-respect-rights-and-safety-demonstrators-20080430>, (accessed 18th June 2009).

²⁹⁴ Human Rights Watch World Report 2009, Events of 2008, Uganda, 14th January 2009, <http://www.hrw.org/en/world-report/2009/uganda?print>, (accessed 18th June 2009).

²⁹⁵ Amnesty International, AI Index: EUR 50/005/2004, News Service No: 289, 16 November 2004, <http://www.amnesty.org/en/library/asset/EUR50/005/2004/en/df1caa0e-fa9d-11dd-999c-47605d4edc46/eur500052004en.pdf>, (accessed 18th June 2009).

²⁹⁶ Amnesty International, USA: 'Less than lethal'? The use of stun weapons in US law enforcement, AI Index Number: AMR 51/010/2008, 16th December 2008, <http://www.amnesty.org/en/library/info/AMR51/010/2008/en>, (accessed 25th June 2009), pp44-45; Amnesty International, Amnesty International calls for inquiry into force used by the US Border Patrol against 'No Border Camps' Protesters, AI Index: AMR 51/183/2007, News Service No. 222, 15th November 2007, <http://www.amnesty.org/en/library/asset/AMR51/183/2007/en/3dbe5554-d349-11dd-a329-2f46302a8cc6/amr511832007en.pdf>, (accessed 18th June 2009); Amnesty International, USA: Disproportionate use of force against protesters at Republican National Convention, AI Index: AMR 51/098/2008, 5th September 2008, <http://www.amnesty.org/en/library/asset/AMR51/098/2008/en/4fe02030-7daf-11dd-8e5e-43ea85d15a69/amr510982008en.pdf>, (accessed 18th June 2009); Human Rights Watch, Louisiana: Detainee Abuse Requires Federal Probe, 4th October 2005, <http://www.hrw.org/en/news/2005/10/04/louisiana-detainee-abuse-requires-federal-probe>, (accessed 18th June 2009); Human Rights Watch, The Road to Abu Ghraib, 8th June 2004, <http://www.hrw.org/en/reports/2004/06/08/road-abu-ghraib>, (accessed 25th June 2009); Human Rights Watch, US: Prisons No Place For the Mentally Ill, 12th February 2004, <http://www.hrw.org/en/news/2004/02/12/prisons-no-place-mentally-ill> (accessed 25th June 2009).

²⁹⁷ Human Rights Watch World Report, 2005, Events of 2004, Venezuela, 12th January 2005, <http://hrw.org/english/docs/2005/01/13/venezu9843.htm>, (accessed 25th June 2009).

²⁹⁸ Human Rights Watch World Report 2009, Events of 2008, Vietnam, 14th January 2009, <http://www.hrw.org/en/world-report/2009/vietnam>, (accessed 25th June 2009); Human Rights Watch, Vietnam: end crackdown on Catholics, 6th October 2008, (accessed 25th June 2009), <http://www.hrw.org/en/news/2008/10/06/vietnam-end-crackdown-catholics>.

²⁹⁹ Amnesty International, 'Zimbabwe: Ten dead following police misuse of tear gas', AI Press Release, 22 September 2004; Amnesty International, Another Death at Porta Farm – 11 People Dead Following Police Misuse of Tear Gas, 4th October 2004; Amnesty International, Zimbabwean police arrest and assault opposition demonstrators, 24th January 2008, <http://www.amnesty.org/en/news-and-updates/news/zimbabwean-police-arrest-and-assault-opposition-demonstrators-20080124>, (accessed 25th June 2009); UN Commission on Human Rights, 27th March 2006, Extrajudicial, summary or arbitrary executions, Report of the Special Rapporteur, Philip Alston, Addendum, Summary of cases transmitted to Governments and replies, http://www.extrajudicialexecutions.org/reports/E_CN_4_2006_53_Add_1.pdf (accessed 25th June 2009); Amnesty International, WOZA women denied bail, as peaceful protestors released in Harare, 28th October 2008; <http://www.amnesty.org/en/library/asset/AFR46/030/2008/en/de4f37f7-a5b5-11dd-98b9-d503e38a5523/afr460302008eng.pdf> (accessed 25th June 2009).

³⁰⁰ UN Human Rights Council, Seventh Session, Report submitted by the Special Representative of the Secretary-General on the situation of human rights defenders, Hina Jilani, Addendum: summary of cases
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excessive force to disperse demonstrators calling for the resignation of President Mikheil Saakashvili on 7th November 2007. The UN Special Representative stated that “...peaceful anti-Government demonstrations in Tbilisi were violently curtailed by the riot police. Protesting crowds were dispersed by water cannons, tear gas and rubber bullets.”³⁰²

Amnesty International reported that “Police officers, many of whom were wearing masks, were said to have used truncheons, rubber bullets, tear gas and water cannons to break up three rallies in the capital, Tbilisi. Eyewitnesses reported that police beat and kicked scores of demonstrators, and were also said to have assaulted the Georgian Ombudsperson.”³⁰³

Iran:

On 16th June 2006, the UN Special Representative on Human Rights Defenders³⁰⁴ sent an urgent appeal to the Iranian Government³⁰⁵ regarding hundreds of women and men who attempted to hold a peaceful demonstration on 12th June 2006 at Haft Tir Square in Tehran to demand a better recognition of women's rights. Before the demonstration could commence, the security forces began to beat the participants with batons, sprayed them with tear gas and colour spray, and took them into custody. A spokesperson for the judiciary has reportedly confirmed that security forces arrested 70 people, including 42 women, to prevent the demonstration from taking place. According to the spokesperson for the judiciary, they were charged with participation in an illegal assembly.

Israel:

In September 2005, Amnesty International³⁰⁶ expressed concern for the safety of Palestinian villagers and Israeli peace activists in the West Bank village of Bil'in, following the use of excessive force by the Israeli forces against them as they demonstrated peacefully every week against the construction of the fence/wall which was reportedly cutting them off from most of their land and depriving them of their livelihood. Palestinians and Israelis protesters were reportedly assaulted and beaten every week by Israeli troops, who also used tear gas, stun grenades and rubber-coated metal bullets against the demonstrators.

USA:

Amnesty International³⁰⁷ reported that on 11th November 2007 the United States Border Patrol (BP) violently dispersed a protest organized by the group ‘No Border Camps’ at the US border with Mexico in Calexico, California. Video footage reportedly showed BP police advancing on a group of some 30 demonstrators, swinging batons and indiscriminately firing pepperball guns (projectile weapons that fire pepper spray gas) at the protesters. Although the police later reported that some demonstrators had assaulted officers and begun to destroy government property, none of those shown on the video appeared to be engaged in acts of violence when they were charged by officers. Those at the scene also reported that no prior warning was given for the protesters to disperse before the police began using their weapons against them. A number of the demonstrators were alleged to have suffered injuries as a result of the police action.

Vietnam:

According to Human Rights Watch,³⁰⁸ in August and September 2008, the Vietnamese police utilised tear gas in the repression of Catholics gathered in Hanoi for peaceful prayer vigils calling for return of government-confiscated church property. On 31st August 2008 a uniformed police officer sprayed tear gas on a group of Catholics during a prayer vigil on the grounds of Thai Ha Church, resulting in the hospitalization of at least 20

transmitted to Governments and replies received, A/HRC/7/28/Add.1, 5 March 2008, paragraphs 869-871, <http://daccessdds.un.org/doc/UNDOC/GEN/G08/114/44/PDF/G0811444.pdf?OpenElement>.

³⁰¹ Amnesty International (13th March 2008) *op.cit.*

³⁰² UN Human Rights Council (5th March 2008) *op. cit.*

³⁰³ Amnesty International (13th March 2008) *op.cit.*

³⁰⁴ UN Human Rights Council (27th March 2007) *op.cit.*, paras 329-330

³⁰⁵ The appeal was sent jointly by the Special Representative together with the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, the Special Rapporteur on the question of torture and the Special Rapporteur on violence against women.

³⁰⁶ Amnesty International, (22nd September 2005) *op.cit.*

³⁰⁷ Amnesty International, (15th November 2007) *op.cit.*

³⁰⁸ Human Rights Watch, Events of 2008, Vietnam, (14th January 2009) *op.cit.*; Human Rights Watch, (6th October 2008) *op.cit.*

parishioners. In September 2008 police used tear gas and electric batons to disband prayer vigils, detained protesters, and bulldozed properties considered sacred to Vietnamese Catholics.

Use of RCAs in conjunction with firearms/excessive use of force

Dominican Republic:

Amnesty International has reported³⁰⁹ that in June 2007, police and military officers used pellets and tear gas to evict 75 families from public land in Villa Venecia de Pantojas, Santo Domingo Este. César Ureña, a community leader, was reportedly extra-judicially executed by military officers during the eviction. On 13th May 2008, the Finance Ministry's Department of National Assets gave a plot of land to the evicted families. However, four days later the relocated families were forcibly evicted from that land by a contingent of police and military personnel. A 76 year old man died of asphyxiation caused by the use of tear gas during the eviction.

Indonesia:

According to Amnesty International,³¹⁰ on 18th December 2008, around 700 members of the local security forces discharged small arms and used tear gas to forcibly evict residents of Suluk Bongka village in the province of Riau on the eastern coast of Sumatra. Local sources reported a two-year-old died after she fell down a well during the confrontation, while a two-month-old baby died from burn injuries. Two other people suffered gunshot wounds. As the villagers fled into the forest, two helicopters then dropped what was thought to be a fire accelerant on the village of Suluk Bongkal, Bengkalis, burning to the ground around 300 homes. Bulldozers then went in and flattened the area completely.

Sudan:

On 10th November 2004 Sudanese security forces stormed the refugee camp at Al Geer in South Darfur to forcibly remove people who had sought refuge there, and destroyed their shelters. According to BBC journalists who filmed the event, police officers beat civilians and used tear gas against women and children queuing at a medical centre.³¹¹ The attack was deplored by the Representative of the UN Secretary General who also highlighted the contemporaneous case of displaced persons in North Darfur who told a UN team in Tartura village that they had recently been forced from their homes in Abu Shouk by police who used "tear gas, electrical gadgets and threats to force them onto trucks."³¹²

Togo

Amnesty International³¹³ has reported how Togolese security forces repeatedly used tear gas in conjunction with live ammunition against peaceful government opponents in the run up to, during and following presidential elections in 2005. On the day of the election, members of the security forces burst into several polling stations and used tear gas grenades in conjunction with small arms fire. An opposition party election observer, assigned to the polling station at Bè Plage, a district of Lomé, told AI:

*"After the vote counting had begun, two military vehicles manned by green berets[members of the Presidential guard's commando regiment] arrived at the school. They fired in the air. Many people panicked and tried to leave, but there was only one exit. The soldiers came into the room. They fired tear gas grenades and live rounds and took the ballot boxes. I tried to escape by climbing over a wall. My friend, SP, who tried to escape with me, could not get over the wall because he was too small. I have not seen him since. I had to walk over about 30 bodies to climb the wall and escape."*³¹⁴

³⁰⁹ Amnesty International (20th April 2009) *op.cit.*

³¹⁰ Amnesty International (23rd December 2008) *op.cit.*

³¹¹ BBC News, Sudanese forces raid refugee camp, 11th November 2004, <http://news.bbc.co.uk/1/hi/world/africa/3998243.stm>; BBC News, Straw's 'shock' at Sudan footage, 11th November 2004, http://news.bbc.co.uk/1/hi/uk_politics/4001453.stm (accessed 25th June 2009).

³¹² United Nations Press Release (11th November 2004) *op.cit.*; United Nations News Centre, (11th November 2004) *op.cit.*

³¹³ Amnesty International (20 July 2005) *op.cit.*

³¹⁴ Amnesty International (20 July 2005) *op.cit.*, p.6.



Figure 2.1: Tear gas canister, obtained by Amnesty International researchers, reportedly used by Togolese security forces during repression of protests against Presidential election results in April 2005, in Lomé, Togo. Markings indicate that the grenade is an MP7 CS grenade manufactured by Nobel Sécurité (France). The '91' marking may indicate a manufacture date of 1991 (Photo: Amnesty International).

Use of RCAs for ill-treatment or torture

East Timor:

A 2006 Human Rights Watch report³¹⁵ has documented use of excessive force during arrests, torture and ill-treatment of detainees by the National Police of East Timor (PNTL). In several cases pepper spray was utilised. One young man told Human Rights Watch what happened to him when he was arrested in his village, near the town of Maliana: *"On June 25, 2004, I was arrested by the PNTL, and put in a cell for two days and two nights. I was continuously tortured, sprayed with pepper spray, beaten and drenched with water. They constantly threatened me, saying 'if you oppose the police then you will know the consequence.' ..."*³¹⁶

Venezuela:

Human Rights Watch report³¹⁷ that, in early February and late March 2004, National Guard and police officers beat and tortured people detained during and after protests in Caracas and other Venezuelan cities. Some reported that their captors hurled tear gas bombs into the closed vehicles in which they were seated, causing extreme distress, near suffocation, and panic, while others described how the powder from tear gas canisters was sprinkled on their faces and eyes, causing burns and skin irritation.

Use of RCAs in confined space

Nigeria:

According to Human Rights Watch,³¹⁸ on 29th November 2008, following clashes between mobs of Christians and Muslims in the Angwan-Keke neighbourhood of Jos, Plateau State, a group of Police Mobile Force (MOPOL) stormed through Angwan-Keke and the adjacent neighborhood of Bulbulla shooting into the air and breaking into houses. Twenty residents from both communities interviewed by Human Rights Watch reported that over the next hour the MOPOLs broke into at least six houses and executed at least 13 unarmed men and boys they found. They also reportedly threw tear gas into a small local mosque and into the home where one of the wounded lay dying. A witness reported:

*"I live next door to Mr. A., the shopkeeper. After being shot by the MOPOLs he crept, pulling himself along the ground, into my house. I asked him where he was wounded, but he said he didn't know. I lifted up his shirt and saw he'd been shot twice - once in the back and once in the abdomen. As I was trying to stop the bleeding, the MOPOLs came back and threw a tear gas canister into my house. A. died a short time later."*³¹⁹

Another eye witnesses stated:

*When [MOPOL} they got to the mosque, I heard one of them asking: 'Is this not a mosque?' Then another said, 'Burn it,' but in the end they threw the tear gas in and gassed out three people, including one who was sick."*³²⁰

³¹⁵ Human Rights Watch (April 2006) *op.cit.*

³¹⁶ Human Rights Watch (April 2006) *op.cit.*, p.33.

³¹⁷ Human Rights Watch (12th January 2005) *op.cit.*

³¹⁸ Human Rights Watch (19th December 2008) *op.cit.*

³¹⁹ *Ibid.*

³²⁰ *Ibid.*

South Africa:

In a submission to the UN Committee against Torture,³²¹ Amnesty International highlighted their concern over “instances in which the police used pepper spray to ill-treat and punish people already under arrest and detained in a police van”.³²² According to Amnesty International, school children and community activists were pepper sprayed by police in the aftermath of a demonstration in Harrismith, Free State, on 30th August 2004. Although the demonstrators were unarmed, they had moved onto a major highway and police had opened fire using live ‘bird-shot’ ammunition to disperse them. Police then arrested scores of people, including school children, many of whom were fleeing the scene, and pushed them into police vehicles. In one of the vans, the police had put a seriously injured 17-year-old, Teboho Mhkonza, who later died from his injuries, and two young women, both with gunshot injuries to their legs. Teboho was bleeding and moaning with pain. In order to get help for Teboho, the prisoners in the van tried banging on its walls to get the attention of the police. Instead of assisting, however, a police officer allegedly opened a side flap of the van and sprayed the occupants twice with pepper spray, then closed the flap. The effects of the spray increased the distress of the injured people in the van. One of the uninjured occupants, Sibusiso N, told Amnesty International that he felt “like he was dying...it made breathing difficult.”³²³

Zimbabwe:

The UN Special Rapporteur for Extra Judicial Executions³²⁴ and Amnesty International³²⁵ have raised concerns about the actions of riot police, war veterans and members of the youth ‘militia’ who went to Porta Farm to forcibly evict some 10,000 people on 2nd September 2004. The legitimacy of this action as a law enforcement operation is undermined by the fact that the police were acting in defiance of a court order prohibiting the eviction.

According to eye-witness testimony the police fired tear gas directly into the homes of the Porta Farm residents. One man was eating porridge in his courtyard with a friend when a canister landed. “Three tear gas canisters were fired and exploded within the yard causing everyone to shed tears and [start] coughing,” he said. “I ran for my life and left him inside the house. Upon my return I found him dead. His body was at the door - maybe he was trying to come out for free air.”³²⁶ Eleven people subsequently died at Porta Farm following exposure to tear gas. Among the dead were five babies – the youngest just one day old.³²⁷

The preliminary survey of the misuse of RCAs by law enforcement officials indicates that there have been reported human rights abuses utilising RCAs in at least 35 countries from 2004 to 2008. The survey reveals that RCAs have reportedly been used in a variety of human rights abuses including suppression of the right to assembly, excessive use of force, ill-treatment and torture. In some instances misuse of RCAs, particularly in enclosed spaces, has reportedly resulted in serious injury or death. As well as potentially breaching international human rights standards or agreements, some of these actions may also be inconsistent with Articles 2.1 or 2.9 of the CWC.

However, despite the apparent relatively widespread nature of the reported misuse, a review of public OPCW documentary sources shows that no State Party has raised any of the cases above publicly in the context of the CWC, nor initiated multilateral consultation or investigatory mechanisms under the Convention. Furthermore, no record of any OPCW policy making organ

³²¹ Amnesty International (November 2006) *op.cit.*

³²² Amnesty International (November 2006) *op.cit.*, p.14.

³²³ Amnesty International (November 2006) *op.cit.*, p.15.

³²⁴ UN Commission on Human Rights, (27th March 2006) *op.cit.*, pp.317-318.

³²⁵ Amnesty International (4th October 2004) *op.cit.*

³²⁶ BBC News, Malawi accused of tear gas trade, 5th June 2005, <http://news.bbc.co.uk/1/hi/world/africa/4610809.stm> (accessed 25th June 2009).

³²⁷ Amnesty International, (4th October 2004) *op.cit.*

addressing the overarching question of the misuse of RCAs by law enforcement personnel has been discovered, nor of any State Party raising this issue in any public meeting of the CWC.³²⁸

Despite the silence by the majority of States Parties on this issue to date, some experts believe that the Convention could be applied to the misuse of RCAs by law enforcement officials for certain human rights abuses, particularly in confined spaces. According to one former OPCW official, such use would not be different from using RCAs in combat situations if the agent concentrations to be expected are such that victims cannot escape the contaminated area before the onset of more severe toxic effects. *“If you use RCAs in high concentrations (for example in confined spaces without a possibility for the attacked individuals to escape), you are not using them as RCAs but you may actually be killing people. It is now a chemical weapon not an RCA.”*³²⁹

As well as the use of RCAs in enclosed spaces to punish or injure people, Perry Robinson believes that the use of such chemicals for torture and ill-treatment; to violently disperse peaceful demonstrations; or in conjunction with firearms to make lethal force more deadly should not be considered as permissible under the CWC. *“In my opinion, all these actions would breach the Convention. It is unacceptable to use chemical force for punishment or social control. There is something deeply wrong if one comes to that position.”*³³⁰

A UK official interviewed for this report, also believes that the misuse of RCAs for human rights violations could, potentially, breach the Convention:

*“The UK would consider the use of an RCA (or an incapacitant) to be a potential breach of the CWC if there was evidence that its use was inconsistent with the terms of Article II relating either to purposes not prohibited or to types and quantities consistent with such purposes. This would include the use of RCA/incapacitants for human rights violations in contravention of relevant international law. The mechanism to address such potential breaches are... [the] application of prohibition of RCA as a method of warfare ... or under Article IX (“Investigation of Alleged Use”).”*³³¹

The UK official further notes that:

“The circumstances of use of RCA or other “toxic chemicals” in quantities far exceeding prescribed doses or in confined spaces, in either a national or international context, would need to be investigated and determined on the facts...”

*“...Whilst there have been allegations of human rights violations involving toxic chemicals, we are not aware of any substantiated breaches of the CWC.”*³³²

Although the CWC appears to be applicable to certain human rights violations committed by law enforcement officials utilising RCAs, it is unclear whether, and through which mechanism, States Parties will deal with this issue. Perry Robinson recommends caution. *“The remedy is for States Parties to agree what law enforcement is. However this process whereby the*

³²⁸ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

³²⁹ Interview with former OPCW official, 1st September 2008.

³³⁰ Perry Robinson, J., interview with author, 7th July 2009.

³³¹ UK Government Official, correspondence with author, 10th November 2008.

³³² UK Government Official, correspondence with author, 10th November 2008.

*definition is agreed must be handled with extreme care, otherwise there is a danger to do great damage to the Treaty.*³³³

Swiss officials interviewed for this report believe that certain States Parties to the Convention may not be willing to address this issue and that the Convention may not be the best route for dealing with such concerns. Instead they recommend that the utility and applicability of international human rights and international humanitarian law instruments to the misuse of RCAs should be explored.³³⁴

Human rights considerations and the regulation of RCA transfers

A complementary approach that has already been adopted by certain States and regions is the development of export control instruments, incorporating human rights criteria. Such instruments regulate the transfer of a range of arms and security equipment, including certain RCAs and incapacitants, and prohibit the transfer of such items to recipients likely to misuse them.³³⁵ For example, the European Union has developed two complementary instruments that regulate the transfer of a range of conventional arms and security equipment, including RCAs.

EU Code of Conduct:

The EU Code of Conduct on Arms Exports³³⁶ is a politically binding instrument established in 1998 and adopted by all EU Member States. It requires Member States to consider requests for exports of items covered by the EU Common Military List³³⁷ against eight criteria – international commitments, human rights, internal conflict, regional peace and security, defence and national security, terrorism and international law, diversion and sustainable development. Under Criterion Two:³³⁸ “Member States will: a) not issue an export licence if there is a clear risk that the proposed export might be used for internal repression.”³³⁹

A range of RCAs are covered by the EU Code and contained in the EU Common Military list, as follows:

d. ‘Riot control agents’, active constituent chemicals and combinations thereof, including:

1. *α-Bromobenzeneacetonitrile, (Bromobenzyl cyanide) (CA) (CAS 5798-79-8);*
2. *[(2-chlorophenyl) methylene] propanedinitrile, (o-Chlorobenzylidenemalononitrile (CS) (CAS 2698-41-1);*
3. *2-Chloro-1-phenylethanone, Phenylacetyl chloride (ω-chloroacetophenone) (CN) (CAS 532-27-4);*
4. *Dibenz-(b,f)-1,4-oxazepine, (CR) (CAS 257-07-8);*
5. *10-Chloro-5,10-dihydrophenarsazine, (Phenarsazine chloride), (Adamsite), (DM) (CAS 578-94-9);*
6. *N-Nonanoylmorpholine, (MPA) (CAS 5299-64-9).*³⁴⁰

³³³ Perry Robinson, J., interview with author, 7th July 2009.

³³⁴ Interview with Swiss Government Officials, August 2008.

³³⁵ See Chapter 3 for discussion of the regulation of the transfer of incapacitants.

³³⁶ European Union, EU Code of Conduct on Arms Exports, European Union 8675/2/98 <http://consilium.europa.eu/uedocs/cmsUpload/08675r2en8.pdf>, The EU Code was established in 1996 and has now been adopted by all 27 States of the European Union.

³³⁷ European Union, Common Military List of the European Union, adopted by the Council on March 2008, http://209.85.229.132/search?q=cache:c0_RCLdMbNQJ:eur-lex.europa.eu/LexUriServ/LexUriServ.do%3Furi%3DOJ:C:2008:098:0001:0032:EN:PDF+eu+common+military+list&cd=1&hl=en&ct=clnk&gl=uk, (accessed 31st July 2009).

³³⁸ European Union, EU Code of Conduct on Arms Exports, Criterion 2.

³³⁹ The EU Code defines internal repression as including, inter alia, torture and other cruel, inhuman and degrading treatment or punishment, summary or arbitrary executions, disappearances, arbitrary detentions and other major violations of human rights and fundamental freedoms as set out in relevant international human rights instruments, including the Universal Declaration on Human Rights and the International Covenant on Civil and Political Rights. [European Union, EU Code of Conduct on Arms Exports, Criterion 2].

³⁴⁰ European Union, Common Military List of the European Union, adopted by the Council on 23 February 2009, (equipment covered by Council Common Position 2008/944/CFSP defining common rules governing the control of exports of military technology and equipment), ML.7.d <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:065:0001:0034:EN:PDF>, (accessed 18th June 2009).

EC Regulation 1236/2005:

EC Regulation 1236³⁴¹ is a legally binding instrument on all EU Member States, which entered into force in July 2006. The Regulation prohibits imports and exports to or from the European Union of certain goods “which have no practical use other than...for the purpose of torture and other cruel, inhuman or degrading treatment or punishment”, so-called Annex II goods.³⁴² The Regulation also requires national export authorisations for exports of certain items, “that could be used for the purpose of torture and other cruel, inhuman or degrading treatment or punishment”, so-called Annex III goods,³⁴³ including:

“3. Substances for the purpose of riot control or self-protection and related portable dissemination equipment, as follows:

3.1. Portable devices for the purpose of riot control or self-protection by the administration or dissemination of an incapacitating chemical substance³⁴⁴

3.2. Pelargonic acid vanillylamide (PAVA) (CAS 2444-46-4)

3.3. Oleoresin capsicum (OC) (CAS 8023-77-6).”³⁴⁵

Declaration, reporting and verification procedures

Declaring and investigating RCA chemical production facilities

Under the Convention, States Parties are obliged to declare facilities that produce Scheduled and discrete organic chemicals if the quantities produced exceed certain limits.³⁴⁶ Neill has highlighted how such declaration provisions could potentially be applied to facilities producing RCAs and incapacitants.³⁴⁷ All known riot control agents would normally fall into the category of non-Scheduled discrete organic chemicals. (Similarly most conceivable candidates for incapacitants would also fall into this category, the exception being BZ which is a Schedule 2(a) chemical.) Consequently, CWC States Parties would be required to declare production facilities that manufacture RCAs (and other toxic chemicals including incapacitants) in quantities exceeding 200 tonnes annually (or 30 tonnes in the case of discrete organic chemicals containing phosphorous, sulphur or fluorine). States would also be required to open the production facilities to possible on-site verification, if production exceeded 200 tonnes.³⁴⁸ However, the usefulness of the Article 6 declaration procedure as a mechanism to increase transparency regarding production of RCAs (and incapacitants) is limited, for although States Parties are required to list the facilities' “main activities” they are not required to identify the specific chemical produced.³⁴⁹ It is therefore not possible for the OPCW or its Member States to determine the nature and levels of specific RCA (or incapacitant) production by States Parties on a systematic basis.³⁵⁰

³⁴¹ European Union, Council Regulation (EC) No 1236/2005 of 27 June 2005 concerning trade in certain goods which could be used for capital punishment, torture or other cruel, inhuman or degrading treatment or punishment, Official Journal of the European Union, 30th July 2005

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:200:0001:0019:EN:PDF>.

³⁴² European Union, Council Regulation (EC) No 1236/2005, Article 3.

³⁴³ European Union, Council Regulation (EC) No 1236/2005, Article 5.

³⁴⁴ Note: This item does not control individual portable devices, even if containing a chemical substance when accompanying their user for the user's own personal protection.

³⁴⁵ Annex III, Council Regulation (EC) No 1236/2005.

³⁴⁶ OPCW, Chemical Weapons Convention, Article 6 and Verification Annex.

³⁴⁷ For full discussion see Neill, D. (2007) *op.cit.*

³⁴⁸ OPCW, Chemical Weapons Convention, Article 6 and Verification Annex.

³⁴⁹ Correspondence with former OPCW official, 28th February 2009. See OPCW Chemical Weapons Convention, Article 6.7 and Verification Annex, Part 9.

³⁵⁰ If a State Party had specific concerns about another State's RCA production it could utilise the consultation, clarification and fact-finding mechanisms under Article 9 of the Convention.

Declaring RCA possession

The CWC requires that States Parties submit an initial declaration of all chemicals that are kept for riot control purposes.³⁵¹ This Article was developed as a confidence building measure between States Parties to increase transparency with regard to RCA holdings and thereby demonstrate that no State Party held types of RCAs that were likely to be chemicals intended for chemical warfare or was seeking to develop toxic chemical weapons under the guise of RCA development programmes.³⁵²

Under this declaration procedure, all States Parties are required to supply the chemical name, structural formula and Chemical Abstracts Service (CAS) registry number, for each chemical kept for riot control purposes.³⁵³ States Parties are also required to provide an update of the initial declaration 30 days after any change has become effective.³⁵⁴

The importance of this provision has been regularly emphasised by States Parties. For example in their Common Position, which was circulated to all States Parties at the Second Review Conference, the European Union emphasised “*the obligation of States Parties to declare riot control agents.*”³⁵⁵

However, States Parties are not required to provide any information in their declarations about the quantities of RCAs that they hold,³⁵⁶ nor of the means of delivery e.g. whether they are in hand-held tear gas grenades suitable for law enforcement purposes or 155mm artillery projectiles, cluster munitions, aerial bombs or other military munitions. In addition, States Parties are not required to provide any information detailing where RCA stocks are held, nor provide details of whether they are under military or civilian law enforcement agency control.³⁵⁷ Without such information the confidence building utility of this system for alerting States to militarily significant levels of RCAs appears to be extremely limited.

In addition, once a State Party has submitted their initial RCA declaration there are no routine follow up verification provisions to ensure that such declarations are full and accurate i.e. the Technical Secretariat has no authority to undertake routine inspections to verify RCA possession by States Parties.³⁵⁸

³⁵¹ OPCW, Chemical Weapons Convention, Article 3.6.1(e).

³⁵² Author’s interview with former OPCW official, 1st September 2008.

³⁵³ OPCW, Chemical Weapons Convention, Article 3.6.1 (e).

³⁵⁴ OPCW, Chemical Weapons Convention, Article 3.6.1 (e).

³⁵⁵ Council of the European Union, Council Common Position of 28th June 2007 relating to the 2008 Review Conference of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (CWC), Official Journal of the European Union, L 176/39, 6th July 2007, [http://www.opcw.org/docs/csp/rc2/en/rc2nat14\(e\).pdf](http://www.opcw.org/docs/csp/rc2/en/rc2nat14(e).pdf).

³⁵⁶ There is no quantity threshold over which a State Party is deemed to possess RCAs, so technically all holdings no matter how small must be declared. In practice, this means that stocks of RCAs actually maintained for use (as opposed to materials used in, for example, the development of new RCAs) need to be declared.

Author’s interview of former OPCW official, 1st September 2008.

³⁵⁷ OPCW, Chemical Weapons Convention, Article 3.6.1(e).

³⁵⁸ OPCW, Chemical Weapons Convention, Article 3.6.

There are also limitations on the level of transparency in this area. Although States Parties have the right to obtain copies of the RCA declarations provided by other States Parties,³⁵⁹ there is no mechanism for civil society to obtain this information. Instead the only public document available is the summary of RCA holdings included in the OPCW Annual Report. As can be seen from the chart (Figure 2.2) extracted from the 2007 OPCW Annual Report,³⁶⁰ whilst this provides information on the aggregate number of States Parties possessing various RCAs, it does not provide sufficient information to determine the RCA holdings of a specific individual State Party. Its utility to build public confidence of State RCA holdings is, therefore, negligible.

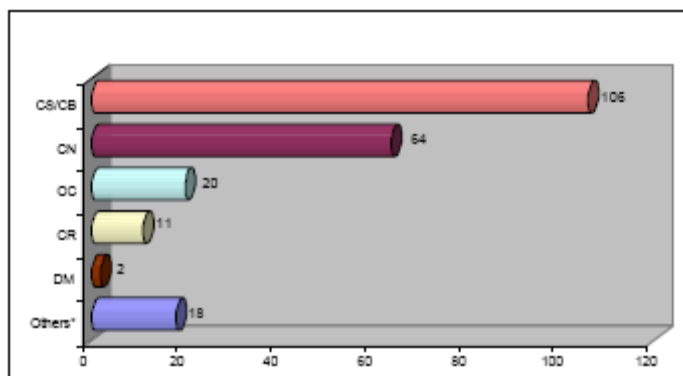


Figure 2.2: Number of CWC States Parties that had declared riot control agents, by type of agent, as at 31st December 2007^{361, 362}

The CWC obliges all States Parties to declare all toxic chemicals they possess – including incapacitants - except those they have for purposes not prohibited.³⁶³ However, unlike RCAs or Scheduled chemicals, there are currently no dedicated declaration, verification or transparency provisions in the CWC that are specifically targeted to the possession of incapacitants not listed on one of the Schedules, even though the effects of such chemicals are arguably more serious than RCAs. In recognition of this lacuna, a range of international arms

³⁵⁹ As with any other declaration information, this data is provided by the Technical Secretariat to States Parties on request. Author's interview of former OPCW official, 1st September 2008.

³⁶⁰ OPCW, Draft Report of the OPCW on the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemicals and their Destruction in 2007, EC-53/3 C-13/CRP.1, 26 June 2008, [http://www.opcw.org/docs/csp/csp13/ec5303c13crp01\(e\).pdf](http://www.opcw.org/docs/csp/csp13/ec5303c13crp01(e).pdf).

³⁶¹ OPCW, Report of the OPCW on the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemicals and their Destruction in 2007, Thirteenth Session of Conference of States Parties, C-13/4, 3rd December 2008, available from <http://www.opcw.org/documents-reports/annual-reports/> (accessed 20th February 2009).

³⁶² The OPCW Report provides the following nomenclature for the riot control agents listed in the chart: CN: 2-chloro-1-phenyl-ethanone, CS/CB: (2-chlorophenyl)-methylene propanedinitrile, CR: Dibenz (b,f)-1,4-oxazepine, DM: Diphenylaminochloroarsine (adamsite), MPA: N-nanonylmorpholine, OC: (6E)-N-(4-hydroxy-3-methoxybenzyl)-8-methylon-6-enamide.

* "Others" include pepper spray (3); PAVA (3); MPA (2); CND (3); CNB (1); CNC (1); CNK (1); capsaicin (1); ethyl bromoacetate (1); mixture of OC and CS (1); mixture of capsaicin, dehydrocapsaicin, and nonivamid (1).

³⁶³ Through a combined reading of Articles 2.1 and 3, all toxic chemicals, except those intended for purposes not prohibited (provided they are of types and in quantities consistent with such purposes), are considered chemical weapons and must be declared under the Convention.

control experts³⁶⁴ and some governments, notably Switzerland,³⁶⁵ have called on States Parties to institute similar declaration measures for incapacitants as for RCAs (See Chapter 3 for further discussion).

Proposals to improve RCA declarations:

At the time of the CWC negotiations, the limitations of the RCA declaration provisions were recognised. However, it was felt that such limited provisions were all that potential States Parties would accept. As a former OPCW official notes,

*“At the end of the negotiations in Geneva there was a deliberate choice not to include quantity and means of delivery in the [RCA] declaration process. If negotiators had tried to include this information then the US would have rejected that provision of the Treaty. The Russians and the Chinese would also not have accepted such an obligation. Others also indicated they did not want to see any such provisions on RCAs in the Treaty.”*³⁶⁶

However, the official went on to note that *“Now there is a danger that under the banner of law enforcement and riot control, incapacitants could be developed without adequate transparency. There is also a danger that technology used to produce incapacitants will be used for developing offensive chemical weapons.”*³⁶⁷

In the light of the concerns previously outlined, certain governments and NGOs have recommended that the scope of the RCA declaration should be expanded. For example, Swiss officials consider that the inclusion in national declarations of the levels of RCA holdings and indications of the means of delivery would be beneficial to increasing confidence and trust between States, and believe that such information would be useful for verification activities.³⁶⁸

However, a former OPCW official has highlighted the difficulties that effective implementation of such proposals could face, in practice.

“This is tricky because increased information requirements will make it difficult for a good number of countries to stay within the Convention. It is unlikely that States Parties would agree to the imposition of such additional obligations. The proposals may well be self-defeating. We would not get the information we sought from many of the States of concern. These increased

³⁶⁴ See for example, Recommendations and Conclusions chapter of Pearson, A., Chevrier, M. and Wheelis, M. (2007) *op.cit.*

³⁶⁵ Thesis 9 of the Swiss Working Paper stated that: *“Incapacitating agents are “toxic chemicals” and in their application comparable to riot control agents, although their effects are more severe. This warrants transparency measures that are comparable to those which are in force for riot control agents”*. Switzerland Working Paper, Riot Control and Incapacitating Agents Under the Chemical Weapons Convention, The Hague, Netherlands, RC-2/NAT.12, 9th April 2008.

³⁶⁶ Author’s interview of former OPCW official, 1st September 2008. See also CD/CW/WP.403 submitted by Algeria, China, Egypt, India, Islamic Republic of Iran, Kenya, Mexico, Myanmar, Pakistan, Sri Lanka and Zaire, 4 June 1992. In this paper the above mentioned States indicated that they did not want any provisions other than the Article 1.5 prohibition. The relevant text reads:

“Article 1. General Provisions On Scope:

5. *Each State Party undertakes not to use herbicides, law enforcement and riot control agents as a method of warfare; such a prohibition should not preclude any other use for purposes not prohibited under this Convention.*/*

**/ All other references to riot control agents in CD/CW/WP.400 will be deleted consequent to this provision.”*

³⁶⁷ Author’s interview of former OPCW official, 1st September 2008.

³⁶⁸ Author’s interviews with Swiss government officials, August 2008.

*transparency proposals would only be ripe for discussion among States Parties if there were shown to be real security concerns that countries were seeking to undermine the Convention in this area.*³⁶⁹

A UK official interviewed for this report, whilst sympathetic with the Swiss position, also highlights the difficulty of achieving agreement. *“The provisions of the CWC applicable to declaration of RCA were a compromise between SPs [States Parties] at the time the Convention was in its final negotiating phase in the spring of 1992. Whilst increased transparency would be desirable, for example by inclusion of quantities of agent in ranges, delivery systems, and information about other agents retained for law enforcement purposes, it is difficult to see how the current carefully balanced provisions could be improved significantly without re-negotiating the relevant CWC provisions, which would require the approval of all SPs [States Parties].”*³⁷⁰

When questioned about the benefits of individual States Parties providing extra information unilaterally to the OPCW technical secretariat in their RCA declarations, as a good will exercise, the UK official stated that:

*“The UK would consider providing additional information of this sort (without amending the Convention), but this would only be worthwhile if a significant number of SPs [States Parties] were willing to do so. In reaching a view on providing such information, SPs [States Parties] would of course want to take into account their legitimate national security concerns.”*³⁷¹

Verification measures for identification of RCAs

Concern has been raised by some governmental and non-governmental experts over the effectiveness and efficiency of the CWC verification system in identifying the presence of RCAs and establishing whether they have been used in contravention of the Convention (e.g. as a method of warfare). In particular, experts have highlighted gaps in the OPCW Central Analytical Database (OCAD).³⁷²

For example, in its January 2008 report, IUPAC noted that:

*“Some capability gaps with regard to chemical analysis exist (inter alia, the absence of nonscheduled chemicals, including riot control agents, from the OPCW Central Analytical Database...). Work has only just begun at the OPCW to remedy the situation; much remains to be done to fill these verification gaps.”*³⁷³

This issue had previously been raised by the Scientific Advisory Board (SAB) in its report to the First Review Conference.³⁷⁴ It was raised again by the SAB in its report to the Second Review Conference, with the support of the OPCW Director General.

³⁶⁹ Author’s interview with former OPCW official, 1st September 2008.

³⁷⁰ UK Government Official, correspondence with author, 10th November 2008.

³⁷¹ UK Government Official, correspondence with author, 10th November 2008.

³⁷² OCAD is a reference library of analytical data that contains validated spectroscopic and chromatographic data of chemicals of relevance to the Chemical Weapons Convention. Its primary purpose is to enable on-site analysis with approved OPCW inspection equipment as provided for in the Convention.

³⁷³ Balali-Mood. M, Steyn. P, Sydnes. L, Trapp. R. (2008) International Union of Pure and Applied Chemistry (IUPAC), *Impact of Scientific Developments on the Chemical Weapons Convention (IUPAC Technical Report)*, January 2008.

³⁷⁴ Note by the Director General: Report of the Scientific Advisory Board on Developments in Science and Technology, 23rd April 2003, RC-1/D.G.2, OPCW, CWC First Review Conference, Section 5.8.

*“The SAB also pointed out that in certain inspection scenarios, there is a need for OPCW inspectors to analyse samples in order to establish the identity of riot control agents, or of chemicals contained in old and abandoned chemical weapons (OACWs). The SAB recommended that the spectral data for these chemicals be included in the OCAD. The Director-General endorses this recommendation—these analytical data are essential for certain types of inspections. He hopes that the policy-making organs can agree on guidance on the inclusion of riot control agents and chemicals contained in OACWs in the OCAD.”*³⁷⁵

In the light of such long-standing concerns, Switzerland presented a Working Paper on this issue to the Second Review Conference.³⁷⁶ The paper highlighted the critical importance of OCAD to the verification process:

*“When OPCW inspection teams perform on-site analysis, they do so with approved OPCW inspection equipment, a Gas Chromatograph - Mass Spectrometer (GC-MS). In order to detect and identify relevant chemicals with this equipment, GC-MS analysis data is searched against the reference database, the OCAD... Any chemical not contained in the OCAD cannot be identified with the GC-MS. Consequently, if the inspection team has a concern about a possible presence of a particular undeclared Scheduled chemical, without the reference data in the OCAD, the absence of that chemical cannot be confirmed.”*³⁷⁷

The paper further noted that:

*“...RCAs are arguably the most likely class of non-Scheduled chemicals to be used as a chemical weapon. Historically the first use of such agents in war often preceded the use of more toxic chemicals... The Convention clearly prohibits, in Article I (5), the use of riot control agents as a method of warfare. It is thus wholly appropriate for data relating to riot control agents to be included in the OCAD.”*³⁷⁸

In the light of these concerns Switzerland recommended that:

“... to ensure the continuing viability and scientific credibility of the Convention’s verification regime, the Second Review Conference should:

- a) endorse the inclusion of data on relevant non-Scheduled chemicals in the OCAD; ...*
- c) encourage States Parties to continue to submit data on both Scheduled and relevant non-Scheduled chemicals for inclusion in the OCAD.”*³⁷⁹

However, despite the SAB/DG recommendations and the work of the Swiss Government to highlight this issue, no agreement was reached during the Second Review Conference and no recommendations were included in the Conference Report.³⁸⁰ It is uncertain how this issue will be taken forward.

³⁷⁵ Note by the Director General, Report of the Scientific Advisory Board on Developments in Science and Technology, RC-2/DG.1, 28th February 2008, [http://www.opcw.org/docs/csp/rc2/en/rc2dg01\(e\).pdf](http://www.opcw.org/docs/csp/rc2/en/rc2dg01(e).pdf).

³⁷⁶ Switzerland Working Paper, Inclusion of data on non-scheduled chemicals in the OPCW Central Analytical Database to facilitate comprehensive chemical weapons analysis, The Hague, Netherlands, RC-2/NAT.9, 9th April 2008, [http://www.opcw.org/docs/csp/rc2/en/rc2nat09\(e\).pdf](http://www.opcw.org/docs/csp/rc2/en/rc2nat09(e).pdf).

³⁷⁷ Switzerland Working Paper, RC-2/NAT.9, 9th April 2008, paras 9 and 10.

³⁷⁸ Switzerland Working Paper, RC-2/NAT.9, 9th April 2008, para 11.c.

³⁷⁹ Switzerland Working Paper, RC-2/NAT.9, 9th April 2008, para 19.

³⁸⁰ OPCW, Report of the Second Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (Second Review Conference) 7th-18th April, RC-2/4, 18th April 2008.

Chapter 3: Incapacitants and their regulation under the CWC

Introduction

As the ongoing revolution in the life sciences has proceeded over the last few decades the boundary between chemistry and biology is becoming increasingly blurred, and consequently the distinction between certain chemical and biological weapons is becoming less useful.³⁸¹ Rather than thinking of chemical and biological weapons threats as distinct, some analysts including Aas,³⁸² Dando,³⁸³ Davison³⁸⁴ and Pearson³⁸⁵ believe it is more useful to conceptualise them as lying along a continuous biochemical threat spectrum from the classical chemical agents on one extreme (i.e. nerve, blood and blister agents), through mid-spectrum agents and on to biological agents (including traditional and genetically modified biological agents).

Figure 3.1: Biochemical threat spectrum (adapted from Pearson)³⁸⁶

Classical CW	Industrial Pharmaceutical Chemicals	Bioregulators Peptides	Toxins	Genetically Modified BW	Traditional BW
Cyanide Phosgene Mustard Nerve Agents	Fentanyl Carfentanil Remifentanil Etorphine Dexmedetomidine Midazolam	Substance P Neurokinin A	Saxitoxin Ricin Botulinum Toxin	Modified/ Tailored Bacteria Viruses	Bacteria Viruses Rickettsia Anthrax Plague Tularemia

This chapter will focus upon the mid-spectrum agents.³⁸⁷ To underline the breadth of this category of agents – which includes pharmaceutical chemicals, bioregulators and toxins - the

³⁸¹ Dando, M., Scientific outlook for the development of incapacitants, in Pearson, A. Chevrier, M. & Wheelis, M. (eds) (2007) *op.cit.*, p.125.

³⁸² Aas, P. (2003) The Threat of Mid-Spectrum Chemical Warfare Agents, *Prehospital and Disaster Medicine*, Vol. 18, No.4, pp.306-312.

³⁸³ Dando, M. (2007) *op.cit.*, pp.125-126.

³⁸⁴ Davison, N. (2007) 'Off the Rocker' and 'On the Floor': The Continued Development of Biochemical Incapacitating Weapons, *Bradford Science and Technology Report No. 8*, Bradford Disarmament Research Centre, August 2007, pp.2-4, http://www.brad.ac.uk/acad/nlw/research_reports/docs/BDRS_ST_Report_No_8.pdf. (accessed 3rd June 2009); Davison, N. (2009) 'Non-Lethal' Weapons, Basingstoke, UK: Palgrave Macmillan.

³⁸⁵ Pearson, G. (2002) *Relevant Scientific And Technological Developments For The First CWC Review Conference: The BTWC Review Conference Experience*, CWC Review Conference Paper No.1. Department of Peace Studies, University of Bradford. August 2002, (available at: http://www.brad.ac.uk/acad/sbtwc/briefing/papers_index.htm [accessed 31st July 2009]).

³⁸⁶ Pearson, G. (2002) *op.cit.*, p.5.

³⁸⁷ For further discussion see Aas, P. (2003) *op.cit.*

term incapacitating chemical and biochemical agents (or incapacitants) is utilised. Although there is currently no universally agreed definition of such agents,³⁸⁸ as a provisional working description, they can be described as substances whose chemical action on specific biochemical processes and physiological systems, especially those affecting the higher regulatory activity of the central nervous system, produce a disabling condition (e.g. can cause incapacitation or disorientation, incoherence, hallucination, sedation, loss of consciousness).³⁸⁹ The effects of incapacitants are designed to be temporary, lasting from hours to days, but in higher concentrations can result in death. It is important to differentiate incapacitants from a distinct class of chemical agents currently used by many States for law enforcement, namely the riot control agents (RCAs). Unlike incapacitants, riot control agents act peripherally on the eyes, upper respiratory tract and skin to produce rapid sensory irritation or disabling physical effects which disappear within a short time following termination of exposure.³⁹⁰

There are a wide variety of chemicals that could potentially be utilised as incapacitants and recent research has concentrated upon the following varieties of candidate agents: anaesthetic agents, skeletal muscle relaxants, opioid analgesics, anxiolytics, antipsychotics, antidepressants and sedative-hypnotic agents.³⁹¹ A number of these agents are currently legitimately utilised by the medical or veterinary professions as tranquilising or anaesthetising agents.³⁹²

Proponents of incapacitants have promoted their development and use in certain law enforcement scenarios (such as hostage taking situations) where there is a need to rapidly and completely incapacitate single or a group of individuals without causing death or permanent

³⁸⁸ Certain States have previously defined incapacitants in terms of their effects/utility in a military context. For example, a NATO medical handbook has defined an incapacitating agent as “...a chemical agent which produces a temporary disabling condition that persists for hours to days after exposure to the agent (unlike that produced by riot control agents). Medical treatment while not essential may in some cases facilitate more rapid recovery.”

The NATO handbook considered that incapacitating agents would present the following characteristics:
“(1) Highly potent (an extremely low dose is effective) and logistically feasible.
(2) Able to produce their effects by altering the higher regulatory activity of the central nervous system.
(3) Of a duration of action lasting hours or days, rather than of a momentary or fleeting action.
(4) Not seriously dangerous to life except at doses many times the effective dose.
(5) Not likely to produce permanent injury in concentrations which are militarily effective.”

See: US Army, Navy and Air Force (1996), *NATO Handbook on the Medical Aspects of NBC Defensive Operations. AmedP-6(B)*. Washington, DC: Departments of the Army, the Navy and the Air Force, [Army Field Manual 8-9, Navy Medical Publication 5059, Air Force Joint Manual 44-151], 1st February 1996, Part III – Chemical, Chapter 6: Incapacitants. Available from Federation of American Scientists website: <http://www.fas.org/nuke/guide/usa/doctrine/dod/fm8-9/3ch6.htm> (accessed 3rd June 2009).

³⁸⁹ Definition taken from Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit.*, p.xii. Incapacitants have also been called advanced riot control agents, biochemical agents, biotechnical agents, calmatives, incapacitating biochemical weapons and immobilizing agents. Davison believes that the use of certain terms such as “calmatives” and “advanced riot control agents” has been “for reasons of politics and public relations rather than accuracy.” And that “This reflects an overall softening of language with the aim of gaining greater acceptance for new biochemical weapons.” See Davison, N. (2007) *op.cit.*, p.2.

³⁹⁰ See Chapter 2 for further discussion of RCAs. For a discussion of definitions of incapacitants [and RCAs] employed by certain States see pp. 64-67.

³⁹¹ See for example: Lakoski J., Bosseau Murray W. & Kenny J. (2000) *The advantages and limitations of calmatives for use as a non-lethal technique*, College of Medicine Applied Research Laboratory, Pennsylvania State University, October 2000, nldt2.arl.psu.edu/documents/calamative_report.pdf (accessed 31st July 2009). It should be noted that the effects of some of these chemical agents are only temporary in nature after specific antagonists have been administered.

³⁹² See Aas, P. (2003) *op.cit.*, p.309.

disability. Incapacitants have also been raised as a possible tool in a variety of military operations, especially in situations where combatants and non-combatants are mixed.³⁹³

Concerns relating to the development and use of incapacitants

A broad range of observers including scientific and medical professionals, arms control organisations, international legal experts, human rights monitors and humanitarian organisations, as well as a number of States, are highly sceptical about the development and utility of incapacitants, highlighting the fact that such weapons are not inherently non-lethal, even if they were to be used with a non-lethal intent. These concerns were outlined in a 1968 paper by then-Chair of the UK Chemical Defence Advisory Board, Professor R.B. Fisher, who stated: *“On general grounds I think it unlikely that...a pure incapacitator agent will emerge. Any chemical agent, a small dose of which is capable of profound disturbance of bodily or mental function, is certain to be able to cause death in large dose...and no attack with a chemical warfare agent is likely to be designed with the primary objective of avoiding overhitting.”*³⁹⁴

Pearson has phrased the so-called ‘dose-response problem’ thus: *“For all practical purposes, any biochemical weapon that can significantly incapacitate the vast majority of those exposed will very likely cause a significant number of deaths at the same time.”*³⁹⁵ Klotz, Furmanski and Wheelis have developed a predictive model illustrating *“why seemingly non-lethal incapacitating agents may be quite lethal in actual use.”*³⁹⁶ In their conclusion they state *“We have shown, at least within the approximations of our simple (but generous) two receptor equilibrium model, that even with a therapeutic index of 1,000 (above any known anaesthetic or sedative agent), a chemical agent used as an incapacitating weapon can be expected to cause about 10% fatalities.”*³⁹⁷

Furthermore, even such predictive modelling will potentially underestimate fatalities when an incapacitant is used in real-life situations where there is uncontrollable variability *“both in exposure (uneven concentration and exposure time) and within the target population (age, size, gender, health status and individual susceptibility).”*³⁹⁸ As a result of such considerations, the British Medical Association believes: *“The agent whereby people could be incapacitated without risk of death in a tactical situation does not exist and is unlikely to in the foreseeable*

³⁹³ See, for example, Fenton, G., Current and prospective military and law enforcement use of chemical agents for incapacitation, in Pearson, A., Chevrier, M. & Wheelis, M. (eds), (2007) *op.cit.*, pp.103-123, and Whitbred G., *Offensive use of chemical technologies by US special operations forces in the global war on terrorism*, Maxwell Paper No.37, Maxwell Air Force Base, Alabama: Air University Press. It should be noted that other authors have questioned the utility of incapacitants in certain proposed scenarios such as premeditated hostage situations, due to the availability of counter-measures. See: Wheelis, M., in Pearson, A., Chevrier, M. & Wheelis, M. (eds), (2007), *op.cit.*, p.6.

³⁹⁴ Fisher, R.B. (1968) *An outline of CW and its problems*, PRO, WO 195/1664. As cited in Dando, M. and Furmanski, M. Midspectrum Incapacitant Programs, in *Deadly Cultures: Biological Weapons Since 1945* (eds Wheelis, M. Rozsa, L. and Dando, M.) Cambridge: Harvard University Press, 2006, p.243.

³⁹⁵ Pearson, A. (2006) Incapacitating Biochemical Weapons: Science, Technology, and Policy for the 21st Century, *Non-proliferation Review*, Vol.13, No: 2, July 2006. p.159.

³⁹⁶ Klotz, L., Furmanski, M., and Wheelis, M. (2003) *Beware the Sirens Song: Why “Non-Lethal” Incapacitating Chemical Agents are Lethal*. Washington, DC: Federation of American Scientists, http://www.fas.org/bwc/papers/sirens_song.pdf. (accessed 31st July 2009), p.1.

³⁹⁷ Klotz, L., Furmanski, M., and Wheelis, M. (2003) *op.cit.*, p.7.

³⁹⁸ Pearson, A., Late and Post Cold War Research and Development of Incapacitating Biochemical Weapons, in Pearson, A., Chevrier M. & Wheelis, M. (2007) *op.cit.*, p.70.

future. In such a situation, it is and will continue to be almost impossible to deliver the right agent to the right people in the right dose without exposing the wrong people, or delivering the wrong dose.”³⁹⁹

In practice, such concerns are further exacerbated by potential problems caused by insufficient preparation by law enforcement personnel, bad coordination and delays in appropriate treatment of affected hostages. Analysing the 2002 Russian Federation experience of utilising an incapacitant, Levin and Selivanov conclude that:

*“At unconditional incapacitants’ efficiency their application will be always accompanied by considerable human victims that does not allow to carry them to a category of non-lethal weapons”*⁴⁰⁰

In addition, Nixdorff and Melling have surveyed the potential long-term physiological consequence of exposure to incapacitants. Although insufficient research has been undertaken to produce conclusive results, they believe that:

*“Numerous human and animal studies have shown that exposure to incapacitating biochemical agents may induce heterogeneous cognitive and physiological impairments and [may] lead to long term health effects. This is even more pronounced when exposures to incapacitating agents are combined with other factors such as stress or activation of the immune system.”*⁴⁰¹

Even if all technical barriers to the development of a truly ‘non-lethal’ incapacitant were overcome, there are a number of serious risks and damaging consequences that could follow from the development of such weapons. These include:

- **Creeping legitimisation and the erosion of the norm against weaponisation of toxicity:** Perry Robinson has described how *“Today’s regime against chemical/biological-warfare armament...derives its reach and strength from that fundamental norm of State behaviour that eschews fighting with poison or infectious disease. Fragment the norm, as by asserting that this or that form of toxicity is not really a part of it, and the foundation of the regime may be weakened.”*⁴⁰²

Perry Robinson believes that attempts by certain States, particularly the US, to legitimise the development and use of incapacitants threaten to do just that. Describing the US ‘Advanced RCA Technology’ (ARCAT) development projects of the 1990s which included work on the fentanyl and “*other such intensely toxic chemicals*”, Perry Robinson states: *“The process that can be seen here is a surreptitious equation of toxicity with lethal toxicity. In this attempt to loosen the CWC constraint on the weaponization of other forms of toxicity we have started to see a creeping legitimization*

³⁹⁹ British Medical Association Board of Science and BMA Science & Education department (2007) *The use of drugs as weapons: The concerns and responsibilities of healthcare professionals*, London: BMA, May 2007.

⁴⁰⁰ Levin, D. And Selivanov, V. (2009) Medical and Biological Issues of NLW Development and Application, *Proceedings of the 5th European Symposium on Non-Lethal Weapons*, 11th-13th May 2009, Ettlingen, Germany, European Working Group on Non-Lethal Weapons. V23.

⁴⁰¹ Nixdorff, K. and Melling, J. Potential Long-Term Physiological Consequences of Exposure to Incapacitating Biochemicals, in: Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit.*, p.165.

⁴⁰² Perry Robinson, J. (Oct 2007) *Non-lethal Warfare and the Chemical Weapons Convention, Further Harvard Sussex Program submission to the OPCW Open-Ended Working Group on Preparations for the Second CWC Review Conference*, October 2007, <http://www.sussex.ac.uk/Units/spru/hsp/Papers/421rev3.pdf>, (accessed 31st July 2009), p.32.

of non-WMD CBW... ”⁴⁰³ Perry Robinson believes that this ‘creeping legitimization’ presents the greatest danger to the existing prohibitions on chemical and biological weapons and to the re-emergence of chemical and biological warfare.⁴⁰⁴

- **Proliferation and legitimization by States:** Pearson has warned that “...efforts to develop incapacitating biochemical weapons may well gather steam as more nations become intrigued by them and, observing the efforts of Russia and the United States, become convinced not only that effective and acceptably ‘non-lethal’ incapacitating agents can be found, but that their use will be legitimized.”⁴⁰⁵
- **Proliferation to, and misuse by, non-state actors:** Analysts have highlighted the potential utility of incapacitants to a range of non-state actors including criminals, terrorists, paramilitary organizations, and armed factions in failing or failed States many of whom would not feel as constrained as States by international law and concerns about lethality.⁴⁰⁶ The future use of incapacitants by private military or security companies is another related area of concern, given the inadequate regulation of such entities to date.⁴⁰⁷
- **Use as a lethal force multiplier:** There are concerns that incapacitants will be used by both military and law enforcement agencies, not as an alternative to lethal force, but as a means to make lethal force more deadly. This has happened previously with RCAs.⁴⁰⁸ And the indications for incapacitants are worrying. During the October 2002 Moscow theatre siege, those Chechen hostage takers who were rendered unconscious by the incapacitant were then reportedly shot where they lay by Russian forces rather than being arrested.⁴⁰⁹
- **Facilitation of torture and other human rights violations:** Human rights and arms control organisations have highlighted how existing ‘non-lethal’ weapons (including RCAs) have been misused for torture, cruel, inhuman and degrading treatment or punishment.⁴¹⁰ As well as potentially being utilised for torture and ill-treatment of

⁴⁰³ Perry Robinson, J. (March 2007) Categories of Challenge now facing the Chemical Weapons Convention, 52nd Pugwash CBW Workshop, *10 Years of the OPCW: Taking Stock and Looking Forward*, Noordwijk, The Netherlands, 17-18 March 2007, <http://www.pugwash.org/reports/cbw/52nd-workshop-2007/4-Robinson.pdf>, (accessed 31st July 2009), p.20.

⁴⁰⁴ Perry Robinson, J. (March 2007) *op.cit.*, p.19; Perry Robinson, J. (October 2007) *op.cit.*, p. 32; Perry Robinson, J., correspondence with the author, 13th April 2008.

⁴⁰⁵ Pearson, A. (2006) *op.cit.* p.172.

⁴⁰⁶ See for example: Wheelis, M. and Dando, M. (2005) Neurobiology: A case study of the imminent militarization of biology, *International Review of the Red Cross*, Vol 87, Number 859, September 2005, p.564; Pearson, A. (2006) *op.cit.*, p.169.

⁴⁰⁷ See for example: Pearson, A. (2006) *op.cit.*, p.187, footnote 137; Perry Robinson, J. (March 2007) *op.cit.*, p.10. Also, see Chapter 2 of this report for a discussion of RCA use by PMCs and PSCs.

⁴⁰⁸ For example, the US military employment of CS in the Vietnam War. See Furmanski, M. Historical military interest in low-lethality biochemical agents, in: Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit.*, pp.44-48. See also Chapter 2 of this report.

⁴⁰⁹ Koplow, D. (2006) The Russians and the Chechens in Moscow in 2002, in *Non-lethal weapons: The Law and Policy of Revolutionary Technologies for the Military and Law Enforcement*, pp.100-113.

⁴¹⁰ Amnesty International (2003) *The Pain Merchants: Security Equipment and Its Use in Torture and Other Ill-Treatment*, December 2003, <http://www.amnesty.org/en/library/asset/ACT40/008/2003/en/dom-Bradford-Non-Lethal-Weapons-Research-Project-Report> – Last updated: 7th October 2009

individuals, incapacitants could also facilitate repression of groups by, for example, allowing the capture, en masse, of large numbers of people participating in peaceful demonstrations.

- **Militarisation of biology:** Analysts including Perry Robinson,⁴¹¹ and Wheelis and Dando⁴¹² have warned that the continuing utilisation of the life sciences in the development of incapacitants could potentially open the way to more malign objectives, such as the widespread repression of entire populations. The British Medical Association described this danger in its 2007 report: “*Using existing drugs as weapons means knowingly moving towards the top of a ‘slippery slope’ at the bottom of which is the spectre of ‘militarization’ of biology, this could include intentional manipulation of peoples’ emotions, memories, immune responses or even fertility.*”⁴¹³
- **Camouflage for lethal chemical weapons programme:** Perry Robinson has highlighted how States could exploit the limited transparency mechanisms for incapacitants and other toxic chemicals designated for use in law enforcement, to hide illicit activities:
“*If a CWC State Party were challenged to explain why it was conducting development, production or stockpiling of toxic chemicals that it had not declared to the OPCW, it could assert, rightly or wrongly, that the activity was nothing to do with chemical weapons, but was for the non-prohibited purpose of law enforcement...“A great loophole thus exists within the CWC’s international verification system, endangering confidence in the Treaty.*”⁴¹⁴
- **Confusion between lethal and ‘non-lethal’ chemical weapons:** A State deploying or using a ‘non-lethal’ incapacitant during an armed conflict may be perceived by another party as having used a lethal chemical weapon. This in turn could initiate an escalating cycle of retaliation leading to actual use of lethal chemical agents in a theatre of war.⁴¹⁵

Regulation of incapacitants under the Convention

The CWC does not specifically define, nor indeed mention, incapacitating chemical and biochemical agents (incapacitants). However the Convention does include “incapacitation” under the definition of “toxic chemical” as:

“*any chemical, regardless of its origin or method of production, which, through chemical action on life processes, can cause death, temporary incapacitation or permanent harm to humans or animals.*”⁴¹⁶ [Emphasis added].

Consequently, chemical and biochemical agents that temporarily incapacitate their targets are covered under the scope of the Convention. Such incapacitating chemical and biochemical agents would be deemed to be chemical weapons (and therefore prohibited) if they were used

ACT400082003en.pdf, (accessed 31st July 2009); Omega Foundation (2000) *op.cit.*; see also Chapter 2 of this report for analysis of the misuse of RCAs.

⁴¹¹ Perry Robinson, J. (Oct. 2007) *op.cit.*, p.32.

⁴¹² Wheelis, M. and Dando M. (2005) *op.cit.*, pp.553-571.

⁴¹³ British Medical Association (2007) *op.cit.*, p.1.

⁴¹⁴ Perry Robinson, J. (Oct. 2007) *op.cit.*, p.31.

⁴¹⁵ Pearson, A. (2006) *op.cit.*, p.170.

⁴¹⁶ OPCW, Chemical Weapons Convention, Article 2.2.

for purposes other than those described under Article 2.9, or if their use was inconsistent with the types and quantities restriction of Article 2.1. Ambiguities in the Convention, particularly surrounding the law enforcement purpose (Article 2.9.d), have led to differing interpretations by legal scholars of the extent and nature of permissible incapacitant use. These issues are explored in the box below.

Legal perspectives on the use of incapacitants for law enforcement

Although the OPCW policy making organs have not made a determination as to the range of chemicals that can be employed for law enforcement purposes nor the range of activities permitted under this purpose, legal scholars have considered the matter. Two major contrasting lines of interpretation currently exist.

Narrow scope interpretation:

Certain legal experts including Chayes and Meselson,⁴¹⁷ Krutzsch,⁴¹⁸ and Von Wagner,⁴¹⁹ consider that only riot control agents can be used for law enforcement activities under the CWC. Chayes and Meselson *argue* “[a] toxic chemical used by virtue of its toxic properties is only of a type consistent with the purpose of law enforcement, in the sense of Article 2.1.a, if it meets the Convention definition of a riot control agent in Article 2.7. Thus such chemicals must be “not listed in a Schedule” and must “produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short period of time following termination of exposure.”⁴²⁰ The only exception to this restriction recognised by this group of scholars are those toxic chemicals used for judicially sanctioned execution. Chayes and Meselson note that “any chemical not on Schedule 1 may be used in carrying out the sentence of a duly constituted tribunal against a natural person.”⁴²¹

As regards the scope of activities permitted, Chayes and Meselson believe that: “law enforcement means actions taken within the scope of a nation’s “jurisdiction to enforce” its national law, as that term is understood in international law. When such actions are taken in the context of law enforcement or riot control functions under the authority of the United Nations, they must be authorized by that organization. No act is one of “law enforcement” if it otherwise would be prohibited as a “method of warfare” under Article 2.9.c.”⁴²²

Broad scope interpretation:

In contrast, Fidler believes that “international law on treaty interpretation indicates that that the CWC does not limit the range of toxic chemicals that can be used for law enforcement purposes to riot control agents.”⁴²³ This line of interpretation may allow the utilization of incapacitants for law enforcement.

However, Fidler and other proponents of this position contend that the “use of a toxic chemical for law enforcement purposes is still subject to the CWC requirements that the types and quantities of chemicals developed, produced, acquired, stockpiled, retained, transferred, or used must be consistent with such permitted purposes (Article II.1 [a.]).”⁴²⁴

According to Fidler this restriction therefore “requires scrutiny of the relationship between the chemical or biochemical agent and the law enforcement objective in question. The more difficult it is to control the effects of

⁴¹⁷ Chayes, A. and Meselson, M. (1997) Proposed Guidelines on the Status of Riot Control Agents and Other Toxic Chemicals Under the Chemical Weapons Convention, *Chemical Weapons Convention Bulletin*, Volume 35, March 1997, Harvard Sussex Program, pp.13-18.

⁴¹⁸ Krutzsch, W. (2003) Non-lethal chemicals for law enforcement, *BITS Research Note 03.2*, April 2003, Berlin Information Centre for Transatlantic Security; Krutzsch, W. & Von Wagner, A. (2008) Law enforcement including domestic riot control: The interpretation of Article II, paragraph 9(d), <http://cwc2008.files.wordpress.com/2008/04/krutzsch-von-wagner-law-enforcement.pdf>.

⁴¹⁹ Von Wagner, A. (2007) *op.cit.*

⁴²⁰ Chayes, A. And Meselson, M. (1997) *op.cit.*, p.17.

⁴²¹ Chayes, A. And Meselson, M. (1997) *op.cit.*, p.17.

⁴²² Chayes, A. And Meselson, M. (1997) *op.cit.*, p.15.

⁴²³ Fidler, D. (2007) *op.cit.*, p.174.

⁴²⁴ Fidler, D. (2007) *op.cit.*, p.174.

the use of a chemical or biochemical in a law enforcement operation, the more suspect such use becomes in terms of the agent being of a type or quantity consistent with a law enforcement purpose."⁴²⁵

Consequently, Fidler believes that:

*"For domestic law enforcement, use of incapacitating agents in contexts in which the government could control neither dosage nor the exposure environment would only be legitimate in extreme law enforcement situations...For extraterritorial law enforcement activities undertaken by military forces and sanctioned by international law, States can at present only legitimately use riot control agents, not incapacitating agents."*⁴²⁶

To add to the complexity of this discourse, the demarcation between potentially permissible 'law enforcement' activities and prohibited 'methods of warfare' under the Convention remains unresolved.

As a consequence of the range of unresolved issues and differing interpretations highlighted, the circumstances (if any) in which incapacitants could be used for counter-terrorist/counter-insurgency operations are contested.⁴²⁷

Although there are (albeit limited) declaration and transparency mechanisms in the Convention for chemicals held for riot control purposes,⁴²⁸ States are under no specific obligation to provide the OPCW with information about the research, development and stockpiling of incapacitants (unless they are intended for chemical weapons purposes).⁴²⁹

A review of the OPCW document database indicates that, to date, none of OPCW policy making organs have effectively addressed the issue of incapacitants. No policy making organ has yet made any interpretative statements defining incapacitants, seeking to list chemicals encompassed by this category or further elaborated how such chemicals are regulated under the Convention.⁴³⁰ It is therefore left to individual States Parties to interpret the scope and nature of their obligations with regard to the regulation of these agents.

Interpretation by States Parties

Whilst the vast majority of States Parties have made no public statements on the definition of incapacitants, there appears to be a divergence of views among those few States that have given some indications of their positions, as can be seen from a comparison of the Swiss, UK and US positions.

At the Second CWC Review Conference, Switzerland presented a working paper on incapacitants and RCAs,⁴³¹ which stated that

"Incapacitants aim at rendering individuals incapable of normal concerted physical and/or mental effort for a significant period of time after exposure. Although the adverse effects of both riot control agents and incapacitating agents are intended to be reversible under normal circumstances, there are clear differences in their action on life processes. Riot control agents

⁴²⁵ Fidler, D. (2007) *op.cit*, p.175.

⁴²⁶ Fidler, D. (2007) *op.cit*, p.185.

⁴²⁷ For an example of divergent interpretations see Neill, D (2007) *op.cit*, Krutzsch, W. (2007) *op.cit*.

⁴²⁸ OPCW, Chemical Weapons Convention, Article 3.1(e).

⁴²⁹ If incapacitating chemical or biochemical agents (incapacitants) were intended for use as chemical weapons, as defined by the CWC, they would be prohibited under Article 1 of the Convention. The State Party possessing such incapacitants would be required to declare them under Article 3 and to destroy them under Article 4 of the Convention.

⁴³⁰ Analysis was undertaken of all OPCW documents publicly available on the OPCW website

(<http://www.opcw.org>).

⁴³¹ Switzerland Working Paper, Riot Control and Incapacitating Agents Under the Chemical Weapons Convention, The Hague, Netherlands, RC-2/NAT.12, 9th April 2008.

are irritants that produce local sensory irritant effects. Incapacitants are chemical agents which act on the central nervous system and impair cognition, perception and consciousness.

[Emphasis as in original text]

*Therefore, Switzerland considers that incapacitants distinguish themselves from riot control agents chiefly in two ways: firstly, they induce crippling physical effects which do not disappear within a short time following termination of exposure. Secondly, their effects would generally be more severe than the effects of those kinds of riot control agents which are regarded as sufficiently safe for use by domestic law-enforcement authorities. In addition, some incapacitants may require treatment by an antidote.*⁴³²

The Swiss also noted that:

*“Although incapacitants may usually be distinguished from riot control agents, Switzerland considers the boundary between riot control agents and incapacitants to be fluid.”*⁴³³

The Swiss definition can be contrasted to the current approach taken by the UK Government. A UK Government official questioned for this report stated that:

“In the absence of an agreed definition in the CWC of ‘incapacitants’, we generally prefer to use the term ‘Law Enforcement Chemicals (LEC)’ to be consistent with the Convention, as the terms ‘incapacitants’, ‘non-lethal’ and ‘less than lethal’ are in the current context perhaps not the most helpful of terms.”

*“There is no agreed definition or terminology to satisfactorily describe LEC. We currently take the term LEC to mean any toxic, including potentially lethal, chemicals not listed in Schedule I of the CWC that could be used with an intended ‘non-lethal’ or incapacitating effect or in some circumstances, for example lethal injections, where lethality is the legitimate permitted aim. Some of these compounds are more toxic than some scheduled chemicals; methods of delivery/concentration and health of victims can all be key factors in determining if the effect is truly non-lethal. The main difference from RCA is that LEC cannot be considered to be temporary in effect and in some cases antidote or medical intervention may be required to enable recovery.”*⁴³⁴

With regard to the use of LECs, the UK Government official stated that:

*“The UK believes that any toxic chemical other than a schedule 1 chemical can potentially be used for law enforcement purposes, dependent on the specific circumstances. There are a range of possible situations under which such use might be appropriate. It is not possible to give a list of such situations; each would have to be considered on its merits.”*⁴³⁵

In August 2009, as part of its response to the Fourth Report from the Foreign Affairs Committee, the UK Government stated that:

“Development, production, retention, acquisition or use of “Incapacitating biochemical weapons” are prohibited by both [BWC and CWC] Conventions. Use of the word “weapons” here is crucial...There is less clarity under the CWC in relation to chemicals that have an incapacitating effect and are also intended for use for law enforcement purposes. However it is

⁴³² Switzerland (9th April 2008) *op.cit.*, p.2.

⁴³³ *Ibid.*

⁴³⁴ UK Government Official, correspondence with author, 10th November 2008.

⁴³⁵ UK Government Official, correspondence with author, 10th November 2008. See also related correspondence received from then UK Defence Secretary, Des Browne, in April 2008 (see p.70).

*important to note that the rules of the general purpose criterion apply – namely that as long as the types and quantities are consistent with a permitted purpose, then there is no problem in terms of compliance with the Convention.*⁴³⁶

This position appears to mark a significant change in UK Government policy from that enunciated at the time of signing the CWC. In December 1992 Foreign Office Minister Douglas Hogg stated that the Convention entitled States Parties “to use toxic chemicals for law enforcement, including domestic riot control purposes, provided that such chemicals are limited to those not listed in the Schedules to the Convention and which can produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure.”⁴³⁷ As Perry Robinson⁴³⁸ has highlighted, the statement by Minister Hogg indicated that the UK considered that RCAs were the only toxic chemicals that could be used for law enforcement purposes. The recent UK Government statement, as well as the previous correspondence from the UK official outlined above, indicates that the Hogg position is no longer maintained.

The US has not recently made any substantive public interventions to outline its position with regard to the definition of incapacitants or their coverage by the CWC. However, a preliminary legal review on this issue, obtained by the Sunshine Project, was undertaken in 1997 and a preliminary opinion issued by the Office of the U.S. Navy Judge Advocate General (JAG) suggesting ways in which the use of incapacitants might be consistent with the CWC and other international legal obligations.⁴³⁹ Firstly, it noted that certain “convulsives and calmative agents may also be RCAs.”⁴⁴⁰ If there are incapacitants that fall into this category then the JAG report considers that they, like RCAs would be “subject to Article I(5)'s limitation on the use of RCAs as a ‘method of warfare,’ and are not subject to Article II’s proscriptions.”⁴⁴¹ This interpretation on RCAs (as noted in Chapter 2) has not been publicly supported by any other CWC State Party. Its potential application to certain convulsives and calmatives is highly problematical.

In addition, the JAG opinion highlighted an alternative legal route by which incapacitants could, in their opinion, be legitimately utilised in operations other than war:

"Convulsives and calmatives may rely on their toxic properties to have a physiological effect on humans. If that is the case, and these two NLWs [Non-Lethal Weapons] are not considered RCAs [Riot Control Agents], in order to avoid being classified as a prohibited chemical weapon, they would have to be used for the Article I(9)(d) "purpose not prohibited", the law

⁴³⁶ Response of the Secretary of State for Foreign and Commonwealth Affairs, Fourth Report from the Foreign Affairs Committee, Session 2008-09, Global Security: Non-Proliferation, August 2009, <http://www.official-documents.gov.uk/document/cm76/7692/7692.pdf> (accessed 1st September 2009).

⁴³⁷ UK foreign & Commonwealth Office Minister of State Douglas Hogg, written response to a Parliamentary question from Mr Macdonald addressed to the Secretary of State for Foreign and Commonwealth Affairs, 7 December 1992, *Hansard (Commons)* vol 215 no 89 cols 461-62, as cited in Perry Robinson, J. (2007) *op.cit.* p.3.

⁴³⁸ Perry Robinson, J. (2007) *op.cit.* p.3.

⁴³⁹ Dept. of the Navy, Office of the Judge Advocate General, International & Operational Law Division, Preliminary legal review of proposed chemical-based non-lethal weapons, 30th November 1997, www.sunshine-project.org/incapacitants/jnlwdpdf/jagchemi.pdf, (accessed 30th November 2009).

Also see Pearson, A. (2006) *op.cit.* p.16.

⁴⁴⁰ Office of the Judge Advocate General (30th November 1997) *op.cit.* p.21.

⁴⁴¹ Office of the Judge Advocate General (30th November 1997) *op.cit.* p.20.

enforcement purpose. As discussed...the limits of this "purpose not prohibited" are not clear and will be determined by the practice of States."⁴⁴² [Emphasis added].

The implications of this preliminary legal position,⁴⁴³ if confirmed, maintained and acted upon by the US, are potentially far reaching. Firstly the US (and other States) may be enticed to seek to classify certain incapacitants as RCAs to escape the Convention's limitations on use, save the prohibition on the use as a method of warfare.⁴⁴⁴ Alternatively, the US (and other States) may undertake incapacitant weaponisation research, development and production programmes, seeking through a process of "creeping legitimisation" to extend the limits of the Article 2.9 (d) descriptions of the law enforcement "purpose not prohibited".

If this situation is not addressed by the CWC policy making organs, and the existing ambiguity continues with State practice becoming a key determining factor, there is a consequent danger that the restrictions on the use of incapacitants, and toxic chemicals more generally, will be fundamentally weakened. This in turn could lead potentially to the undermining of the Chemical Weapons Convention itself with consequent dangers of chemical weapon proliferation. This danger has been highlighted by a number of governmental and non-governmental experts⁴⁴⁵ including the Weapons of Mass Destruction Commission, which stated:

*"There is an increasing interest among some governments to adopt a more flexible interpretation of the CWC rules on the use of incapacitating chemical weapons, even as a method of warfare, in order to use them in diverse situations... Such an interpretation, in the view of the Commission, would constitute a dangerous erosion on the fundamental ban on chemical weapons that the authors of the Convention intended."*⁴⁴⁶

Concerns about the potential dangers of incapacitant weaponisation, proliferation and misuse have been heightened following the employment of such agents by the Russian Federation.

Russian Federation use of an incapacitant and intergovernmental response

On the evening of 23rd October 2002, a group of heavily armed Chechen separatists invaded the Dubrovka theatre in Moscow, taking approximately 800 people hostage.⁴⁴⁷ They demanded the withdrawal of Russian armed forces

⁴⁴² Office of the Judge Advocate General (30th November 1997) *op.cit.*, p.22.

⁴⁴³ It should be emphasised that the JAG legal review was a preliminary one. The text clearly states (in capital letters) that: "*This document does not constitute a final legal review of any of the weapons described in reference (a).*" However it should also be noted that no relevant US government document has been made public which refutes this position.

⁴⁴⁴ Indeed attempts at presenting incapacitants as RCAs had apparently occurred in the early 1990s. As Davison notes: "*During fiscal year 1990 the Army terminated their 'Incapacitating Chemical Program' and reinvented it as the 'Riot Control Program'...The military apparently sought to place incapacitating agents in the same category as irritant riot control agents (RCA)...*" Davison, N. (2007) *op.cit.* p.9; Davison, N. correspondence with author, March 2009.

⁴⁴⁵ See in particular Perry Robinson, J. (October 2007) *op.cit.*

⁴⁴⁶ Weapons of Mass Destruction Commission (2006) *Weapons of Terror: Freeing the World of Nuclear, Biological and Chemical Arms*, Stockholm, Sweden, 1st June 2006, p.134.

⁴⁴⁷ For descriptions of the incident see for example: Amnesty International (2003) *Amnesty International 2003 Annual Report*, entry on the Russian Federation, p.208; Amnesty International (Oct. 2003) *Rough Justice: The law and human rights in the Russian Federation*, October 2003 (AI Index EUR 46/054/2003); Koplow, D. (2006) The Russians and the Chechens in Moscow in 2002, in *Non-lethal weapons: The Law and Policy of Revolutionary Technologies for the Military and Law Enforcement*; Pearson, A., Chevrier, M. & Wheelis, M. Bradford Non-Lethal Weapons Research Project Report – Last updated: 7th October 2009

from Chechnya and threatened to kill the hostages if their demands were not met. After three days, during which time three hostages had been shot by the hostage-takers, Russian security forces pumped an unidentified aerosolised incapacitant into the theatre, putting the hostages and some of the hostage takers into a 'deep sleep'. Approximately 30 minutes later, members of the Russian *Spetsnaz* special forces⁴⁴⁸ stormed the theatre killing all of the hostage takers, including those unconscious from the incapacitant. An estimated 129 hostages died during or following the raid, mostly as a result of the incapacitant used by the Russian forces. An additional unknown number have "suffered permanent disability."⁴⁴⁹

Treatment of the hostages who had been poisoned was delayed and compromised by the refusal of the Russian authorities to state publicly what type of incapacitant had been used in the theatre for four days after the siege had ended.⁴⁵⁰ On 30th October 2002 the Health Minister Yuri Shevchenko identified the incapacitating agent as "a mixture of derivative substances of the fast action opiate Fentanyl."⁴⁵¹ Mr Shevchenko further stated that: "I officially declare: chemical substances which might have fallen under the jurisdiction of the international convention on banning chemical weapons were not used during the special operation."⁴⁵² However, the Minister refused to be more precise about the chemicals used even on 11th December 2002 when faced with a parliamentary question. He said it was a "State secret."⁴⁵³ At the time of writing, the Russian authorities have still not publicly stated exactly what chemical or chemicals were used.

There have been indications that the Russian authorities may have provided more information to counter-terrorist and other law enforcement officials from allied States. A member of the Russian Federal Security Service has stated that:

"Russia is ready to do everything in its power to promote measures to disseminate the experience it has gained in conducting such special hostage rescue operations, to exchange information on the weapons and equipment used, and to organize joint training exercises for both command and special operations units."⁴⁵⁴

It is unknown whether such information exchange has occurred and whether this has included details on the use of incapacitants.

(2007) *op.cit.*; Human Rights Watch, press release: *Independent Commission of Inquiry Must Investigate Raid on Moscow Theater: Inadequate Protection for Consequences of Gas Violates Obligation to Protect Life*, 30th October 2002; see also BBC news coverage, in particular: How Special Forces Ended Siege, 29th October 2002, <http://news.bbc.co.uk/1/hi/world/europe/2363601.stm> (accessed 30th July 2009); BBC 2, *Horizon: The Moscow Theatre Siege* (broadcast 15th January 2004), transcript on: <http://www.bbc.co.uk/science/horizon/2004/moscowtheatretrans.shtml> (accessed 30th July 2009).

⁴⁴⁸ The *Spetsnaz* "Alpha Team" that conducted the assault was a hybrid commando unit of the Federal Security Service (FSB), according to BBC News, *Spetsnaz: Russia's Elite Force*, 28th October 2002. This 1,500-2,000 anti-terrorist unit had seen extensive action in Afghanistan and Chechnya. As cited in Koplou, D. (2006) *op.cit.*

⁴⁴⁹ Wheelis, M., Nonconsensual Manipulation of Human Physiology Using Biochemicals, in Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit.*, p.6; according to Levin and Selivanov "Part of the rescued hostages have received functional damages of health, which have been revealed after a while (about half a year) after operation, even at timely application of an antidote." Levin, D. and Selivanov, V. (2009) *op.cit.*, p.7. Almost all of a sample of 100 former hostages contacted by CBS News reported "having significant medical problems since the attack – problems they blame on the gas". CBS News also report that: "Some physicians who treated the survivors think the gas has long term consequences – but they're afraid to speak out because Moscow medical authorities ordered city doctors to play down the effect of the gas." 4 Years Later, Moscow Hostages Suffering, *CBS Evening News*, 21st October 2006, <http://www.cbsnews.com/stories/2006/10/21/eveningnews/main112859.shtml>, (accessed 30th July 2009).

⁴⁵⁰ Amnesty International (Oct 2003) *op.cit.*; Human Rights Watch (2002) *op.cit.*

⁴⁵¹ ITAR-TASS, from Moscow in English, 2112 hrs GMT 30th October 2002, as in FBIS-SOV-2002-1030, 'Russian experts discuss use of Fentanyl in hostage crisis', as cited by Perry Robinson, J. (October 2007) *op.cit.*

⁴⁵² Alison, S. [from Moscow for Reuters], 1257 hrs ET 30th October 2002, 'Russian confirms siege gas based on opiate fentanyl', as cited in Perry Robinson, J. (2007) *op.cit.*

⁴⁵³ Amnesty International (October 2003) *op.cit.*, p.53.

⁴⁵⁴ Kolesnikov, Y. "Lessons learned from the Nord-Ost terrorist attack in Moscow from the standpoint of Russian security and law enforcement agencies", in Schweitzer, G. and Fox, M (eds) *Russian Views on Countering Terrorism During Eight Years of Dialogue: Extracts from Proceedings of Four Workshops*, Washington DC: The National Academies Press (2009), pp 93-101.

Although a number of bodies including medical personnel based in Germany, at the US Embassy in Moscow and at the UK's chemical defence establishment at Porton Down reportedly either examined victims or analysed samples of their blood, urine or clothing, no conclusive findings of such studies were reported publicly.⁴⁵⁵ A number of reports have posited that the incapacitant used may have been carfentanil or sufentanil, however public uncertainty regarding the specific chemical agents employed remains to this day.⁴⁵⁶

Non-governmental arms control analysts and legal experts were divided on whether the action of the Russian Federation was a breach of the Chemical Weapons Convention.⁴⁵⁷ However, a leading commentator contends that “most analysts consider the Russian use of fentanyl derivative to have been legal under Article II.9(d) [of the CWC].”⁴⁵⁸

Similarly, whilst certain CWC States Parties may have had misgivings,⁴⁵⁹ the Moscow incident was not met with any significant public expressions of concern from the international governmental community. Indeed some governments, such as the USA,⁴⁶⁰ supported Russia's actions. The NATO Research and Technology Organisation also reviewed the Moscow incident favourably, stating that:

“Although it may seem excessive that 16% of the 800 hostages died from the “gas” exposure, still 84% survived. We do not know that a different tactic would have provided a better outcome. The use of a “sleeping gas” or “calmative” or “incapacitant” agent in this setting is

⁴⁵⁵ A UK official questioned for this report confirmed that the “The UK did take samples from some of the persons present in the Moscow Theatre Siege. I am not in a position to give further details.” UK Government Official, correspondence with author, 10th November 2008. See also: Perry Robinson, J. (2003) *Disabling Chemical Weapons: A Documented Chronology of Events, 1945-2003*, unpublished monograph, October 2003, copy given to author; Perry Robinson, J. (2007) *op.cit*; MacKenzie, D., *Russian gas clues point to cocktail*, 30th October 2002, NewsScientist.com, <http://209.85.229.132/search?q=cache:s7i2G-keNEUJ:www.newscientist.com/article/dn2988-russian-gas-clues-point-to-cocktail.html+%22Russian+gas+clues+point+to+cocktail+%E2%80%9D.&cd=1&hl=en&ct=clnk&gl=uk>; NATO, Research and Technology Organisation (2006) *The Human Effects of Non-Lethal Technologies*, RTO-TR-HFM-073, Annex M – Medical Aspects of the Moscow Theatre Hostage Incident, August 2006, <http://ftp.rta.nato.int/public/ /PubFullText/RTO/TR/RTO-TR-HFM-073//TR-HFM-073-ANN-M.pdf>; Von Twickel, N. (2007) Unmasking Dubruvka's Mysterious Gas, *The Moscow Times*, 23rd October 2007, www.fco.cat/files/imatges/Butlleti%20111/Moscow%20Times.pdf, (accessed 30th July 2009); Stanley, T. (2003) Human immobilization: is the experience in Moscow just the beginning? *European Journal of Anaesthesiology*. Vol. 20, No. 6, pp. 427-428; Wax, P., Becker, C. and Curry, S. (2003) Unexpected “Gas” Casualties in Moscow: A Medical Toxicology Perspective, *Annals of Emergency Medicine*, Vol. 41, pp700-705, May 2003.

⁴⁵⁶ See for example: Davison, N. (2007) *op.cit*; Pearson, A. (2007) *op.cit*; Stanley, T. (2003) *op.cit*; Von Twickel, N. (2007) *op.cit*; Wax, P., Becker, C. and Curry, S. (2003) *op.cit*.

⁴⁵⁷ For a range of divergent argumentation on this issue see: Fidler, D. (2005) The meaning of Moscow: non-lethal weapons and international law in the 21st century, Volume 87 Number 859, *International Review of the Red Cross*, September 2005, [http://www.icrc.org/Web/eng/siteeng0.nsf/htmlall/review-859p525/\\$File/irrc_859_Fidler.pdf](http://www.icrc.org/Web/eng/siteeng0.nsf/htmlall/review-859p525/$File/irrc_859_Fidler.pdf); Fidler, D. (2007) *op.cit*; Von Wagner, A. (2007) *op.cit*; Koplrow, D. (2006) *op.cit*; Neill, D. (2007) *op.cit*.

⁴⁵⁸ Wheelis, M. (2004) Will the New Biology Lead to New Weapons? *Arms Control Today*, July/August 2004.

⁴⁵⁹ For example a Swiss Official noted that although Switzerland believed that the Russian action was in “conformity with the CWC...we were very concerned.” Swiss official, interview with the author, August 2008.

⁴⁶⁰ During a press conference on 18th November 2002, US President George Bush stated: “People tried to blame Vladimir [Putin] ... They ought to blame the terrorists. They're the ones who caused the situation ... Eight hundred people were going to lose their lives ... These people were killers, just like the killers that came to America. There's a common thread — that any time anybody is willing to take innocent life for a so-called cause, they must be dealt with”. [See *CBW Conventions Bulletin*, No. 59, Harvard Sussex Program, March 2003, p.16 (www.sussex.ac.uk/Units/spru/hsp/cbwcb59.pdf) (accessed 1st July 2009)].

a novel courageous attempt at saving the most lives. This counter-terrorist action showed on the other hand that chemical “non-lethal” weapons are not always non-lethal.”⁴⁶¹

The report further stated that:

*“It is significant that use of chemical incapacitants in hostage rescue situations appears to be acceptable, but only when there is a potential lethal threat to the hostages and the situation is very limited in time, location, and number of people involved.”*⁴⁶²

Denmark, which then had the Presidency of the European Union, praised Russia’s actions. Denmark’s Prime Minister, Anders Fogh Rasmussen, said the EU *“commends the Russian Government for exercising all possible restraint in this extremely difficult situation.”*⁴⁶³

At the time, the UK Government appeared to give a rather more ambiguous response. In reply to a Parliamentary Question, Foreign Office minister Mike O’Brien stated: *“Following inquiries by the United Kingdom and others, Russian authorities have announced that the gas used in ending the siege on a Moscow theatre, on Saturday 26 October, was based on Fentanyl, an opium based narcotic. Fentanyl is not a chemical scheduled under the Chemical Weapons Convention. Non-scheduled chemicals are not in themselves prohibited under the Convention for use in law enforcement, including domestic riot control purposes...”* The Minister then went on to quote Mr Shevchenko’s statement declaring that no banned chemical substances had been used.⁴⁶⁴

In April 2008, in correspondence with the author, the then UK Defence Secretary, Des Browne, was more forthright in stating the UK Government’s position:

*“The Convention clearly provides for the use of toxic chemicals for law enforcement purposes. The Government made clear at the time that it regarded the use of an incapacitating agent during the Moscow theatre siege in 2002 as permitted under the Convention. I am not aware that any State Party expressed a different view.”*⁴⁶⁵

Whilst it is debateable how “clear at the time” the UK was in acknowledging the permissibility of incapacitant use, these two statements by UK Government Ministers (together with the statements by a UK Government official and the Response of the Foreign Secretary to the FAC, reported on pages 65-66) do appear to reflect a marked divergence in UK policy from that established at the time of signing the CWC.

Despite the apparent public acceptance by many in the international community of the Russian Federation’s use of an incapacitant, it should be noted that international human rights bodies -

⁴⁶¹ NATO (August 2006) *op.cit*, Annex M: Medical Aspects of the Moscow Theatre Hostage Incident, p.136.

⁴⁶² NATO (August 2006) *op.cit*, Chapter 6: Human effects issues affecting NLW development, testing and acceptance, p.55.

⁴⁶³ BBC News, Putin: Foreign support but also concern, 28th October 2002, <http://news.bbc.co.uk/1/hi/world/europe/2367735.stm> (accessed 8th August 2008); *Japan Today*, Russian counts cost of deadly siege, 27th October 2002, <http://archive.japantoday.com/news/jp/e/tools/print.asp?content=news&id=236131> (accessed 9th August 2008).

⁴⁶⁴ Mike O’Brien, 4th November 2002, Response to Parliamentary Question, *Hansard*, http://hansard.millbanksystems.com/written_answers/2002/nov/04/moscow-theatre-siege (accessed 5th August 2008).

⁴⁶⁵ Des Browne, Secretary of State, Ministry of Defence, correspondence with Crowley, M. and Dando, M., 9th April 2008.

specifically the UN Human Rights Committee⁴⁶⁶ and the UN Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions⁴⁶⁷ - did raise concerns about the actions of the Russian Federation security forces. Concerns were also expressed by leading non-governmental human rights organisations including Amnesty International⁴⁶⁸ and Human Rights Watch.⁴⁶⁹ Furthermore, the International Committee of the Red Cross – the guardian of international humanitarian law - issued a statement concerning chemical incapacitants, on the margins of the First CWC Review Conference. Although it did not specifically mention the Russian Federation, the ICRC statement: “*express[ed] its alarm at the increasing interest among police, security and armed forces in the use of incapacitating chemicals and the lack of expressions of concern about the implications of such development by States Parties to this Convention...*”⁴⁷⁰

Response of OPCW

A public silence on this issue was maintained by the OPCW. An analysis of the OPCW website shows that there were no press releases or other public statements made by the Technical Secretariat or any other policy organ of the OPCW about the Russian Federation use of an incapacitant.⁴⁷¹ Even in a presentation analysing Russian implementation of the CWC, delivered by the Director of External Relations on behalf of the Director General, and made just two weeks after the theatre siege, no mention was made of the Moscow incident.⁴⁷² Despite its public silence, however, there are indications that the OPCW Technical Secretariat was seeking to facilitate the greater provision of information about this incident by the Russian Federation. Indeed, according to the BBC, the public statement made by the Russian Health Minister on the 30th October 2002, came after a request for clarification about the gas from the OPCW Director General.⁴⁷³ Furthermore, an OPCW spokesperson has reportedly stated that after the siege the

⁴⁶⁶ United Nations Human Rights Committee, Concluding observations of the Human Rights Committee: Russian Federation, UN Doc. CCPR/CO/79/RUS, 2003, paragraph 14, http://www.ccrprcentre.org/doc/HRC/Russia/CCPR_CO_79_RUS_eng.pdf (accessed 30th July 2009).

⁴⁶⁷ UN Commission on Human Rights, Report of the Special Rapporteur, Asma Jahangir, submitted pursuant to Commission on Human Rights resolution 2002/36, E/CN.4/2003/3, 13th January 2003, http://www.extrajudicialexecutions.org/reports/E_CN_4_2003_3.pdf, (accessed 30th July 2009).

⁴⁶⁸ Amnesty International, (October 2003) *op.cit.*; Amnesty International (2003) *The Pain Merchants: Security Equipment and Its Use in Torture and Other Ill-Treatment*, December 2003. <http://www.amnesty.org/en/library/asset/ACT40/008/2003/en/dom-ACT400082003en.pdf>, (accessed 30th July 2009).

⁴⁶⁹ Human Rights Watch, press release: *Independent Commission of Inquiry Must Investigate Raid on Moscow Theater: Inadequate Protection for Consequences of Gas Violates Obligation to Protect Life*, 30th October 2002, www.hrw.org/press/2002/10/russia1030.htm (accessed 3rd October 2008).

⁴⁷⁰ *Statement of the International Committee of the Red Cross*, First Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention, The Hague 28 April-9 May 2003, [http://www.icrc.org/web/eng/siteeng.nsf/htmlall/spx6js\\$file/irrc_850_chimiques_eng.pdf](http://www.icrc.org/web/eng/siteeng.nsf/htmlall/spx6js$file/irrc_850_chimiques_eng.pdf) (accessed 1st August 2009).

⁴⁷¹ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

⁴⁷² Address by Mr Rogelio Pflirter, Director General of the OPCW, to the Fourth National Dialogue Forum, Russian Implementation of the Chemical Weapons Convention: Status and Perspectives as of Year End 2002, 11th November 2002, (delivered by Director for External Relations of the OPCW, Mr. Huang Yu) <http://www.opcw.org/news/news/article/russian-implementation-of-the-chemical-weapons-convention-status-and-perspectives-as-of-year-end-20/> (accessed 1st August 2009).

⁴⁷³ BBC news, Russia names Moscow siege gas, 31st October 2002, <http://news.bbc.co.uk/1/hi/world/europe/2377563.stm> (accessed: 8th August 2008).

Russian Federation Government sent a letter to the OPCW “*explaining its actions*”, though no details of the letter's contents have been made public.⁴⁷⁴

There are also indications that individual CWC States Parties sought further information from the Russian Federation on its actions through bilateral consultations.⁴⁷⁵ However, CWC States Parties, as a whole, do not appear to have been informed of the results of such consultations, nor were the details made available to the public. A review of all relevant OPCW documentary sources shows that no CWC State Party specifically raised this incident publicly in any of the CWC policy making organs, nor initiated high-level multilateral consultation or investigatory mechanisms under the Convention.⁴⁷⁶

First CWC Review Conference

In the run-up to the First CWC Review Conference, which took place during April-May 2003, just six months after the Moscow siege, there does appear to have been a cautious and diplomatic attempt by the Technical Secretariat and the Scientific Advisory Board (SAB) to bring the issue of ‘non-lethal’ chemical weapons employed for law enforcement to the attention of the Conference. For example, in its April 2003 report, the SAB highlighted its awareness: “*of concerns about the development of new riot control agents (RCAs), and other so-called “non-lethal” weapons utilising certain toxic chemicals...*”⁴⁷⁷

Similarly, although the Director General did not specifically mention incapacitants in his Opening Statement⁴⁷⁸ or subsequently during the Review Conference, he did raise the issue of ‘non-lethal’ weapons in his preparatory Note to the Review Conference.

“*Other issues that have received some attention are related to so-called “non-lethal weapons”, and the use of toxic chemicals for law enforcement. These issues need to be carefully analysed so as to prevent any potential harm to the Convention. The Convention contains specific provisions on the use of riot control agents, and otherwise rests on the obligation that Member States shall “never under any circumstances” develop, produce, otherwise acquire, stockpile or retain, or use CW. The Member States might wish to address these issues.*”⁴⁷⁹

Despite these initiatives by the SAB and the Director General, it appears that the specific issue of the Moscow siege was off the agenda. As one UK Official notes “*It became clear during preparations for the First Review Conference that some SPs [States Parties] were opposed to discussions on incapacitants at that time. As a result no CWC SPs [States Parties] openly*

⁴⁷⁴ Von Twickel, N. Unmasking Dubrovka's Mysterious Gas, *The Moscow Times*, 23rd October 2007, www.fco.cat/files/imatges/Butlleti%20111/Moscow%20Times.pdf (accessed 30th July 2009).

⁴⁷⁵ In his statement to Parliament, Foreign Office Minister Mike O’ Brien indicated that the Russian announcement followed “*inquiries by the United Kingdom and others*”. Mike O’Brien, 4th November 2002, Response to Parliamentary Question, *Hansard*, http://hansard.millbanksystems.com/written_answers/2002/nov/04/moscow-theatre-siege (accessed 5th August 2008).

⁴⁷⁶ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

⁴⁷⁷ OPCW, Note by the Director-General. Report of the Scientific Advisory Board on Developments in Science and Technology, document RC-1/DG.2, The Hague, 23 April 2003, Paragraph 3.14.

⁴⁷⁸ OPCW, Opening Statement By the Director General To The First Review Conference Of The States Parties To Review The Operation Of The Chemical Weapons Convention, RC-1/DG.3, 28th April 2002.

⁴⁷⁹ OPCW, Note By The Director General to the First Review Conference, RC-1/DG.1, OPCW, 17th April 2002, Page 8, Paragraph 3.21, <http://www.opcw.org/docs/rc1dg01.pdf>.

raised the issue[*of Moscow*] for discussion during the First Conference.”⁴⁸⁰ Indeed, analysis of the Working Papers and National Statements presented at the Conference shows no mention of the Moscow siege.⁴⁸¹

However, during the Review Conference, three States Parties – New Zealand,⁴⁸² Norway⁴⁸³ and Switzerland⁴⁸⁴ - did speak on the issue of ‘non-lethal’ weapons in their opening National Statements. The Swiss Statement is of particular importance, declaring that: “*In light of recent experiences, it is appropriate to reiterate that chemical weapons are **totally prohibited** whether they are lethal or non-lethal and whether their precursors or components are listed in the schedules of the Convention or not. The Conference should also recognise the need to **increase transparency** to reinforce mutual confidence. A lack of transparency exists particularly in the grey areas of the Convention where the red line between activities not prohibited and those prohibited is difficult to discern. To shed more light on these areas, the Conference could ask the States Parties to declare not only chemical products they hold for riot control purposes but for law enforcement purposes **in general**. Certain chemical agents prohibited in war may be justified for domestic use, but that being the case, it is all the more important to assure other States Parties that the production of these products poses no threat to their security.*”⁴⁸⁵ [Bold as in original text].

Despite these interventions, however, there was no subsequent discussion of incapacitants by the CWC States Parties during any of the open sessions of the Review Conference and no mention made of such agents in the Review Conference Final Document.⁴⁸⁶ As Kelle explains “...*informal discussions among delegations showed that the time was not ripe*” for the inclusion of any language explicitly referring to incapacitants or ‘non-lethal’ weapons in the text of the Review Document.⁴⁸⁷

Prior to⁴⁸⁸ and during⁴⁸⁹ the First Review Conference a number of leading arms control experts, and international and non-governmental organisations called upon the OPCW to take action on

⁴⁸⁰ UK Government Official, correspondence with author, 10th November 2008.

⁴⁸¹ Copies of documents circulated at the First Review Conference including National Statements, National Working Papers, Technical Secretariat Background Papers, etc. can be found on the OPCW web site (<http://www.opcw.org>).

⁴⁸² Statement by the Honourable Marian Hobbs, Minister for Disarmament and Arms Control, New Zealand, First Review Conference of the Chemical Weapons Convention General Debate, 28th April 2003, The Hague, Netherlands.

⁴⁸³ Johan Ludvik Lovald, Deputy Secretary General, Norwegian Ministry of Foreign Affairs, Norwegian Statement at the First Review Conference of the Chemical Weapons Convention General Debate, 28th April 2003, The Hague, Netherlands.

⁴⁸⁴ Statement by the head of the delegation of Switzerland, OPCW Conference of the States Parties, First Chemical Weapons Convention Review Conference, General Debate, 28th April 2003, The Hague, Netherlands.

⁴⁸⁵ Statement by the head of the delegation of Switzerland, OPCW Conference of the States Parties, First Chemical Weapons Convention Review Conference, General Debate, 28th April 2003, The Hague, Netherlands.

⁴⁸⁶ OPCW, Report of the First Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (First Review Conference) 28th April – 9th May 2003.

⁴⁸⁷ Kelle, A (2003) *op.cit.*

⁴⁸⁸ For example see Dando, M. (2003) *The danger to the Chemical Weapons Convention from incapacitating chemicals*, Bradford University, March 2003, http://www.brad.ac.uk/acad/sewc/cwercp/cwercp_4.pdf; Editorial: “Law enforcement” and the CWC, *CBW Convention Bulletin* 58, December 2002, Harvard Sussex Program, <http://www.sussex.ac.uk/Units/spru/hsp/documents/cbwcb58.pdf>.

⁴⁸⁹ For example see: International Committee of the Red Cross (2003) *op.cit.* Also see presentations and discussions held during CWC Open Forum: Harvard Sussex Program, Open Forum on the Chemical Weapons Bradford Non-Lethal Weapons Research Project Report – Last updated: 7th October 2009

the issue of incapacitants. Some analysts consequently voiced their concern at the failure of the Review Conference to do so. For example, the editorial of the *CBW Conventions Bulletin* stated:

*“It is hard to think of any issue having as much potential for jeopardizing the long-term future of the Chemical and Biological Weapons Conventions as does the interest in creating special exemptions for so-called 'non-lethal' chemical weapons. The First CWC Review Conference earlier this year was [an] opportunity to address this issue constructively. But, save in the national statements of New Zealand, Norway and Switzerland, the OPCW chose not to do so. In the programme of Review-Conference follow-up work that is now getting underway, there is no mention of disabling chemicals, not even tear gas, still less the so-called 'calmatives' and other such incapacitating agents in which interest is now rapidly re-awakening.”*⁴⁹⁰

Other observers, whilst sharing the above concerns, believed that States Parties were tactically right not to have discussed this issue openly at this time. For example, a former OPCW official *“agreed that it was advisable not to formally bring the issue into the conference agenda, or reflect the view of the States Parties on this incident in the report of the First Review Conference, as it was clear that some States agreed with the Russian Federation use. It would have been counter-productive to pursue the issue. There was no chance of getting anything agreed. Any initiative would have been blocked.”*⁴⁹¹

Contemporary research and development of incapacitants

According to the Vienna Convention on the Law of Treaties an important element that needs to be taken into account when interpreting meaning to specific obligations under treaties is *“any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation.”*⁴⁹²

A prominent international lawyer believes that the use of an incapacitant by the Russian Federation and the subsequent *“acquiescence of other CWC States Parties to such use...provides some evidence of State practice that the CWC does not limit the range of chemicals that can be used under Article II.9(d) to RCAs.”*⁴⁹³ Similarly, a UK official believes that: *“The implication is that future use of toxic chemicals in similar law enforcement situations would also be considered as permitted under the Convention, but each case would of course need to be considered according to the individual circumstances.”*⁴⁹⁴

Other analysts, however, disagree. One former OPCW official, interviewed for this report, believes that State practice has not yet become established on this issue. For although the issue was not openly addressed at the First Review Conference *“enough States Parties at the Second Review Conference stated that the issue needs to be discussed.”*⁴⁹⁵ Similarly, in his presentation

Convention: Challenges to the Chemical Weapons Ban, 1st May 2003

<http://www.sussex.ac.uk/Units/spru/hsp/documents/OpenForumCWC.pdf> (accessed 3rd August 2009).

⁴⁹⁰ Editorial: Non-lethal weapons, the CWC and BWC, *CBW Conventions Bulletin* 61, September 2003, Harvard Sussex Program, <http://www.sussex.ac.uk/Units/spru/hsp/documents/cbwc61.pdf> 9 (accessed 3rd August 2009).

⁴⁹¹ Former OPCW official, interview with author, 1st September 2008.

⁴⁹² United Nations, Vienna Convention on the Law of Treaties (1969) *op.cit.*, Article 31.3.b.

⁴⁹³ Fidler, D. (2005) *op.cit.*

⁴⁹⁴ UK Government Official, correspondence with author, 10th November 2008.

⁴⁹⁵ Former OPCW official, interview with author, 1st September 2008.

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on behalf of the Center for Arms Control and Non-Proliferation, and the Scientists Working Group on Biological Chemical Weapons, Pearson states:

*“The nervousness and concern expressed by States and CWC experts about this incident suggests that such agreement has not yet been definitively established among the States Parties. Indeed, although the agent may have seemed consistent with certain law enforcement purposes prior to its use, States Parties might conclude upon examination that this agent (and other fentanyl type agents) may not be consistent with any valid law enforcement purpose under the CWC.”*⁴⁹⁶

An important factor determining whether State practice on incapacitants is becoming, or has become, established will be the level and nature of contemporary research, development and use of such agents by States. Whilst the international governmental community was unable or unwilling to discuss incapacitants openly at the First Review Conference, there are indications that a number of countries have undertaken research programmes into such weapons.

In 2004, during an interview with BNLWRP, the Director of the Anaesthesiology Research Laboratories at the University of Utah, who was reportedly close to the US incapacitating biochemical programme⁴⁹⁷ stated that: *“The events in Moscow have opened up the potential for this area of research (i.e. incapacitating/immobilizing chemicals) to be explored in much greater depth. It would not be surprising if a number of countries were conducting more detailed and renewed research as a result.”*⁴⁹⁸ In correspondence with the author, a UK Government official has stated that the: *“UK is aware of growing interest in incapacitants/LEC [law enforcement chemicals] and we monitor developments in this area closely.”*⁴⁹⁹

Russian Federation

There are indications that Russia has continued research into incapacitants following, and building upon, the experiences gained during the Moscow incident. In a 2003 paper attempting to forecast future European ‘non-lethal’ weapon application, Russian researchers stated:

*“Some experience of gas application in dramatic conditions of terrorists attack was gained in Moscow in 2002....The main problem is how to assess an impact of chemicals on a big crowd of civilians and terrorists between them in a concrete scenario and real conditions of application.”*⁵⁰⁰

Although they noted that *“There has been significant success in the chemistry of calmatives...restriction of individual dosage is very important. There is still no perfect*

⁴⁹⁶ Pearson, A. (Nov 2007) Incapacitating Chemical Weapons and the Chemical Weapons Convention, Presentation by the Center for Arms Control and Non-Proliferation and the Scientists Working Group on Biological Chemical Weapons to the Open-Ended Working Group for the preparation of the Second Review Conference of the Chemical Weapons Convention, 18th November 2007, http://www.armscontrolcenter.org/policy/biochem/articles/incapacitating_chemical_weapons_and_cwc (accessed 30th July 2009).

⁴⁹⁷ Pearson, A. (2007) *op.cit.* p.89.

⁴⁹⁸ Stanley, T., cited in Davison, N. and Lewer, N. (2004) *Bradford Non-Lethal Weapons Research Project Research Report no.5*, Bradford University, May 2004, p.39.

⁴⁹⁹ UK Government Official, correspondence with author, 10th November 2008.

⁵⁰⁰ Klochikhin, V., Pirumov, V., Putilov, A. and Selivanov, V. (2003) The Complex Forecast of Perspectives of NLW for European Application. *Proceedings of the 2nd European Symposium on Non-Lethal Weapons*, Ettlingen, Germany, 13-14th May 2003, V16, Pfinztal: Fraunhofer ICT, p.3.

*tranquillizing agent, but the problem of safety can be solved by the succeeding or simultaneous application of calmative and antidote. This can minimize potential fatality.*⁵⁰¹

Many of the same researchers were part of the group that in May 2005 presented a paper describing the computer modelling of a scenario in which aerosolised chemical agents were introduced into a building where hostages were held captive. The paper stated that:

“If the level of 95% efficiency is absolutely required to neutralize terrorists and to prevent mass destruction, there is no chance to eliminate hard consequences and fatalities. Calculations show that the majority of hostages can get serious poisoning and part of them – fatality. This is the cost of releasing if no other solutions [are] left.”

The researchers further note that: *“the full solution [to this problem] demands the big intensive work of many scientific teams within several years.”*⁵⁰²

In addition to such indications of continuing research, there has been one further reported (though unconfirmed) use of an incapacitant by Russian Security Forces. This came in response to attacks by armed Chechen separatists on the Russian town of Nalchik, which commenced on 13th October 2005. Russian NTV reported that on the second day of fighting Russian Forces employed a “knockout gas” against the armed separatists who had taken two women hostage.⁵⁰³ Doctors later stated that the hostages were suffering from the effects of an unspecified ‘non-lethal’ gas.⁵⁰⁴ It was also reported that victims of the attack were administered an antidote.⁵⁰⁵ A Russian Government spokesperson later questioned about this incident, stated that *“he had never heard allegations that a chemical agent was used in Nalchik.”*⁵⁰⁶

United States

The US has a long history of research into incapacitants.⁵⁰⁷ There are indications that research was ongoing prior to, and may have continued after, the Moscow theatre siege. In fiscal year 2001 the National Institute of Justice (NIJ) funded a three phase project on ‘non-lethal’ weapons at the Institute for Non-Lethal Defense Technologies (INLDT) at Pennsylvania State University (PSU). Phase two of the project was to *“...conduct an investigation of controlled*

⁵⁰¹ *Ibid.*

⁵⁰² Klochikhin, V., Lushnikov, A., Zagaynov, V., Putilov, A., Selivanov, V. and Zatekvakhin, M. (2005) Principles of Modelling of the Scenario of Calmative Application in a Building with Deterred Hostages, *Proceedings of the 3rd European Symposium on Non-Lethal Weapons*, Ettlingen, Germany, 10-12th May 2005, V17, Pfinztal: Fraunhofer ICT, p.4.

⁵⁰³ Troops crush Chechen 'bandits' as Putin promises no mercy, *The Independent*, 15th October 2005, <http://www.independent.co.uk/news/world/europe/troops-crush-chechen-bandits-as-putin-promises-no-mercy-510981.html>, (accessed 30th July 2009); Russian troops root out militants after days of fighting leave 100 dead, *The Guardian*, 15th October 2005, <http://www.guardian.co.uk/world/2005/oct/15/russia>.nickpatonwalsh, (accessed 30th July 2009).

⁵⁰⁴ Von Twickel, N. Unmasking Dubruvka's Mysterious Gas, *The Moscow Times*, 23rd October 2007, www.fco.cat/files/imatges/Butlleti%20111/Moscow%20Times.pdf (accessed 30th July 2009).

⁵⁰⁵ Holley, D. Russian Forces Crush Rebels After Two Days of Fighting, *Los Angeles Times*, 15th October 2005, A3.

⁵⁰⁶ Von Twickel, N. (2007) *op.cit.*

⁵⁰⁷ See for example: Dando, M. and Furmanski, M. (2006) Midspectrum Incapacitant Programs, in: Wheelis, M., Rózsa, L., and Dando, M. (Eds). *Deadly Cultures: Biological Weapons Since 1945*. Cambridge: Harvard University Press; Davison, N. (2007) *op.cit.*; Furmanski, M. Historical military interest in low-lethality biochemical agents, in: Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit.*; Pearson, A. (2007) *op.cit.*

*exposure to calmativ-based oleoresin capsicum.*⁵⁰⁸ Although publicly available information regarding this project is scarce, it apparently involved the combination of incapacitants with the chemical irritant oleoresin capsicum in order to produce more profound effects. In February 2003, a presentation by the Senior Program Manager for the NIJ Less-Than-Lethal Technology Program, indicated that the project had been reviewed by a liability panel and that work was progressing at Pennsylvania State University.⁵⁰⁹

In 2003, the National Research Council (NRC) issued a report reviewing prior and existing NLW research, examining relevant scientific and technological developments and recommending future areas of NLW research.⁵¹⁰ Whilst the report highlighted concerns regarding compliance with the CWC, the National Research Council panel recommended “increase[d] research in the field of human response to calmatives.” They stated that: “Calmatives have potential as NLWs [‘non-lethal’ weapons] in many types of missions where calming of individuals or crowds is needed...The human effects of these compounds and their safety must have thorough evaluation under conditions simulating their mission uses.”⁵¹¹

In 2004, the US Department of Defense Science Board released a report on *Future Strategic Strike Forces* which proposed exploring the use of incapacitants. In a section surveying payloads, the report stated that “Calmatives might be considered to deal with otherwise difficult situations in which neutralizing individuals could enable ultimate mission success. The principle technical issue is the balance between effectiveness (i.e., the targets are truly “calmed”) and margins of safety (i.e., avoiding overexposure and resulting fatalities of neutral bystanders).” Although the report noted that: “The Treaty implications are significant,”⁵¹² it later stated that “Applications of biological, chemical or electromagnetic radiation effects on humans should be pursued.”⁵¹³ And that “R&D into sophisticated psychological operations designed to change the minds of individuals or the populace is needed.”⁵¹⁴

As well as calling for further research on calmatives, the 2003 National Research Council panel also recommended that the US should “target efforts to develop chemical delivery systems,” noting that “Few reliable, low-risk, and low-cost methods exist for delivering and dispensing chemical NLWs precisely and accurately...It becomes critical in the delivery of calmatives, where proper doses must be achieved.”⁵¹⁵ The NRC panel also recommended that “Special packaging techniques such as microencapsulation should be explored because they may be useful in creating new more deliverable forms of chemical NLWs.”⁵¹⁶ According to Pearson, the

⁵⁰⁸ National Institute of Justice Grant No. 2001-RD-CX-K002. Details from NIJ Research Portfolio available December 2006 at: <http://nij.ncjrs.org/portfolio/> as cited in Davison, N. (2007) *op.cit.*, p.24.

⁵⁰⁹ Ceconi, J. (2003) Less-Than-Lethal Program. *Presentation to the 2003 National Institute of Justice Annual Technology Conference*, as cited in Davison, N. (2007) *op.cit.*, p.24.

⁵¹⁰ National Research Council (2003) *An Assessment of Non-Lethal Weapons Science and Technology*. Washington, DC: National Academies Press.

⁵¹¹ National Research Council (2003) *op.cit.*, p.107.

⁵¹² US Department of Defense, Defense Science Board (2004) *Report of the Defense Science Board Task Force on Future Strategic Strike Forces*. Washington, DC: Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, February 2004, www.acq.osd.mil/dsb/reports/fssf.pdf, (accessed 30th July 2009), Chapter 7, p.12.

⁵¹³ Defense Science Board (2004) *op.cit.* Chapter 7, p.18.

⁵¹⁴ Defense Science Board, (2004) *op.cit.*, Chapter 7, p.18.

⁵¹⁵ National Research Council (2003) *op.cit.*, p.107.

⁵¹⁶ National Research Council (2003) *op.cit.*, p.107.

US Joint Non Lethal Weapon Directorate has funded research into the development of delivery systems designed to carry a variety of potential chemical payloads, including “*markers, taggants, incapacitants, malodorants [and] OC/RCA,*” which have included long range mortars and airbursting grenades.⁵¹⁷ Similarly Davison has highlighted US attempts to develop a range of chemical agent delivery and dispersal systems including airburst munitions, mortars, microencapsulation techniques, paintball projectiles and unmanned aerial vehicles – some of which could (if realised) potentially be used to carry an incapacitant payload.⁵¹⁸

Although there have been reports that US Special Forces were equipped with a form of “knock-out” gas⁵¹⁹ these reports have not been substantiated. There is currently no publicly available evidence that the US has successfully developed or deployed weapons containing incapacitants for either military or police use⁵²⁰ other than those it stockpiled during 1960-75.⁵²¹ Indeed, an unnamed US official interviewed by *Arms Control Today* following the Second CWC Review Conference stated that: “*We have no programs to develop incapacitants and got rid of our stockpiles.*”⁵²² Similarly, a US military official when questioned about research into behavioural modifiers stated that: “*The Defense Department's Non-Lethal Weapon Program is not exploring any compound, device or system with the capabilities as described.*”⁵²³

There are, however, indications that interest in developing incapacitants for law enforcement continues. In April 2007, the NIJ convened a 'community acceptance panel' to discuss the potential role of 'calmative agents' in law enforcement.⁵²⁴ The panel was comprised of experts from the scientific, toxicological and bio-ethical communities; civil rights and advocacy organisations and the legal and law enforcement communities.⁵²⁵ It is notable that the panel included the Director of JNLWD, the Riot Control Agents Program Manager from the US Army RDECOM-ARDEC and the Associate Director of the Institute for Non-Lethal Defense Technologies, Pennsylvania State University, who had been one of the authors of the influential 2000 Pennsylvania State Report exploring the utility of a range of potential incapacitating chemical and biochemical agents.⁵²⁶ The panel was

⁵¹⁷ Pearson, A. (2006) *op.cit.* p.163; also see Pearson, A. (2007) *op.cit.*, pp.80-87 for more extensive review of potential delivery mechanisms.

⁵¹⁸ Davison, N. (2007) *op.cit.*, pp.30-36.

⁵¹⁹ Wheelis, M., Non-Lethal Chemical Weapons: A Faustian Bargain, *Issues in Science and Technology*, Spring 2003; Hersh, S., The Iran Plans, *New Yorker*, April 2006.

⁵²⁰ Pearson, A. (2007) *op.cit.*

⁵²¹ Perry Robinson, J., correspondence with author, April 2009; Dando, M. and Furmanski, M. (2006) *op.cit.*; Furmanski, M., (2007) *op.cit.*

⁵²² Meier, O. (2008) CWC Review Conference Avoids Difficult Issues, *Arms Control Today*, May 2008, http://www.armscontrol.org/act/2008_05/CWC (accessed 31st July 2009).

⁵²³ Dumiak, M. (2007) Drugs May Decrease Will To Fight, *Defense Technology International*, November 2007, http://www.aviationweek.com/aw/generic/story_generic.jsp?channel=dti&id=news/dtiDRUGS.xml&headline=Drugs%20May%20Decrease%20Will%20to%20Fight, (accessed 30th July 2009).

⁵²⁴ See: National Institute of Justice, Community Acceptance Panel – Riot Control Agents, 30th April 2007, <http://www.ojp.usdoj.gov/nij/topics/technology/less-lethal/riot-control-agents.htm>, (accessed 30th July 2009); Weiss, D. (2007) Calming Down: Could Sedative Drugs Be a Less-Lethal Option?, *NIJ Journal no.261*, www.ncjrs.gov/pdffiles1/nij/224083.pdf (accessed 30th July 2009), pp.42-46; Davison, N. (2009) Marketing new chemical weapons, *Bulletin of the Atomic Scientists*, 29th June 2009, <http://www.thebulletin.org/web-edition/op-eds/marketing-new-chemical-weapons> (accessed 4th September 2009).

⁵²⁵ Details of the panel's 26 members can be found at <http://www.ojp.usdoj.gov/nij/topics/technology/less-lethal/riot-control-agents.htm>, (accessed 30th July 2009).

⁵²⁶ Lakoski J., Bosseau Murray W. & Kenny J. (2000) *op.cit.*

“tasked with assessing the potential of developing new riot control agents,⁵²⁷ such as chemical calmatives, as a viable addition or alternative to the law enforcement less lethal arsenal. Such less lethal options would be delivered in situations and in a manner similar to pepper balls or OC (Oleoresin Capsicum), except the resulting effects would be designed to calm rather than irritate the target.”⁵²⁸

According to an NIJ report of the meeting, the panel reached “general consensus” that law enforcement officers need additional ‘less-lethal’ options and that *“pursuing new or updating existing research on the safety and viability of calmative agents was reasonable...It is important to note that the panel did not determine whether a tool could be developed, only that further research was an appropriate next step.”⁵²⁹* The NIJ subsequently awarded Pennsylvania State University a grant of \$250,000⁵³⁰ to *“explore the potential of operationalizing calmatives and to examine possible pharmaceuticals, technologies and legal issues.”⁵³¹*

Czech Republic

The Czech military has a long standing research programme into incapacitants dating from at least 2000,⁵³² unusually much of this work has been published in scientific academic papers. In May 2005, at the 3rd European Symposium on Non-Lethal Weapons, Czech researchers delivered a paper⁵³³ describing their investigations over several years, administering rhesus monkeys with various pharmacological cocktails in order to determine which combinations and doses resulted in *“fully reversible immobilization.”* The paper also described how *“Fully reversible analgesic sedation was... tested in man,”* utilising the triple combination of dexmedetomidine, midazolam and fentanyl given to patients undergoing surgery, and a second combination of dexmedetomidine, midazolam and ketamine which was tested on ten nurses.⁵³⁴ The paper also recorded the results of testing the ultrapotent opioids remifentanyl, alfentanil and etorphine on rabbits.⁵³⁵

In a follow-up paper presented in May 2007 to the 4th European Symposium on Non-Lethal Weapons, Czech researchers described how they *“decided to test new combinations [of calmatives] for suppression or complete abolition of aggressive behaviour”* in macaque

⁵²⁷ It is interesting to note that the NIJ report of this meeting appears to class calmatives as RCAs. It is unclear whether this is indicative of an official NIJ position on this issue. For a discussion of the terminology used to describe and 'market' incapacitants see Davison, N. (2009) *op.cit* and Davison, N. (2007) *op.cit*.

⁵²⁸ National Institute of Justice, (30th April 2007) *op.cit*.

⁵²⁹ Weiss, D. (2007) *op.cit*, pp.42-43.

⁵³⁰ National Institute of Justice, NIJ Awards in FY2007, Operationalizing Calmatives — Legal Issues, Concepts and Technologies, <http://www.ojp.usdoj.gov/nij/awards/2007.htm#less-lethaltechnologies>, (accessed 30th July 2009).

⁵³¹ Weiss, D. (2007) *op.cit*, p.43.

⁵³² According to Davison and Lewer, research to develop sedative and anaesthetic agent combinations for use as weapons, had been funded by the Czech Army under Project No: MO 03021100007. See Davison, N. and Lewer, N. (2006) *Bradford Non-Lethal Weapons Research Project (BNLWRP) – Research Report 8*, Bradford University, March 2006, p.50.

⁵³³ Hess, L., Schreiberova, J., and Fusek, J. (2005) Pharmacological Non-Lethal Weapons. *Proceedings of the 3rd European Symposium on Non-Lethal Weapons*, Ettlingen, Germany, 10th -12th May 2005. V23. Pfnztl: Fraunhofer ICT.

⁵³⁴ Hess, L., Schreiberova, J., and Fusek, J. (2005) *op.cit*, pp.8-9.

⁵³⁵ Hess, L., Schreiberova, J., and Fusek, J. (2005) *op.cit*, pp.9-10.

monkeys.⁵³⁶ According to the researchers, “[a]ll tested combinations resulted in macaques in reduction or complete loss of aggressiveness. Optimal combination was naphthylmedetomidine + dextrorotatory isomer of ketamine + hyaluronidase. The onset of effect was rapid and we achieved complete manipulability of the animal with low motoric sedation.” The researchers claim that: “the results can be used to pacify aggressive people during medical treatment (mental disease), terrorist attacks and during [sic] production of new pharmacological non-lethal weapons.”⁵³⁷

The Czech researchers have also investigated a number of alternative means of agent delivery including via inhalation administration which was initially tested on rats and then on human “volunteers”,⁵³⁸ who were, in fact, reported to have been children in hospital.⁵³⁹ Researchers have also explored conjunctival, nasal, transbucal, sublingual and transdermal administration.⁵⁴⁰ The researchers have stated that:

“[t]he transdermal technique of administration could possibly be used to induce long-term sedation with alpha2 agonists, benzodiazepines, and a combination of them to pacify aggressive individuals. Using the paint-ball gun principle, anesthetic-containing balls could be used. Impact of the ball would be followed by their destruction and absorption of garment with the anesthetics which will be quickly absorbed via the skin.”⁵⁴¹

One analyst has reported that “While Russian, Chinese and American scientists may have similar lines of study, the Czechs are brazen enough to go on scientific record... [M]ore than one American researcher connected with the military thinks [the Czech's] presentation is compelling.”⁵⁴²

Other countries and organisations:

Although there is no further open source information describing specific current incapacitant research and development programmes, there are indications that a number of other States have shown an interest in this issue.

European Defence Agency

The European Defence Agency (EDA)⁵⁴³ was established under a Joint Action of the Council of Ministers of 12th July, 2004, “to support the Member States and the Council in their effort to improve European defence capabilities in the field of crisis management and to sustain the European Security and Defence Policy (ESDP) as it stands now and develops in the future.”⁵⁴⁴ Its functions are to improve defence capabilities, promote defence research and technology

⁵³⁶ Hess, L., Schreiberová, J., Málek, J., Fusek, J. (2007) Drug-Induced Loss of Aggressiveness in the Macaque Rhesus. *Proceedings of the 4th European Symposium on Non-Lethal Weapons*, 21st-23rd May 2007, Ettlingen, Germany, European Working Group on Non-Lethal Weapons. V15, Pfnztl: Fraunhofer ICT, p.6.

⁵³⁷ Hess, L., Schreiberová, J., Málek, J., Fusek, J. (2007) *op.cit*, p.7.

⁵³⁸ Hess, L., Schreiberová, J., and Fusek, J. (2005) *op.cit*, pp.11-12.

⁵³⁹ Davison, N. (2007) *op.cit*, p.28.

⁵⁴⁰ Hess, L., Schreiberová, J., and Fusek, J. (2005) *op.cit*, pp.10-14.

⁵⁴¹ Hess, L., Schreiberová, J., and Fusek, J. (2005) *op.cit*, p.14.

⁵⁴² Dumiak, M. (2007) *op.cit*.

⁵⁴³ The EU High Representative is Head of the Agency and Chairman of the Steering Board, its decision making body composed of the Defence Ministers of the 26 participating Member States (all EU Member States, except Denmark) and the European Commission.

⁵⁴⁴ Council Joint Action 2004/551/CFSP of 12 July 2004 on the establishment of the European Defence Agency

(R&T), promote armaments co-operation, create a competitive defence equipment market and strengthen the European defence, technological and industrial base.⁵⁴⁵ In 2007, a study was undertaken for the EDA by the Swedish Defence Research Agency (FOI) and the UK based Systems Consultants Services (SCS).⁵⁴⁶ Its aims were to provide a comprehensive analysis of the current status of NLW technologies in terms of research & development and to examine their potential utility within forthcoming ESDP Crisis Management Operations (CMO) while taking into account those legal, ethical and medical constraints that might apply.⁵⁴⁷ Although the full report of the study is only available to participating Member States, in May 2009 a poster presentation summarising the report findings indicated that the potential use of calmatives in two scenarios – to 'incapacitate individuals' and to 'clear facilities, structures and areas' – was viewed favourably by the authors.⁵⁴⁸ However, an official from one Member State, the UK, noted that “*The EDA report does not necessarily reflect the views of individual Member States.*”⁵⁴⁹ The response of EDA participating Member States to the report findings is currently unknown.

Figure 3.2: Summary table from EDA poster presentation photographed at Fifth European Symposium on Non-Lethal Weapons, 13 May 2009, Ettlingen, Germany (Photo: Threshold Group).

NATO

For a number of years NATO's Research and Technology Organisation has been supportive of attempts to explore the potential of utilising incapacitants. In its 2004 report analysing the utility

⁵⁴⁵ Functions and tasks, European Defence Agency website, <http://www.eda.europa.eu/genericitem.aspx?area=Background&id=122>. For a discussion of the EDA’s approach to ‘non-lethal’ weapons see: Weissenbock, E. (2009) Non-Lethal Capabilities for ESDP Operations, *Proceedings of the 5th European Symposium on Non-Lethal Weapons*, Ettlingen, Germany, European Working Group on Non-Lethal Weapons. V2, Pfinztal: Fraunhofer ICT.

⁵⁴⁶ Kindvall, G. and Cousens, R. (2007) *Study on N/LLW and the constraints of their possible use within ESDP operations*, Final report of 06-CAP-043, European Defence Agency. This report has not been made public.

⁵⁴⁷ *Ibid.*

⁵⁴⁸ *Study on N/LLW and the constraints on their possible use within ESDP operations*, poster presentation shown at 5th European Symposium on Non-Lethal Weapons, 11th -13th May 2009, Ettlingen, Germany. The poster presentation included a table assessing utility, maturity and measurability of effectiveness of a range of NLW technologies (see above). This table indicated that calmatives were considered suitable (against these three criteria) in two scenarios - to ‘incapacitate individuals’ and ‘clear facilities, structures and areas’. Although the poster presentation gave only a partial and incomplete ‘snapshot’ of the full report, these limited findings do raise concerns. Attempts by the author to obtain a copy of the full EDA report have, to date, been unsuccessful.

⁵⁴⁹ UK Government Official, correspondence with author, 12th June 2009.

of ‘non-lethal’ weapons in peace keeping operations, the RTO outlined seventeen “*non-lethal technologies of interest*,” among these were “*chemical technologies [that] could act on the central nervous system by calmatives, dissociative agents, [and] “equilibrium agents”, and “by convulsives.*”⁵⁵⁰ In addition, Davison and Lewer have highlighted how the Chair of the RTO panel on the human effects of ‘non-lethal’ weapons (HFM-073), which reviewed the Moscow incident favourably, has expressed support for the “Czech approach” to calmative weapons research.⁵⁵¹ Furthermore Dr Fusek, one of the researchers involved in the Czech programme, has been the Czech representative to the NATO HFM-073 panel.⁵⁵²

China

In July 2005, the US Army Journal *Military Review* contained a speculative article by two Chinese analysts in which they claimed that “*the times call for new kinds of weapons, and modern biotechnology can contribute such weapons.*”⁵⁵³ They claimed that “*War through the command of biotechnology*” will “*...lead to success through ultramicro, nonlethal and reversible effects.... Modern biotechnology offers an enormous potential military advantage.*”⁵⁵⁴ It is not clear what, if any, militarily applicable research or development China has undertaken in this area. However, there does appear to have been some research and development of incapacitants applicable for use in law enforcement devices. In the mid-1990s, the State owned China North Industries Corporation (NORINCO) marketed the BBQ-901, a dart-firing gun apparently containing some form of liquid anaesthetic. The NORINCO brochure states that: “*The Model BBQ-901 Anaesthetic system is a fine unlethal [sic] special weapon system for SWAT units and other special usage...It can be used for reconnaissance and capture of criminals in a concealed place. It is also used as a riot control weapon to subdue the ruffians and maintain public order.*”⁵⁵⁵ In 2006⁵⁵⁶ the BBQ-901 narcosis gun was promoted by the Chinese company, State 9616 Plant, at the Asia Pacific China Police Expo⁵⁵⁷ held in Beijing. The narcosis gun was subsequently promoted at the 2008 China Police Expo.⁵⁵⁸ No details of any international transfers are available.

⁵⁵⁰ NATO Research and Technology Organisation, (2004) *Non-Lethal Weapons and Future Peace Enforcement Operations*, RTO-TR-SAS-040 (December 2004) <http://www.rta.nato.int/Main.asp?topic=sas.htm#>>. Cited in Pearson, A. (2006) Incapacitating Biochemical Weapons: Science, Technology, and Policy for the 21st Century, *Nonproliferation Review*, Vol 13, No 2, July 2006.

⁵⁵¹ Davison, N. and Lewer, N. (2006) *Bradford Non-Lethal Weapons Research Project (BNLWRP) – Research Report 8*, March 2006, p.52.

⁵⁵² *Ibid.*

⁵⁵³ Guo Ji-Wei and Xue-sen Yang, “Ultramicro, Nonlethal and Reversible: Looking Ahead to Military Biotechnology, *Military Review*, July-August 2005, as cited in Pearson, A. (2007) *op.cit.*, p.89.

⁵⁵⁴ Guo Ji-Wei and Xue-sen Yang (2005), as cited in Pearson, A. (2007) *op.cit.*, p.90.

⁵⁵⁵ Security, anti-riot weapons and ammunition brochure, China North Industries Corporation (NORINCO), brochure obtained 1995; Omega Research Foundation, correspondence with author, August 2009.

⁵⁵⁶ Omega Research Foundation, correspondence with author, August 2009.

⁵⁵⁷ Asia Pacific China Police Expo 2006, 24th-27th May 2006, Beijing Exhibition Centre, Beijing, China. Further information available from http://www.cpexhibition.com/police/police_main.html (accessed 1st September 2009).

⁵⁵⁸ Threshold Group representative, correspondence with author, August 2009. The Asia Pacific Police Logistics & Equipment Trading Platform (4th Event) China Police Expo 2008 took place from 16th-19th April, 2008 at the Beijing Exhibition Center, China. For further information see: http://www.cpexhibition.com/police/police_main.html#2008%20Expo (accessed 1st September 2009).



Figure 3.3: Poster for BBQ-901 Narcosis gun on display on State 9616 stand at China Police 2006, Beijing, China, 24th May 2006. (Photo: Robin Ballantyne/Omega Research Foundation).

France

In its 2004 report, the Sunshine Project⁵⁵⁹ described military research undertaken since the late 1990s into a range of anaesthetic and psychoactive substances. The report highlighted the role of France’s main biological and chemical defence laboratory – the Centre d’études du Bouchet (CEB) – which maintained a Behavioural Pharmacology Laboratory working on a variety of psychoactive drugs including opiates, and had established a broad range of behavioural animal tests. According to the Sunshine Project:

*“The objective of these experiments remains obscure. They may be related to the development of ‘non-lethal’ chemical agents, but could be related to performance or memory enhancing compounds for the French soldier. Absent a clarification from the French Government, the appearance remains that some illicit ‘non-lethal’ chemical weapons research or development activities are pursued at CEB.”*⁵⁶⁰

To date, the French Government does not appear to have released information that would fully clarify this issue.

UK:

Although there is documentation indicating previous UK research into incapacitants from the late 1950s till the early 1970s,⁵⁶¹ there is no evidence of contemporary military research in this area. Furthermore, although there have been indications of interest in researching tranquillisers,⁵⁶² and proposals for utilising chemicals other than RCAs for UK law enforcement were reportedly considered, they were not implemented.⁵⁶³

⁵⁵⁹ Sunshine Project, *Sunshine Project Country Study No. 2: A Survey of Biological and Biochemical Weapons Related Research Activities in France*, 16th November 2004. pp. 26-32 http://www.sunshine-project.org/countrystudies/France_BW_Report.pdf. (accessed 3rd August 2009).

⁵⁶⁰ Sunshine Project, (2004) *op.cit.*, p.5.

⁵⁶¹ Advisory Council on Scientific Research and Technical Development. Minutes of the 32nd meeting of the Chemistry Committee, 5th March 1959, as cited in British Medication Association (2007) *op.cit.*; *The Secret Science of Crowd Control*, BBC Radio 4 News, 25th June 2008,

http://news.bbc.co.uk/today/hi/today/newsid_7471000/7471743.stm; Dando, M. and Furmanski, M. (2006) Midspectrum Incapacitant Programs. In: Wheelis, M., Rózsa, L., and Dando, M. (Eds). *Deadly Cultures: Biological Weapons Since 1945*. Cambridge: Harvard University Press; Davison, N. (2007) *op.cit.*,

⁵⁶² “Tranquillisers and malodorants have been selected as requiring research over a longer period of time...” Donnelly, T. (2001) *Less Lethal Technologies: Initial Prioitization and Evaluation*, UK Home Office, Policing and Crime Reduction Group, Police Scientific Development Branch, publication no.12/01, http://www.icpra.org/home/reading_2/PSDB_Less_Than_Lethal_Technology.pdf.

⁵⁶³ In July 2001 it was reported that the Home Secretary explored the possibility of issuing police with tranquillizer dart guns. “Police to be armed with sleep darts”, *The Observer*, 15th July 2001, as cited in Perry Robinson, J. (October 2007) *op.cit.*, p.29.

In January 2004, the UK's Northern Ireland Office Steering Group published the Patten report recommendations relating to public order equipment.⁵⁶⁴ As part of its review, the steering group examined the use of 'calmatives', but concluded that "*use of calmatives in policing situations would not be a straightforward process. The decision to use any drug whether intended to induce a state of calm or complete unconsciousness requires knowledge of a subject's medical history, particularly the use of any prescribed or non-prescribed medication and any relevant medical conditions. There would also be considerable responsibility in terms of immediate and post-incident aftercare.*"⁵⁶⁵ The Steering Group concluded that further research on calmatives was not required at present. However, they did recommend the continued monitoring of: "*this area, focusing on international research programmes and future developments in delivery methods and potential tranquilising agents.*"⁵⁶⁶

In 2008, in correspondence with the author, a UK Government official has stated that "*Although the UK considered acquiring incapacitating chemicals in the mid 1960s and carried out research on possible materials, no agent was ever weaponised or made available to the armed forces. If any new "incapacitant" were considered for introduction into service, it would be subject to external scrutiny in the same way as for any potential RCA. There is no question of UK developing or misusing LEC[law enforcement chemicals] in any way that would breach the CWC.*"⁵⁶⁷

Scientific and technological developments – the future threat

The brief survey of open source literature (above) indicates that currently a small number of States have initiated research programmes exploring incapacitants, whilst some additional States have, at least, shown an interest in this area.

Such activities are taking place in the context of extremely rapid advances in relevant science and technology, particularly genomics, synthetic biology, biotechnology, medical pharmacology, neuroscience and the understanding of human behaviour. For example, in 1999 a special meeting of the National Academies of Sciences and the Society of Neuroscience noted that: "*The past decade had delivered more advances than all previous years of neuroscience research combined.*"⁵⁶⁸

Whilst many of these advances have great potential to benefit mankind, for example in the development of more effective, safer medicines,⁵⁶⁹ there is concern at the potential for the misapplication of the new capabilities for hostile purposes. Meselson has stated: "*During the century ahead, as our ability to modify fundamental life processes continues its rapid advance,*

⁵⁶⁴ Northern Ireland Office, *Patten Report Recommendations 69 and 70 Relating To Public Order Equipment. A Research Programme Into Alternative Policing Approaches Towards The Management of Conflict*. Fourth Report prepared by the Steering Group led by the Northern Ireland Office, in consultation with the Association of Chief Police Officers. Belfast: Northern Ireland Office, January 2004. Available on: <http://www.nio.gov.uk/alternatives-to-baton-round-phase-4-report-published/media-detail.htm?newsID=8474> (accessed 1st August 2009).

⁵⁶⁵ Northern Ireland Office (2004) *op.cit.*, p.129, section 30.

⁵⁶⁶ Northern Ireland Office (2004) *op.cit.*, p.129, section 31.

⁵⁶⁷ UK Government Official, correspondence with author, 10th November 2008.

⁵⁶⁸ Neuroscience 2000: A New Era of Discovery", Symposium Organised by the Society of Neuroscience, Washington DC, 12-13 April 1999.

⁵⁶⁹ See for example, Andreasen, N. (2004) *Brave New Brain: Conquering Mental Illness in the Era of the Genome*, Oxford University Press US, 2004.

we will be able not only to devise additional ways to destroy life, but also be able to manipulate it including the processes of cognition, development and inheritance.”⁵⁷⁰

And he added:

*“A world in which these capabilities are widely employed for hostile purposes would be a world in which the very nature of conflict had radically changed. Therein could lie unprecedented opportunities for violence, coercion, repression or subjugation...”*⁵⁷¹

In 2005, Wheelis and Dando surveyed developments and future trends in neurobiology and concluded that there were indications that military interest was already directed towards the next generation of biochemical agents affecting the brain and central nervous system:

*“In addition to drugs causing calming or unconsciousness, compounds on the horizon with potential as military agents include noradrenaline antagonists such as propranolol to cause selective memory loss, cholecystokinin B agonists to cause panic attacks, and substance P agonists to induce depression. The question thus is not so much when these capabilities will arise — because arise they certainly will — but what purposes will those with such capabilities pursue.”*⁵⁷²

Similarly in 2006, the US National Research Council (NRC) produced a report entitled *Globalization, Biosecurity, and the Future of the Life Sciences*, which warned that:

*“Recent advances in understanding the mechanisms of action of bioregulatory compounds, signalling processes, and the regulation of human gene expression – combined with advances in chemistry, synthetic biology, nanotechnology, and other technologies – have opened up new and exceedingly challenging frontiers of concern.”*⁵⁷³

In 2007, McCreight highlighted the potential security implications [for the US] of continued unregulated military neuroscience research. He observed that:

“Many nation States have conducted both legitimate and military-related neuroscience research. There are no binding international norms or rules to govern legitimate research. There are no rules or mechanisms to regulate, halt or delay military research in neuroscience.” These observations have led him to conclude that *“We have no protections or safeguards unless we take steps to insist on them.”*⁵⁷⁴

He continued:

“Given more than 45 years of military investment in neuroscience thus far by several countries, despite limited results, we can expect some variety of weapons to emerge within 10 years...Unless measures are taken to halt existing military research into neuroscience we may

⁵⁷⁰ Meselson, M., Averting the Hostile Exploitation of Biotechnology, *CBW Conventions Bulletin*, vol. 48, 2000, pp. 16-19.

⁵⁷¹ Meselson, M. (2000) *op.cit.*

⁵⁷² Wheelis, M. and Dando, M. (2005) Neurobiology: A case study of the imminent militarization of biology. *International Review of the Red Cross*, Volume 87, Number 859, September 2005, p.10.

⁵⁷³ National Research Council (2006), *Globalization, Biosecurity, and the Future of the Life Sciences*, Executive Summary, Recommendation 2, pp.8-9 http://www.nap.edu/catalog.php?record_id=11567.

⁵⁷⁴ McCreight, R. (2007) *Protecting Our National Neuroscience Infrastructure: Implications for Homeland Security*, National Security and the Future of Strategic Weapons, George Washington University, Institute of Crisis, Disaster and Risk Management, January 2007, <http://www.chds.us/?fs:file&mode=dl&drm=.%2F.%2Fresources%2Fsummit%2F%2Fsummit07&f=McCreight-GeorgeWashUniv.ppt&altf=McCreight-GeorgeWashUniv.ppt>. (accessed 30th July 2009), Slide 9.

face new categories of weapons before 2020 held by several nations both friendly and hostile."⁵⁷⁵

Subsequently in 2008, the NRC report on *Emerging Cognitive Neuroscience and Related Technologies*,⁵⁷⁶ highlighted several areas of contemporary and possible future research and development applicable to incapacitant weaponisation including "*medical pharmacology, with particular attention to more potent fentanyl derivatives and inhalation anaesthetics.*"⁵⁷⁷ The report noted that "*existing pharmacological agents could be used in a nefarious way. An example would be currently used agents, such as alpha blockers, that would work quickly to drop blood pressure if delivered in high doses. In addition, anti-cholinergic agents could cause molecular changes that lead to temporary blindness.*"⁵⁷⁸ Furthermore, the report warns that nanotechnologies could be used to overcome the blood-brain barrier and thereby "*enable unparalleled access to the brain. Nanotechnologies can also exploit existing transport mechanisms to transmit substances into the brain in analogy with the Trojan horse*"⁵⁷⁹ The report also highlights the potential threats resulting from developments in nanotechnologies or gas-phase techniques that allow dispersal of highly potent chemicals over wide areas. It notes that at the present time "*pharmacological agents are not used as weapons of mass effect, because their large-scale deployment is impractical*" as it is "*currently impossible to get an effective dose to a combatant.*" However the report states that "*technologies that could be available in the next 20 years would allow dispersal of agents in delivery vehicles that would be analogous to a pharmacological cluster bomb or a land mine.*"⁵⁸⁰

Despite the potentially grave dangers resulting from such developments, Dando has recently highlighted the "*lack of engagement with this issue among life scientists*" which he considers "*alarming.*"⁵⁸¹ He also calls for careful scrutiny of the compatibility of the Convention with the development of 'non-lethal' chemical agents for law enforcement. He warns that: "*If, instead, we sit on our hands we must accept that new incapacitating agents are just the beginning.*"⁵⁸²

Ongoing inter-governmental debate concerning incapacitants

Second CWC Review Conference

A review of the open source documentation indicates that in the run-up to the Second CWC Review Conference, there were signs that the international governmental community was becoming more willing to discuss the potential dangers of the uncontrolled research and development of incapacitants. For example, during a meeting organised under the auspices of the International Union of Pure and Applied Chemistry (IUPAC) in April 2007 in preparation

⁵⁷⁵ McCreight, R. (2007) *op.cit.*, Slide 14.

⁵⁷⁶ National Research Council (2008), *Emerging Cognitive Neuroscience and Related Technologies*, http://www.nap.edu/openbook.php?record_id=12177.

⁵⁷⁷ National Research Council (2008) *op.cit.*, p.136.

⁵⁷⁸ National Research Council (2008) *op.cit.*, p.138.

⁵⁷⁹ National Research Council (2008) *op.cit.*, p.135.

⁵⁸⁰ National Research Council (2008) *op.cit.*, p.137.

⁵⁸¹ Dando, M. (2009) Biologists napping while work militarized, *Nature*, Vol.460, Issue no.7258, 20th August 2009, p.951. Dando's concerns are echoed in an accompanying *Nature* editorial entitled: "*A question of control: Scientists must address the ethics of using neuroactive compounds to quash domestic crises.*" *Nature* (20th August 2009) *op.cit.*, p.933.

⁵⁸² *Ibid.*

for the Second Review Conference (and which included a range of governmental, industry and academic participants),⁵⁸³ the issue of incapacitants and ‘non-lethal’ weapons was discussed in some depth. Recording these discussions, the IUPAC Report noted:

*“...[A] clear need exists for States Parties to the CWC to address these risks [from advances in science and technology] to the object and purpose of the CWC and to agree on the CWC compatibility (or incompatibility) of endeavours to develop and field ‘nonlethal’ weapons that utilize toxic (e.g. incapacitating) chemicals for law enforcement purposes. Should the development and acquisition of such weapons be accepted, there would clearly be a need (as in the case of riot control agents) to agree on declaration provisions for such weapons (types, quantities, and delivery systems).”*⁵⁸⁴

The IUPAC Report concluded:

*“The risks associated with advances in science and technology would increase significantly, should dedicated [chemical weapon] programmes be able to take advantage of them. There is, therefore, good reason...to carefully assess the CWC compatibility of the development of devices that use toxic chemicals for law enforcement purposes (including so called ‘nonlethal weapons’).”*⁵⁸⁵

Similarly, in certain countries, such as the UK⁵⁸⁶ and Germany,⁵⁸⁷ parliamentarians called on their respective governments to raise the issue of incapacitants at the Second Review Conference.

As with the First Review Conference, the OPCW Technical Secretariat⁵⁸⁸ and the Scientific Advisory Board⁵⁸⁹ sought to raise the issue of incapacitants in preparatory papers to Member States. In addition, the Director General referred to incapacitants in his speech to the Review Conference, something he had not done at the First Review Conference. He stated that: *“...in due course, States Parties may also wish to look into developments related to incapacitating*

⁵⁸³ There were 68 participants from 29 countries, coming from government, chemical industry, chemical research institutes, and universities. Seventeen participants from 11 countries were representatives from relevant government departments, National Authorities, and laboratories. Eleven participants were members of the OPCW SAB. Technical input was also provided by the OPCW in the form of presentations and posters.

⁵⁸⁴ Balali-Mood, M., Steyn, P., Sydnes, L., Trapp, R. (2008) International Union of Pure and Applied Chemistry (IUPAC), *Impact of Scientific Developments on the Chemical Weapons Convention (IUPAC Technical Report)*, January 2008, p.186, para 18.

⁵⁸⁵ Balali-Mood, M., Steyn, P., Sydnes, L., Trapp, R. (2008) *op.cit.*, p.178, para 5.

⁵⁸⁶ Lord Avebury, Parliamentary Question, asking whether the UK would *“propose that the role of incapacitating biochemical weapons in military operations and law enforcement be discussed at the Chemical Weapons Convention Review Conference”*. Column WA216, Hansard, 21st April 2008.

⁵⁸⁷ Draft resolution of the German Bundestag, No. 16/8755, sponsored by the Christian Democrats and Social Democrats, Unofficial translation Meier, O. <http://cwc2008.org/2008/04/12/cwc-debate-in-german-bundestag/>. Original German text of resolution (Für eine erfolgreiche Überprüfungskonferenz des Chemiewaffenübereinkommens und eine Stärkung des Vertragsregimes) available on German Bundestag website: <http://dip21.bundestag.de/dip21/btd/16/087/1608755.pdf>.

⁵⁸⁸ OPCW, Note by the Technical Secretariat Review of the Operation of the Chemical Weapons Convention Since the First Review Conference, RC-2/S/1*, 31st March 2008 [http://www.opcw.org/docs/csp/rc2/en/rc2s01+\(e\).pdf](http://www.opcw.org/docs/csp/rc2/en/rc2s01+(e).pdf) (accessed 17th January 2009).

⁵⁸⁹ OPCW, Note by the Director General, Report of the Scientific Advisory Board on Developments in Science and Technology, RC-2/DG.1, 28th February 2008, [http://www.opcw.org/docs/csp/rc2/en/rc2dg01\(e\).pdf](http://www.opcw.org/docs/csp/rc2/en/rc2dg01(e).pdf) (accessed 17th January 2009).

agents and address questions such as the effect on the Convention of their possible introduction for the purposes of law enforcement and of new means for their use."⁵⁹⁰

And that:

"...it is of particular importance to bear in mind the necessity of upholding the "General Purpose Criterion" and of incorporating it into national legislation in a manner that clearly outlaws the use of any toxic chemical as a weapon as defined under the Convention. This issue is particularly relevant in the context of concerns about the impact of new discoveries on the operation of the Convention."⁵⁹¹

During the Second Review Conference, a small number of States Parties⁵⁹² raised concerns about incapacitants and other 'non-lethal' weapons in their National Statements, with the Swiss Government declaring that: *"Switzerland fears that the uncertainty concerning the status of incapacitating agents risks to undermine the Convention. A debate on this issue in the framework of the OPCW should no longer be postponed.*"⁵⁹³

Similarly, Pakistan declared that:

*We are particularly concerned about the question of what have on different occasions been called either non-lethal agents or incapacitating agents. Irrespective of the terminology used, it is important to bear in mind that the influence of advanced military technologies has often led to a search for exploiting real or perceived loopholes in legal instruments in order to circumvent their prohibitions. It would be unfortunate if the CWC were to be subjected to similar treatment. We believe this issue needs more attention than has so far been devoted to it.*⁵⁹⁴

Switzerland also presented a formal National Working Paper on riot control and incapacitating agents, the first time that any State had done so at a CWC Review Conference. The Swiss Working Paper concluded by calling: *"upon States Parties to consider adopting during the Second Review Conference a mandate for a discussion of, inter alia, an agreed definition of incapacitating agents, the status of incapacitating agents under the Convention, and possible transparency measures for incapacitating agents.*"⁵⁹⁵

Another important reference to this issue was contained in the *"Proposal by the NAM CWC States Parties and China on the Draft Report of the Second Review Conference."* The paper recommended the following wording for the Review Conference Report: *"TSRC [The Second*

⁵⁹⁰ OPCW, Opening Statement by the Director General to the Second Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention, RC-2/DG.2, 7th April 2008, [http://www.opcw.org/docs/csp/rc2/en/rc2dg02\(e\).pdf](http://www.opcw.org/docs/csp/rc2/en/rc2dg02(e).pdf), para 57.

⁵⁹¹ OPCW, Opening Statement by the Director General to the Second Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention, RC-2/DG.2, 7th April 2008, [http://www.opcw.org/docs/csp/rc2/en/rc2dg02\(e\).pdf](http://www.opcw.org/docs/csp/rc2/en/rc2dg02(e).pdf), para 71.

⁵⁹² Analysis of the OPCW website shows that the issue of incapacitants or non-lethal chemical weapons was raised by Norway, Pakistan and Switzerland in their National Statements. The EU and Iran raised the related issue of RCAs.

⁵⁹³ Statement by Ambassador Dominik M. Alder, Permanent Representative of Switzerland to the OPCW, Second Review Conference of the Chemical Weapons Convention, General Debate, The Hague, Netherlands, 8th April 2008.

⁵⁹⁴ Statement by Mrs Kehkeshan Azhar, Acting Permanent Representative of Pakistan, Second Review Conference of the Chemical Weapons Convention, 7th-18th April 2008, p.5.

⁵⁹⁵ Switzerland Working Paper, Riot Control and Incapacitating Agents Under the Chemical Weapons Convention, The Hague, Netherlands, RC-2/NAT.12, 9th April 2008, p.5.

*Review Conference] categorically condemned the use of chemical weapons including incapacitating agents or riot control agents as a method of warfare by any State, group or individual under any circumstances.*⁵⁹⁶

Despite such interventions, once again, the majority of CWC States Parties did not raise the issue of incapacitants or ‘non-lethal’ weapons in their opening statements to the Review Conference. For some, this may have been because the issue was not considered important or relevant to them. Other States, for example the UK, appear to have believed that this Review Conference was not the right time or place to address this issue.⁵⁹⁷

However, although only a small number of States were willing to actively *raise* the issue, it does appear that many more States were willing to *discuss* it. As a Swiss official involved in the diplomatic process notes, *“In comparison to the First Review Conference the opposition to discussing incapacitants was not as strong.”*⁵⁹⁸

Indeed, during the Review Conference there appears to have been some substantive discussion of incapacitants by States Parties during the informal drafting sessions in the last week.⁵⁹⁹ As a result of such discussions, Switzerland put forward the following language on incapacitants for inclusion in the Review Conference Final Document: *“In this regard, TSRC [The Second Review Conference] noted that the use of toxic chemicals for law enforcement purposes needs to be considered further in the framework of the OPCW.”*⁶⁰⁰

According to a UK official, *“The UK supported the Swiss proposed text for the Second Review Conference (TSRC) that would have provided a basis for possible follow up action on LEC [law enforcement chemicals]...The Swiss call for follow up work to clarify the LEC issue was supported in statements to the plenary by South Africa, Pakistan and Norway. Germany too was sympathetic.”*⁶⁰¹

Indeed the Swiss believe that they received *“support from a number of States of WEOG [Western European and Others Group] and the NAM [Non-Aligned Movement]. Support was across a broad range of Member States.”*⁶⁰²

A UK official notes that *“Some SP [States Parties] opposed the Swiss proposal on the grounds that the Convention’s General Prohibitions provided sufficient guidance. Some of those SP [States Parties] subsequently engaged in negotiations to find compromise text.”*⁶⁰³

⁵⁹⁶ Note by the delegation of the Republic of Cuba addressed to the Chairperson of the Second Special Session of the Conference of the States Parties to review the operation of the Chemical Weapons Convention (Second Review Conference), The Hague, Netherlands, RC-2/CRP.2, 8th April 2008, paragraph 2.bis. Due to time constraints, this document was not a consensus text of the NAM Member States and China, but rather a compilation of proposed amendments.

⁵⁹⁷ Baroness Taylor of Bolton, Written Answer [to question referenced in footnote 586], Column WA216, *Hansard*, 21st April 2008.

⁵⁹⁸ Swiss government official, interview with author, August 2008.

⁵⁹⁹ Swiss government official, interview with author, August 2008.

⁶⁰⁰ Government of Switzerland proposed text, presented during the Second Review Conference, April 2008. Copy given to author, August 2008.

⁶⁰¹ UK government official, correspondence with author, 10th November 2008.

⁶⁰² Swiss government official, interview with author, August 2008.

⁶⁰³ UK government official, correspondence with author, 10th November 2008.

A UK official describes the process by which agreement on this text was sought.

*“A reference to ‘incapacitants’ was prepared for inclusion in the final text, the text was drafted by the UK and Swiss delegations, and US support was sought for the draft during the afternoon of the penultimate day of the conference...The UK constructively engaged with other active SPs to attempt to broker compromise between differing positions. The issue of RCA was treated separately from the “incapacitants issue” at UK suggestion. This made handling of the proposed compromise text much easier.”*⁶⁰⁴

As described in Chapter 1, the substantive negotiations on the text of the Review Conference Report were undertaken by a small group of 20 States Parties that met in the so-called ‘other meeting’. A UK official states that *“the issue of incapacitants was raised in the ‘other meeting’ at a late stage in the negotiations.”*⁶⁰⁵ It is not known what effect the ‘other meeting’ process had on attempts to include a reference to incapacitants in the Final Report. However, it must be noted that Switzerland was not party to this ‘other meeting’ and could not therefore speak to its proposed text on incapacitants. Instead the UK attempted to champion the text.

A Swiss official states that: *“We were not particularly happy with the way that the negotiations were conducted. Switzerland wasn’t in the room [when incapacitants were discussed].”*⁶⁰⁶

Although the Swiss-UK-US compromise language apparently gained widespread support from States Parties, it was not included in the Report of the Review Conference⁶⁰⁷ due to objections *“at the last minute”* by Iran.⁶⁰⁸ A UK official explained that *“Iran objected to the inclusion of text on ‘incapacitants’ in the early hours of Saturday morning after the Conference clock had been stopped. There was no opportunity to debate the matter further in view of the time pressures and the need to complete work on the rest of the outstanding issues in the draft report. Given Iranian opposition to the text, no further discussions were held once it became clear that there was no support for the compromise on the table.”*⁶⁰⁹

Following the Second CWC Review Conference, in an interview with *Arms Control Today*, an unnamed Iranian official explained Iran’s rationale for opposing the text: *“Iran was in favor of having a strong statement on the problem of incapacitants and riot control agents. We wanted a clear reference to incapacitating agents and not simply to ‘new developments in the field of toxic chemicals,’ as had been proposed by Switzerland, the United Kingdom, and the United States. We objected to that proposed language because it was too weak from our perspective and because the subject of the new proposal was different from what we expected.”*⁶¹⁰

However, a U.S. official interviewed by *Arms Control Today* rejected the Iranian reasoning. *“It doesn’t make an awful lot of sense to me,”* he said and remarked that *“there were a number of*

⁶⁰⁴ UK government official, correspondence with author, 10th November 2008.

⁶⁰⁵ UK government official, correspondence with author, 10th November 2008.

⁶⁰⁶ Swiss government official, interview with author, August 2008.

⁶⁰⁷ OPCW, ‘Report of the Second Special Session of the Conference of the States Parties to review the operation of the Chemical Weapons Convention (Second Review Conference), 7–18 April 2008’, document RC-2/4, 18 Apr. 2008.

⁶⁰⁸ Meier, O. (2008) *op.cit.*

⁶⁰⁹ UK government official, correspondence with author, 10th November 2008.

⁶¹⁰ Meier, O. (2008) *op.cit.*

*occasions when Iran was objecting to language that otherwise was not objected to by other delegations.*⁶¹¹

A different Western source told *Arms Control Today* that it was difficult to understand Iranian logic. *"In objecting to the text that was available, they threw the baby out with the bath water,"* the source said. *"Of course the language could have been stronger as several delegations would have preferred, but that simply was not going to happen given U.S. and French positions."*⁶¹²

It should be noted that although the Swiss-UK-US proposal was not included in the Final Report specifically because of Iranian objections, it is far from certain that they were the only State Party opposed to the text.

After the Second CWC Review Conference:

Although the Second Review Conference failed to agree a mechanism to discuss incapacitants, there are indications that some States Parties are interested in taking the issue forward. Swiss officials are exploring potential avenues for continuing discussions and believe that the process will continue. *"We let the genie out of the bottle and it's not going to go back again."*⁶¹³

Indeed, a number of diplomats that were contacted by *Arms Control Today* regretted that the Swiss-UK-US language had not been included in the Final Report, arguing that even weak language may have provided a hook for future debates on the issues and pointing to the fact that the United States was apparently ready to support such language even though it had previously objected to any reference relating to concerns about incapacitants.⁶¹⁴

There are indications that, in certain countries at least, there is continued support for addressing the regulation of incapacitants. In the UK, for example, a report by the influential House of Commons Foreign Affairs Committee has concluded *"that there is a case for certain biological and chemical agents which are non-lethal or which target plants, including crops and vegetation, to be prohibited from use as weapons for the purposes of these Conventions."* The report recommended *"that the [UK] Government should press for negotiations on an unambiguous prohibition on their use as weapons to commence at the next [BWC and CWC] Review Conferences."*⁶¹⁵

In August 2009, as part of its formal response to the Foreign Affairs Committee, the UK Government stated that:

*"We see no need for any negotiations to commence at the next Review Conference on an unambiguous prohibition of the use of certain biological and chemical agents, which are non-lethal or which target plants, including crops and vegetation."*⁶¹⁶

⁶¹¹ Meier, O. (2008) *op.cit.*

⁶¹² Meier, O (2008) *op.cit.* Reference to the French position merits further study, particularly given previous reports of French research (see p. 83).

⁶¹³ Swiss government official, interview with author, August 2008.

⁶¹⁴ Meier, O. (2008) *op.cit.*

⁶¹⁵ House of Commons, Foreign Affairs Committee, Global Security: Non-Proliferation, Fourth report of session 2008-9, 14th June 2009, <http://www.publications.parliament.uk/pa/cm200809/cmselect/cmcaff/222/222.pdf>, (accessed 29th June 2009), Recommendation 36.

⁶¹⁶ Response of the Secretary of State for Foreign and Commonwealth Affairs, Fourth Report from the Foreign Affairs Committee, Session 2008-09, Global Security: Non-Proliferation, August 2009, Cm 7692, Bradford Non-Lethal Weapons Research Project Report – Last updated: 7th October 2009

However, the UK Government also stated that:

*“We believe that in the long run greater clarity may be required on how incapacitating chemicals used for law enforcement purposes are to be treated under the Convention particularly in terms of increasing transparency about States Parties’ activities involving these chemicals.”*⁶¹⁷

This statement is in line with a previous response by a UK official interviewed for this report who stated that: *“HMG [Her Majesty’s Government] is ready to consider work to address the issue [of incapacitants] as part of the follow up to the Conference, if a suitable mechanism and scope of discussions can be decided. We would wish to consider the options carefully with other interested SPs [States Parties]. A very small number of SPs [States Parties] have expressed an interest in this area.”*

*“In order to make progress, it would be necessary for a significant number of SPs [States Parties] to engage with developed views on the way forward. Informal and free standing events outside the formal framework of OPCW meetings are most likely to be the next step.”*⁶¹⁸

In correspondence with the author, the then-UK Defence Secretary had previously elaborated upon the issues that such a discussion process might cover: *“We would wish to consider the options carefully with other interested States Party. Key areas that future work might address include agreement on definitions and scope, consideration of possible limitations on the use of toxic chemicals for law enforcement, and whether any measures to improve transparency are appropriate or practicable.”*⁶¹⁹

Other considerations potentially affecting regulation of incapacitants:

If States Parties do seek to discuss the regulation of incapacitants it is important that they take into consideration their obligations under all relevant international law. Although this chapter has focused upon the regulation of incapacitants under the Chemical Weapons Convention, there is a further range of international agreements and customary international law that is potentially applicable to such chemicals. This is examined below.

1) Geneva Protocol:

Under the Geneva Protocol, the High Contracting Parties acknowledge that *“the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices, has been justly condemned by the general opinion of the civilised world”* and further state that *“this prohibition shall be universally accepted as a part of International Law, binding alike the conscience and the practice of nations.”*⁶²⁰

London: The Stationery Office, <http://www.official-documents.gov.uk/document/cm76/7692/7692.pdf> (accessed 1st September 2009). p.22.

⁶¹⁷ *Ibid.*

⁶¹⁸ UK government official, correspondence with author, 10th November 2008.

⁶¹⁹ Correspondence with Crowley, M. and Dando, M., Des Browne, Secretary of State, Ministry of Defence, 9th April 2008.

⁶²⁰ Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (1925 Geneva Protocol), available from Harvard Sussex Program website, <http://www.fas.harvard.edu/~hsp/1925.html> (accessed 17th January 2009).

The comprehensive nature of the agents covered by this prohibition was reaffirmed (albeit not unanimously) by a UN General Assembly Resolution which stated:

*“Recognizing therefore, in the light of all the above circumstances, that the Geneva Protocol embodies the generally recognized rules of international law prohibiting the use in international armed conflicts of **all biological and chemical methods of warfare, regardless of any technical developments.**”*⁶²¹ [Emphasis added].

Although the scope of the chemical (and biological) agents covered by the Protocol is very broad, the prohibition relates solely to their *use*; the Protocol does not address the development, production, transfer or stockpiling of such agents. Furthermore, the Protocol’s prohibition on use is limited to situations of war (although it is now interpreted through customary international law to apply to all armed conflict).⁶²²

Despite these (and other) limitations,⁶²³ certain commentators have highlighted the importance of utilising the Geneva Protocol when interpreting the CWC, particularly the scope of the Article II ‘purposes not prohibited’. For example, Von Wagner states that *“In all cases that might be considered to be grey areas, the Geneva Protocol renders valuable assistance in confirming the narrow interpretation of the accepted exceptions to the general rules of the Convention.”*⁶²⁴

2) Biological and Toxin Weapons Convention (BWC):

Article 1 of the BWC establishes the principal obligations and prohibitions of the Convention. It declares that:

“Each State Party to the Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:

- 1. Microbial or other biological agents, or toxins, whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes.*
- 2. Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.”*⁶²⁵

Since incapacitating biochemical agents are normally either components or products of biological organisms or are synthetic biologically active analogues of such substances, they

⁶²¹ United Nations General Assembly Resolution 2603 A (XXIV) of 16th December 1969. The resolution was passed by an affirmative vote of 80 to 3 (Australia, Portugal and the United States voting against) with 36 abstentions. See: Documents Related to "Non-lethal chemicals and law enforcement including riot control", Appendix to Krutzsch, W. (2003) *op.cit.*

⁶²² Von Wagner, A. (2007) *op.cit.*, p.204.

⁶²³ A further limitation was the permissibility of reservations by States Parties. As of 2005 there were 21 States Parties with reservations to the Protocol stating that if an adverse party did not respect the Protocol, the ratifying State would no longer consider itself bound by it. For further discussion see Tabassi, L. (2004) Impact of the CWC: progressive development of customary international law and evolution of the customary norm against chemical weapons, *CBW Conventions Bulletin* 63, March 2004, <http://www.sussex.ac.uk/Units/spru/hsp/documents/CBWC63%20Tabassi.pdf>, (accessed 17th January 2009); Henckaerts, J. and Doswald-Beck, L. (2005) *Customary International Humanitarian Law* (Cambridge: Cambridge University Press), pp.260-261.

⁶²⁴ Von Wagner, A. (2007) *op.cit.*, p.204.

⁶²⁵ Biological Weapons Convention, 1972, Biological and Toxin Weapons Convention Website, <http://www.opbw.org/convention/documents/btwctext.pdf>, (accessed 17th January 2009), Article 1.

appear to fall within the scope of Article 1, particularly if one considers the term “*other biological agents*” broadly. A small number of prominent arms control experts believe that incapacitating biochemical weapons come under the ambit of the BWC.⁶²⁶ For example, Chevrier and Leonard, who have undertaken an analysis of the BWC and relevant negotiating history:

*“...conclude that the development of biochemicals for deliberate hostile use to impair the physical or mental functions of humans without their consent would be a violation of the Convention. Any attempt to reconcile the prohibitions of the BWC with an interpretation that would allow the development, production or use of such biochemical weapons would not be credible given the historical record.”*⁶²⁷

Although the vast majority of States have made no public statements on this issue, some such as the UK recognise the applicability of the BWC to incapacitating biochemical weapons. In August 2009 as part of its response to the Fourth Report from the Foreign Affairs Committee, the UK Government stated that:

*“Development, production, retention, acquisition or use of “Incapacitating biochemical weapons” are prohibited by both [BWC and CWC] Conventions. Use of the word “weapons” here is crucial. We must recall that although there is no express prohibition on use in the BTWC, the Fourth Review Conference in 1996 reaffirmed that the use in any way and under any circumstances of microbial or other biological agents or toxins that is not consistent with prophylactic, protective or other peaceful purposes, is effectively a violation of Article I of the Convention. This point was reiterated at the Sixth Review Conference in 2006.”*⁶²⁸

Although the BWC does appear to cover certain incapacitants (including bioregulators and toxins), there are ambiguities regarding the nature and scope of such coverage. For example, since the terms “*hostile purposes*” and “*peaceful purposes*” have not been defined under the Convention, it is unclear how the use of such incapacitants for counter-terrorist, counter-insurgency or military operations short of armed conflict would be regulated by the BWC. To date, there have been no determinations of these issues by the BWC States Parties at either the BWC Review Conferences or other policy making organs.⁶²⁹ Further important limitations on the value of the BWC (and its control regime) as a tool to regulate incapacitants arise from its current lack of effective verification and compliance mechanisms, and also the absence of an

⁶²⁶ For a discussion of incapacitants and the BWC see: Chevrier, M. and Leonard, J. Incapacitating biochemicals and the Biological Weapons Convention, in Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit*; Dando, M. *The Danger to the Chemical Weapons Convention from Incapacitating Chemicals*, Bradford University, March 2003, http://www.brad.ac.uk/acad/scwc/cwcrep/cwcrep_4.pdf; Dando, M., Scientific outlook for the development of incapacitants, in Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit*; Fidler, D. (2007) *op.cit*; Lewer, N. and Davison, N., Non-lethal technologies – an overview, *Disarmament Forum*, UNIDIR, 2005, <http://www.unidir.org/pdf/articles/pdf-art2217.pdf>; Pearson, G. (2002) *Relevant scientific and technological developments for the First CWC Review Conference: The BTWC Review Conference Experience*, Bradford University, August 2002, http://www.brad.ac.uk/acad/scwc/cwcrep/cwcrep_1.pdf; Wheelis, M., Biotechnology and Biochemical Weapons, *The Nonproliferation Review*, vol. 9, no. 1, 2002.

⁶²⁷ Chevrier, M. and Leonard, J. (2007) *op.cit*, p.221.

⁶²⁸ Response of the Secretary of State for Foreign and Commonwealth Affairs (2009) *op.cit*, p.22.

⁶²⁹ Analysis was undertaken of relevant, publicly available, documentation from BWC Review Conferences and Meetings of Governmental Experts. Documents are available on the Biological and Toxin Weapons Convention Website which is administered by Bradford University at the request of the President of the 6th BWC Review Conference. <http://www.opbw.org/>.

international organisation to coordinate such activities and facilitate implementation by States Parties.⁶³⁰

3) *International humanitarian law:*

International humanitarian law (IHL) is the body of law applicable during situations of armed conflict. It deals with the manner in which fighting is conducted and also with the protection of victims of such conflict. The agreements of potential relevance to incapacitants include:

- The Four Geneva Conventions of 1949;⁶³¹
- Protocol I Additional to the 1949 Geneva Conventions, and Relating to the Protection of Victims of International Armed Conflicts;⁶³²
- Protocol II Additional to the 1949 Geneva Conventions, and Relating to the Protection of Victims of Non-International Armed Conflicts.⁶³³

There are a number of obligations arising from IHL which potentially constrain the development and utilisation of incapacitants by States.⁶³⁴ These include:

- The obligation that “*Persons taking no active part in the hostilities, including members of armed forces who have laid down their arms and those placed hors de combat by sickness, wounds, detention, or any other cause, shall in all circumstances be treated humanely.*”⁶³⁵ The ICRC has highlighted its concerns that the use of incapacitants in armed conflict would “*make it difficult or impossible to determine when a combatant is “out of action” and thereby afforded protection and assistance. An incapacitated combatant would probably not appear to be injured and may be unable to show a sign of surrender. It would be difficult to train soldiers to distinguish whether an enemy were incapacitated or remained a threat. The resulting combination of incapacitants and lethal force could significantly increase the lethality of armed conflicts.*”⁶³⁶
- The prohibition upon the employment of “*weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering [SIRUS].*”⁶³⁷ Herby, head of the Arms Unit in the Legal Division of the ICRC, has argued

⁶³⁰ For further analysis of the BWC and its implementation, see: Bradford Project on Strengthening the Biological and Toxin Weapons Convention (BTWC) <http://www.brad.ac.uk/acad/sbtwc/>.

⁶³¹ For text and commentaries upon the Four Geneva Conventions see International Humanitarian Law – treaties and documents, International Committee of the Red Cross, <http://www.icrc.org/ihl.nsf/CONVPRES?OpenView> (accessed 17th January 2009).

⁶³² 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, International Committee of the Red Cross, <http://www.icrc.org/ihl.nsf/CONVPRES?OpenView>, (accessed 17th January 2009).

⁶³³ 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, International Committee of the Red Cross, <http://www.icrc.org/ihl.nsf/CONVPRES?OpenView>, (accessed 17th January 2009).

⁶³⁴ For a detailed discussion of this issue see: Coupland, R. Incapacitating biochemical weapons: risks and uncertainties, in Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit.*; Fidler, D. (2005) *op.cit.*; Hampson, F. International law and the Regulation of Weapons, in Pearson, A., Chevrier, M. & Wheelis (2007) *op.cit.*; Herby, P., Protecting and reinforcing humanitarian norms: the way forward, in Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit.*

⁶³⁵ Geneva Conventions, ICRC, <http://www.icrc.org/ihl.nsf/7c4d08d9b287a42141256739003e636b/fe20c3d903ce27e3c125641e004a92f3>, (accessed 17th January 2009), Common Article 3.1.

⁶³⁶ Statement of the International Committee of the Red Cross, First Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention, The Hague 28th April-9th May 2003.

⁶³⁷ 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, Article 35.

that ‘non-lethal’ biochemical weapons should not be assumed to “*merely incapacitate by making a person sleep.*” Instead he raises the potential dangers that such weapons, if they resulted in effects such as “*lifelong epileptic convulsions, permanent damage to internal organs, long-term and severe vomiting, or an extended coma*” could violate the SIRUS prohibition.⁶³⁸

- The prohibition of deliberate attacks on civilians⁶³⁹ and of attacks that do not discriminate between civilians and military objectives.⁶⁴⁰ Herby has stated that “*It is likely that the use of incapacitants will lower the threshold for attacks that affect civilians and combatants without distinction, with an inherent risk that this rule[prohibiting indiscriminate attacks] will be undermined.*”⁶⁴¹
- The obligation upon all High Contracting Parties to Additional Protocol 1, “*in the study, development, acquisition or adoption of a new weapon, means or method of warfare...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.*”⁶⁴² Reference to this obligation was subsequently included in the *Declaration and Agenda for Humanitarian Action*, agreed by the 2003 International Conference of the Red Cross and Red Crescent.⁶⁴³ Under this *Declaration*, States Parties to the Protocol “*are urged to establish review procedures to determine the legality of new weapons, means and methods of warfare*” whilst other States “*should consider establishing such review procedures.*” The reviews “*should involve a multidisciplinary approach, including military, legal, environmental and health-related considerations.*”⁶⁴⁴ Furthermore, States were “*encouraged to review with particular scrutiny all new weapons, means and methods of warfare that cause health effects with which medical personnel are unfamiliar.*”⁶⁴⁵

IHL is only applicable to situations of armed conflict.⁶⁴⁶ Consequently it appears that the important constraints that IHL potentially imposes on the development and use of incapacitants would not be directly applicable for such weapons designed and utilised solely for law enforcement activities that fell short of armed conflict. In such situations, however international human rights law may be applicable.

4) International human rights law:

There is a range of international human rights law – particularly that concerning the prohibition against torture and other cruel, inhuman or degrading treatment or punishment; and that protecting the right to life – that may be applicable to the regulation of incapacitants.⁶⁴⁷

⁶³⁸ Herby, P. (2007) *op.cit*, p.286.

⁶³⁹ 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, Article 51.

⁶⁴⁰ 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, Articles 48 and 51.4.

⁶⁴¹ Herby, P. (2007) *op.cit*, p.204.

⁶⁴² 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, Article 36.

⁶⁴³ International Conference of the Red Cross and Red Crescent, Geneva, 2-6 December 2003, Declaration and Agenda for Humanitarian Action, [http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/p1103/\\$File/ICRC_002_1103.PDF](http://www.icrc.org/web/eng/siteeng0.nsf/htmlall/p1103/$File/ICRC_002_1103.PDF), (accessed 17th January 2009).

⁶⁴⁴ ICRC, Declaration and Agenda for Humanitarian Action, 2003, Actions proposed: 2.5.1.

⁶⁴⁵ ICRC, Declaration and Agenda for Humanitarian Action, 2003, Actions proposed: 2.5.2.

⁶⁴⁶ Hampson, F. (2007) *op.cit*, p.237.

⁶⁴⁷ For a full discussion of this issue see: Aceves, J. Human Rights Law and the Use of Incapacitating Biochemical Weapons, in Pearson, A., Chevrier, M. & Wheelis, M. (2007) *op.cit*; Fidler, D. (2005) *op.cit*; Fidler, Bradford Non-Lethal Weapons Research Project Report – Last updated: 7th October 2009

Potentially applicable agreements include the International Covenant on Civil and Political Rights,⁶⁴⁸ UN Convention against Torture,⁶⁴⁹ UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials,⁶⁵⁰ the UN Code of Conduct for Law Enforcement Officials⁶⁵¹ and the UN Standard Minimum Rules for the Treatment of Prisoners.⁶⁵² In addition there are a number of regional agreements that may also be applicable, such as the African Charter on Human and Peoples Rights,⁶⁵³ American Convention on Human Rights⁶⁵⁴ and European Convention on the Protection of Human Rights and Fundamental Freedoms.⁶⁵⁵

Prohibition on cruel, inhuman or degrading treatment

Following an analysis of relevant law, Aceves concludes that:

*“...[T]he prohibition against cruel, inhuman or degrading treatment places significant restrictions on the use of incapacitating biochemical weapons. These weapons are designed to impair the physical and mental integrity of the individual. Depending on the nature, duration and long-term effects of this impairment, the use of incapacitating biochemical weapons can give rise to a claim of cruel, inhuman, or degrading treatment.”*⁶⁵⁶

Fidler states that: *“Non-consensual, non-therapeutic use of any chemical or biochemical against detained individuals would constitute degrading treatment and could, constitute cruel or inhumane treatment and perhaps even torture.”*⁶⁵⁷ However, he does believe that there may be situations where use of incapacitants might be compatible with international human rights law where the detained person poses an immediate, violent threat to himself or to safety and order in the detention facility.⁶⁵⁸

D. (2007) *op.cit*; Hampson, F. (2007) *op.cit*. The potential application of international human rights law to the use and misuse of RCAs was discussed in Chapter 2.

⁶⁴⁸ United Nations, International Covenant on Civil and Political Rights, 16th December 1966, http://www.unhchr.ch/html/menu3/b/a_cescr.htm.

⁶⁴⁹ United Nations, Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, adopted and opened for signature, ratification and accession by General Assembly resolution 39/46 of 10th December 1984 http://www.unhchr.ch/html/menu3/b/h_cat39.htm.

⁶⁵⁰ United Nations, UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials, 7th September 1990, http://www.unhchr.ch/html/menu3/b/h_comp43.htm.

⁶⁵¹ United Nations, UN Code of Conduct for Law Enforcement Officials, Adopted by General Assembly resolution 34/169 of 17 December 1979, http://www.unhchr.ch/html/menu3/b/h_comp42.htm.

⁶⁵² United Nations, UN Standard Minimum Rules for the Treatment of Prisoners, Adopted by the First United Nations Congress on the Prevention of Crime and the Treatment of Offenders, held at Geneva in 1955, and approved by the Economic and Social Council by its resolution 663 C (XXIV) of 31 July 1957 and 2076 (LXII) of 13 May 1977, http://www.unhchr.ch/html/menu3/b/h_comp34.htm.

⁶⁵³ African Charter on Human and Peoples Rights, adopted by Organisation of African Unity on 27th June 1981, <http://www.hrcr.org/docs/Banjul/afrhr.html>.

⁶⁵⁴ American Convention on Human Rights, Signed at the Inter-American Specialized Conference on Human Rights, San Jose, Costa Rica, 22 November 1969, http://www.hrcr.org/docs/American_Convention/oashr.html.

⁶⁵⁵ European Convention on the Protection of Human Rights and Fundamental Freedoms, signed by Member States of Council of Europe, 4th November 1950, <http://conventions.coe.int/treaty/en/Treaties/Html/005.htm>.

⁶⁵⁶ Aceves, W. (2007) *op.cit*, p.271.

⁶⁵⁷ Fidler, D. (2007) *op.cit*, p.176.

⁶⁵⁸ Fidler, D. (2007) *op.cit*, p.176.

Protection of the right to life:

Certain legal experts believe that the use of incapacitants may be permissible in extreme law enforcement situations where authorities need to resort to potentially lethal force to resolve urgent, life threatening situations because less violent and dangerous methods have failed. However, even in such extreme situations the obligation to protect the right to life maintains.⁶⁵⁹

Aceves states that: “...[T]he right to life norm places strict limits on the use of force, which includes the use of incapacitating biochemical weapons...States must, therefore, act with due diligence in all cases involving these weapons. The use of these weapons must be carefully regulated and cannot cause indiscriminate harm. Their use must be proportionate to the perceived threat and must be justified under the circumstances.”⁶⁶⁰

Furthermore, Fidler believes. “The inability to control dosage or exposure environment in extreme law enforcement emergencies heightens government responsibility to ensure all precautions are taken to minimize harm to innocent people and to provide immediate and adequate medical attention to those exposed and perhaps adversely affected.”⁶⁶¹

It is significant that two United Nations human rights bodies have issued statements about the Russian Federation use of an incapacitant. In a January 2003 report, the UN Special Rapporteur on Extra-Judicial, Summary or Arbitrary Executions expressed concern: “about the actions by Russian police/security forces in the October 2002 incident in a Moscow theatre where Chechen separatists were holding several hundred civilians hostage. During the attack against the separatists more than 100 civilians died, allegedly because of a gas deployed by the Russian forces to disable the hostage takers. The Special Rapporteur has been collecting information from various sources about the incident and plans to take the issue up in 2003 with the Government of the Russian Federation.”⁶⁶² To date, the results of the Rapporteur’s activities on this issue have not been made public.

Subsequently, in June 2003, the UN Human Rights Committee declared that:

“While acknowledging the serious nature of the hostage-taking situation, the Committee cannot but be concerned at the outcome of the rescue operation in the Dubrovka theatre in Moscow on 26 October 2002. The Committee notes that various attempts to investigate the situation are still under way but expresses its concern that there has been no independent and impartial assessment of the circumstances, regarding medical care of the hostages after their liberation and the killing of the hostage-takers. The State Party should ensure that the circumstances of the rescue operation in the Dubrovka theatre are subject to an independent, in depth investigation, the results of which are made public, and, if appropriate, prosecutions are initiated and compensation paid to the victims and their families.”⁶⁶³

⁶⁵⁹ See for example, Fidler, D. (2007) *op.cit.*, pp.174-176.

⁶⁶⁰ Aceves, W. (2007) *op.cit.*, p.286.

⁶⁶¹ Fidler, D. (2007) *op.cit.*, p.175.

⁶⁶² UN Commission on Human Rights, Report of the Special Rapporteur, Asma Jahangir, submitted pursuant to Commission on Human Rights resolution 2002/36, E/CN.4/2003/3, 13th January 2003, http://www.extrajudicialexecutions.org/reports/E_CN_4_2003_3.pdf, (accessed 17th January 2009), p.15, para 34.

⁶⁶³ United Nations, UN Human Rights Commission, Concluding observations of the Human Rights Committee: Russian Federation, 06/11/2003, CCPR/CO/79/RUS. http://www.ccprcentre.org/doc/HRC/Russia/CCPR_CO_79_RUS_eng.pdf, (accessed 17th January 2009), pp.3-4, para 14.

A review of relevant publicly available documentation indicates that no fully independent in-depth investigation appears to have been conducted by the Russian Federation into the circumstances of the rescue operation. No further reference appears to this incident in subsequent reports of the UN Human Rights Committee.

Leading non-governmental human rights organisations have also raised concerns about the use of incapacitants by the Russian Federation.⁶⁶⁴ Indeed the dangers of the application of incapacitants have led Amnesty International to recommend that all governments:

*“Refrain from using incapacitating chemical agents designed to sedate people for law enforcement purposes unless it can be demonstrated impartially that the agent has been proven to have legitimate use with a suitable margin of safety which will ensure that individuals are only exposed to incapacitating and not lethal concentrations, and will be protected from indiscriminate or arbitrary effects as required by international human rights standards.”*⁶⁶⁵

5) Rome Statute of the International Criminal Court (ICC):

The International Criminal Court (ICC), governed by the Rome Statute, is the first permanent, treaty based, international criminal court established to help end impunity for the perpetrators of the most serious crimes of concern to the international community.⁶⁶⁶ Pursuant to the Rome Statute, the ICC Prosecutor can initiate an investigation on the basis of a *referral* from any State Party or from the United Nations Security Council. In addition, the Prosecutor can initiate investigations *proprio motu* on the basis of information on crimes within the jurisdiction of the Court received from individuals or organisations.⁶⁶⁷

The Rome Statute⁶⁶⁸ asserts jurisdiction over war crimes, crimes against humanity and genocide. The Statute’s definition of “war crimes” includes:

*“Employing asphyxiating, poisonous or other gases, and all analogous liquids, materials or devices.”*⁶⁶⁹

The use of incapacitants, in certain circumstances, may potentially fall within this definition and be considered a war crime, with the possibility that those responsible for such acts might be tried before the Court.⁶⁷⁰ However, the scope of ICC applicability is restricted.⁶⁷¹ According to

⁶⁶⁴ Human Rights Watch, press release: *Independent Commission of Inquiry Must Investigate Raid on Moscow Theater: Inadequate Protection for Consequences of Gas Violates Obligation to Protect Life*, 30th October 2002; Amnesty International (2003) *Rough Justice: The law and human rights in the Russian Federation*, October 2003 (AI Index EUR 46/054/2003).

⁶⁶⁵ Amnesty International (2003) *The Pain Merchants: security equipment and its use in torture and other illtreatment*, December 2003, <http://www.amnesty.org/en/library/asset/ACT40/008/2003/en/dom-ACT400082003en.pdf> (accessed 17th January 2009), p.76.

⁶⁶⁶ About the court, ICC website, <http://www.icc-cpi.int/Menus/ICC/About+the+Court/> (accessed 31st March 2009).

⁶⁶⁷ Situations and cases, ICC website, <http://www.icc-cpi.int/Menus/ICC/Situations+and+Cases/> (accessed 31st March 2009).

⁶⁶⁸ Rome Statute of the International Criminal Court, 17th July 1998, A/CONF.183/9, http://www.icc-cpi.int/NR/rdonlyres/EA9AEFF7-5752-4F84-BE94-0A655EB30E16/0/Rome_Statute_English.pdf.

⁶⁶⁹ Rome Statute of the International Criminal Court, Article 8 (2) (b) (xviii).

⁶⁷⁰ For discussion of ICC and chemical weapons see: Aceves, W. (2007) *op.cit.*; Hampson, F. (2007) *op.cit.*; Tabassi, L. (2004) Impact of the CWC: progressive development of customary international law and evolution of the customary norm against chemical weapons, *CBW Conventions Bulletin* 63, March 2004, <http://www.sussex.ac.uk/Units/spru/hsp/documents/CBWC63%20Tabassi.pdf>, (accessed 17th January 2009).

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Tabassi, the ICC would only have jurisdiction over cases involving the *use* of chemical weapons, but not cases solely involving development, production, transfer or stockpiling of such agents.⁶⁷² Furthermore, ICC jurisdiction would only cover use in an international armed conflict. Cases involving the use of chemical weapons in internal armed conflicts or for law enforcement operations apparently would not be covered.⁶⁷³

6) United Nations International Drug Control Conventions:

Single Convention on Narcotic Drugs (SCND):⁶⁷⁴ The principal objectives of this Convention are to limit the possession, use, trade in, distribution, import, export, manufacture and production of narcotic drugs exclusively to medical and scientific purposes, and also to address drug trafficking through international cooperation.⁶⁷⁵

The explicit restriction of narcotic drugs '*exclusively to medical and scientific purposes*,'⁶⁷⁶ appears to put into question the legitimacy of the development and use of narcotic drugs by States Parties for activities such as law enforcement. However, there are no documents publicly available of the States Parties or relevant organs of the SCND⁶⁷⁷ clarifying this issue.⁶⁷⁸

Other provisions of the SCND may also be of relevance to the regulation of incapacitants. For example, the Convention obliges States Parties to provide the International Narcotics Control Board (INCB)⁶⁷⁹ with annual estimates of drug requirements⁶⁸⁰ and drug production⁶⁸¹ for scheduled chemicals⁶⁸² (which include some drugs that have been explored as potential 'law enforcement' incapacitants, such as fentanyl). Given the limited information publicly available, it is not possible to determine whether States Parties to the Convention that have undertaken research into, or development of, 'law enforcement' incapacitants with narcotic properties have provided details of such activities to the INCB.⁶⁸³ Furthermore, it is not known whether the INCB has investigated the use and presumptive stockpiling of scheduled chemicals by the Russian Federation (i.e. the derivative of fentanyl used in the Moscow theatre siege) and if so what the outcome of such investigations has been.

⁶⁷¹ The Court's jurisdiction is limited to nationals of States Parties that have ratified the Statute. Furthermore the Court will not admit cases that are being, or have already been, investigated or prosecuted by a State which has jurisdiction over the case, unless the State is unwilling or unable. See Tabassi, L. (2004) *op.cit.*, p.2, p.6.

⁶⁷² Tabassi, L. (2004) *op.cit.*, p.2.

⁶⁷³ The potential exceptions to this being acts of genocide or crimes against humanity. See Tabassi, L. (2004) *op.cit.*, p.2.

⁶⁷⁴ United Nations, Single Convention on Narcotic Drugs, 1961, http://www.incb.org/incb/convention_1961.html, (accessed 31st March 2009).

⁶⁷⁵ See introduction to convention on International Narcotics Control Board website, http://www.incb.org/incb/convention_1961.html, (accessed 31st March 2009).

⁶⁷⁶ United Nations, Single Convention on Narcotic Drugs, Article 4.

⁶⁷⁷ For function and composition of the International Control Organs see Single Convention on Narcotic Drugs, Articles 6-15.

⁶⁷⁸ A review was undertaken of relevant documents publicly available on the INCB website, <http://www.incb.org>.

⁶⁷⁹ For mandate and functions of the INCB see <http://www.incb.org/incb/en/mandate.html>.

⁶⁸⁰ United Nations, Single Convention on Narcotic Drugs, Article 19.1 and 19.2.

⁶⁸¹ United Nations, Single Convention on Narcotic Drugs, Article 20.

⁶⁸² It should be noted that the lists of chemicals scheduled under the SCND are completely different to the three categories of scheduled chemicals found in the CWC.

⁶⁸³ A review was undertaken of International Narcotics Control Reports and other relevant documents publicly available on the INCB website, <http://www.incb.org> (accessed 31st March 2009).

The UN Convention on Psychotropic Substances:⁶⁸⁴ This Convention establishes an international control system for psychotropic substances. It was developed in response to the diversification and expansion of the spectrum of drugs of abuse and it introduced controls over a number of synthetic drugs according to their abuse potential on the one hand and their therapeutic value on the other.⁶⁸⁵ Once again, whilst the Convention establishes a range of scheduled chemicals and limits their use to “*medical and scientific purposes*”,⁶⁸⁶ the legitimacy of States Parties employing such chemicals for activities such as law enforcement is not specifically addressed in the Convention nor has this issue been subsequently clarified by the States Parties.⁶⁸⁷

7) Multilateral export agreements:

Certain multilateral and regional agreements restrict or regulate the transfer of specific incapacitants or their precursors. These include:

The Australia Group: The members of the Australia Group (AG)⁶⁸⁸ do not undertake any legally binding obligations, however they have developed Common Control Lists which should be reflected in the national export control regimes of all participants. Although incapacitants do not appear to be specifically addressed under the control regime, the Chemical Weapons Precursors Common Control List⁶⁸⁹ does include precursors of the incapacitant BZ. In June 2007 the AG agreed Guidelines for Transfers of Sensitive Chemical or Biological Items.⁶⁹⁰

The Wassenaar Arrangement: The States participating in the Wassenaar Arrangement (WA)⁶⁹¹ have agreed to:

- maintain national export controls on a range of commonly agreed listed items (which include certain chemical agents). These controls are implemented via national legislation;
- report on transfers and denials of specified controlled items to destinations outside the Arrangement;
- exchange information on sensitive dual-use goods and technologies;
- be guided by agreed Best Practices, Guidelines or Elements.⁶⁹²

⁶⁸⁴ United Nations, Convention on Psychotropic Substances, 1971, http://www.incb.org/incb/convention_1971.html, (accessed 31st March 2009).

⁶⁸⁵ See introduction to convention on INCB website, http://www.incb.org/incb/convention_1971.html.

⁶⁸⁶ United Nations, Convention on Psychotropic Substances, Article 5.

⁶⁸⁷ A review was undertaken of relevant documents publicly available on the INCB website, <http://www.incb.org>.

⁶⁸⁸ The participating States are Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and the United States. The European Commission also participates.

⁶⁸⁹ Australia Group, Export Control List: Precursors, <http://www.australiagroup.net/en/precursors.html>.

⁶⁹⁰ Australia Group, Guidelines for Transfers of Sensitive Chemical or Biological Items, <http://www.australiagroup.net/en/guidelines.html>.

⁶⁹¹ The Participating States of the Wassenaar Arrangement are: Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom and United States.

⁶⁹² Wassenaar Arrangement website, <http://www.wassenaar.org/introduction/index.html>, (accessed 31st July 2009).

Incapacitating chemical agents are specified in the WA control list⁶⁹³ under ML7⁶⁹⁴ as: “b.3. CW incapacitating agents, **such as: 3-Quinuclidinyl benzilate (BZ) (CAS 6581-06-2);**” [Emphasis added].

Although only BZ is specifically mentioned in the control list at present, the wording of ML7 appears to imply that other incapacitating agents *can* be added to this list.

EU Common Military List and Code of Conduct:

The EU Common Military List⁶⁹⁵ effectively replicates the Wassenaar Control List wording with regard to incapacitants – specifically mentioning BZ and implying other incapacitating agents can be added to the control list. EU States wishing to export items on the Control List, or their own national control lists, are politically directed (but not legally bound) by the EU Code of Conduct on Arms Exports⁶⁹⁶ (see Chapter 2 for further discussion).

It is apparent even from this brief survey that there are a number of international agreements, beyond the CWC, that are potentially applicable to the regulation of incapacitants. The situation is a highly complex one with certain agreements or aspects of law being applicable in a limited range of circumstances or to a limited number of States (which may not include all CWC States Parties). Furthermore, there appear to be areas where certain agreements or applicable law potentially overlap with relevant provisions of the CWC.

Despite such complexities, it is important that CWC States Parties give full and careful consideration to the application of all relevant international law; firstly because of the direct obligations that arise from such law which may either prohibit or severely restrict development, production, stockpiling, transfer and use of incapacitants beyond that prescribed in the CWC, but also because such international law should inform the interpretation and implementation of the relevant provisions of the CWC.

⁶⁹³ The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, List of Dual-Use Goods and Technologies and Munitions List, WA-LIST (07) 2 Corr. *, 06-12-2007 [http://www.wassenaar.org/controllists/2007/WA-LIST%20\(07\)%202%20Corr.pdf](http://www.wassenaar.org/controllists/2007/WA-LIST%20(07)%202%20Corr.pdf), (accessed 31st July 2009).

⁶⁹⁴ *Ibid.*

⁶⁹⁵ European Union, Common Military List of the European Union, adopted by the Council on March 2008, http://209.85.229.132/search?q=cache:c0_RCLdMbNQJ:eur-lex.europa.eu/LexUriServ/LexUriServ.do%3Furi%3DOJ:C:2008:098:0001:0032:EN:PDF+eu+common+military+list&cd=1&hl=en&ct=clnk&gl=uk, (accessed 31st July 2009).

⁶⁹⁶ European Union, EU Code of Conduct on Arms Exports, European Union 8675/2/98 <http://consilium.europa.eu/uedocs/cmsUpload/08675r2en8.pdf>, (accessed 31st July 2009). The EU Code was established in 1996 and has now been adopted by all 27 States of the European Union.

Chapter 4: Delivery and dispersal mechanisms and their regulation under the CWC

Definition of means of delivery

Under Article 2.1 of the CWC, the definition of a chemical weapon specifically includes:

“(b) munitions and devices specifically designed to cause death or other harm through the toxic properties of those toxic chemicals specified in subparagraph (a), which would be released as a result of the employment of such munitions and devices;
*(c) any equipment specifically designed for use directly in connection with the employment of the munitions and devices referred to in (b).”*⁶⁹⁷ [Emphasis added].

Furthermore Article 2.2 of the CWC defines a toxic chemical as:

*“Any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere.”*⁶⁹⁸ [Emphasis added].

Whilst the Technical Secretariat has provided States Parties, upon request, with technical guidance on this issue,⁶⁹⁹ it is the responsibility of States Parties to interpret the meaning and appropriate application of the Convention in this area. In such determinations the States Parties must ensure that all relevant obligations under the Treaty are fulfilled, including the ‘general obligations’,⁷⁰⁰ the ‘types and quantities’ restriction,⁷⁰¹ the ‘purposes not prohibited’ criteria,⁷⁰² and the prohibition on the use of RCAs as a ‘method of warfare’.⁷⁰³

Consequently whilst States Parties to the CWC would be prohibited from developing RCA munitions for offensive military operations, they may manufacture delivery systems to disseminate certain toxic chemicals for law enforcement purposes.

As NATO’s Research and Technology Organization notes:

*“The employment of chemicals as NLT [Non-Lethal Technologies] has to be compatible with use, thus demonstrating intent. For example, whereas CS in hand or baton round sized canisters would be considered legitimate law enforcement equipment, 155mm shells filled with CS would clearly be considered as preparation to use riot control agent in waging war, prohibited under the CWC.”*⁷⁰⁴

⁶⁹⁷ OPCW, Chemical Weapons Convention, Article 2.1.

⁶⁹⁸ OPCW, Chemical Weapons Convention, Article 2.2.

⁶⁹⁹ Correspondence with former OPCW official, 1st March 2009.

⁷⁰⁰ OPCW, Chemical Weapons Convention, Article 1.1.a-d.

⁷⁰¹ OPCW, Chemical Weapons Convention, Article 2.1.a.

⁷⁰² OPCW, Chemical Weapons Convention, Article 2.9.

⁷⁰³ OPCW, Chemical Weapons Convention, Article 1.5.

⁷⁰⁴ NATO, Research and Technology Organisation, AC/323(HFM-073)TP/65, The Human Effects of Non-Lethal Technologies, August 2006, <http://www.rta.nato.int/Pubs/RDP.asp?RDP=RTO-TR-HFM-073>, (accessed 20th July 2009) chapter 6, p.9.

Dispersal mechanisms for law enforcement

Although the CWC does not list the kinds of acceptable or non-acceptable delivery systems for use with toxic chemicals in law enforcement scenarios, it does place an important constraint upon such systems through the 'types and quantities' restriction. Consequently, a range of munitions and delivery systems which have a narrow dispersal area and emit a limited quantity of agent - such as hand-thrown RCA canisters and grenades or hand-held spray disseminators, appear to be in accord with the 'types and quantities' restriction, and, if used appropriately, would be consistent with 'law enforcement' purposes under the Convention. However, there are a range of dispersal mechanisms that have been developed and deployed for law enforcement purposes which deliver larger amounts of chemical agent over wider areas. Certain forms of 'wide area' dispersal mechanism may be more open to misuse than narrow area dispersal mechanisms. Indeed, human rights organisations have raised concerns at the potential for certain 'wide area' mechanisms to facilitate human rights abuses.

A submission to a US Government consultation process by Amnesty International USA (AIUSA) and the Omega Research Foundation (ORF) has noted that several delivery mechanisms "*raise concerns regarding safety, lethality, discrimination and the potential for ill-treatment.*"⁷⁰⁵ Among those highlighted in the AIUSA/ORF report are backpack sprayers and commercially available water cannon.

Larger backpack or tank irritant "sprayer" devices: These devices are designed for the 'wide-area' delivery of irritant liquid or powder which was often previously delivered at close quarters in hand-held sprays. AIUSA/ORF believe that these devices raise questions about the possibility of their discriminate use, and their proportionality as area clearance devices, particularly since they deliver liquid or powder irritants which will adhere to subjects and, without decontamination, will continue to deliver pain and irritation even when the subjects have moved away from the area (unlike irritant smoke delivered through grenades and canisters). One of the devices highlighted in the AIUSA/ORF report promises to deliver screens of "up to 100%" CS powder,⁷⁰⁶ which AIUSA/ORF believe "*raise serious concerns about the safety of the device.*"⁷⁰⁷

Certain forms of commercially-available water cannon: Water cannon are essentially crew served high pressure pumping systems, usually mounted on heavy trucks, designed to shoot jets of water at the target. A number of such devices are now designed to deliver chemical irritants. For example, Manta riot control water cannon vehicles produced by Protech Armor Systems (USA) incorporate "*high-pressure chemical and dye dispensing cannon with adjustable spray stream features.*" They are "*equipped with a 2,000-gallon water storage tank and can produce approximately 250 lbs. of pressure.*"⁷⁰⁸ Employment of water cannon utilising chemical irritant⁷⁰⁹ in potentially inappropriate circumstances has been reported in certain countries including Kenya,⁷¹⁰ Indonesia⁷¹¹ and Malaysia.⁷¹² As well as water cannon and armoured personnel carriers, chemical irritant

⁷⁰⁵ Amnesty International USA & Omega Research Foundation, (2008) *Submission in Response to Bureau of Industry and Security Request for Public Comments on Crime Control License Requirements in Export Administration Regulations*, 17th June 2008, www.regulations.gov/fdmspublic/ContentViewer?objectId=090000648062f112&disposition=attachment&contentType=pdf, (accessed 3rd July 2009), p.8.

⁷⁰⁶ Company specifications for SNPE (France) Crotale 2000 irritant sprayer: "*Irritant agent generators can release either a screen of powder composed of 10 to 100% CS, or a screen of tiny droplets containing 2 to 20% dissolved CS*". As cited in AIUSA/ORF (2008) *op.cit*, p.8.

⁷⁰⁷ AIUSA/ORF (2008) *op.cit*, p.8.

⁷⁰⁸ See Protech Armor Systems website for product information: <http://www.protecharmored.com/Speciality-Vehicles.aspx>, (accessed 27th July 2009).

⁷⁰⁹ The specific make/manufacturer of the water cannon used in these incidents has not been confirmed.

⁷¹⁰ Agence France Presse, 30th January 1999, Kenya. Dozens injured as Kenyan police tackle eco-protestors. As cited in Omega Research Foundation (2000) *op.cit*, p.53.

⁷¹¹ TAPOL, *Statement on the Judicial Review Initiative*, 25th March 1997. As cited in Omega Research Foundation, (2000) *op.cit*, p.54-55.

⁷¹² Human Rights Watch, Malaysia: Investigate use of force against peaceful rally, 14th November 2008, <http://www.hrw.org/en/news/2007/11/14/malaysia-investigate-use-force-against-peaceful-rally>, (accessed 10th August 2009).

dispensers have also reportedly been attached to other platforms such as helicopters or aircraft, providing the potential for even greater 'wide area' coverage.⁷¹³



Figure 4.1 (above): Water cannon vehicle belonging to the Moscow police, manufactured by Beit Alfa Technologies Ltd (Israel), shown at Interpolitex 2006, Moscow, 18 October 2006.

Figure 4.2 (right): Pulsed water cannon manufactured by Guangzhou Jieli Special Vehicle Equipment Co., Ltd / Guangdong Zengcheng Zhongjing Yangcheng Light Special Vehicle Co., Ltd. (China). Shown at China Police 2008, Beijing, 18 April 2008. (Both photographs: Robin Ballantyne/Omega Research Foundation) [It should be noted that these vehicles are included as examples of water cannon capable of incorporating chemical irritant. There have been no confirmed reports of their misuse in human rights violations].



Given their ability to disperse a large volume of chemical irritant over a broad coverage zone, some 'wide area' devices even though purportedly designed and marketed for use by law enforcement personnel, may potentially conflict with the CWC 'types and quantities' provision. However, a review of the CWC documentation indicates that no OPCW policy making organ has made a determination on this issue, nor has any State Party raised specific cases of concern.⁷¹⁴

According to some international lawyers and arms control experts, a range of RCA munitions which have military utility, such as cluster munitions, aerial bombs, mortar bombs and artillery shells would be inherently unacceptable for use in law enforcement activities.⁷¹⁵ Such munitions would potentially breach the 'types and quantities' provision and/or the prohibition on use of RCAs as a 'method of warfare'.

As Neill argues:

"it is not appropriate to disseminate a non-lethal agent using a mechanism whose ancillary effects could easily be lethal (e.g., a large, high-velocity carrier shell or a bursting device

⁷¹³ Omega Research Foundation, (2000) *op.cit.*, p.20 & p.22.

⁷¹⁴ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

⁷¹⁵ For example see, Chayes, A. and Meselson, M. (1997) Proposed Guidelines on the Status of Riot Control Agents and Other Toxic Chemicals Under the Chemical Weapons Convention, *Chemical Weapons Convention Bulletin*, Volume 35, March 1997; Reyhani, R. (2007) *op.cit.*; Neill, D. (2007) *op.cit.*

*producing shrapnel); or whose gross capacity and interoperability with conventional military equipment (e.g. in mortars, howitzers, rocket projectiles or by high-speed aircraft) would render it rapidly adaptable for use as a “method of warfare.”*⁷¹⁶

Using 105mm howitzer shells as an example, Chayes and Meselson argue that “*there appears to be no legitimate application of [such] shells for ‘law enforcement including domestic riot control purposes’.*” They also argue, that although the CWC “*might conceivably permit a small number of howitzer shells intended for use in training troops to operate in an environment containing toxic chemicals, the Convention would not permit a stockpile of such shells...*” and furthermore “*there is no obvious other military application for a stockpile of howitzer shells that would not amount to use as a method of warfare.*”⁷¹⁷

Chayes and Meselson conclude: “*Thus a State possessing a stockpile of shells of this type would be required to treat the shells as chemical weapons, and they would be subject to the Convention’s prohibitions on production, acquisition, retention, use, and transfer, and to the Convention’s provisions on declaration and destruction.*”⁷¹⁸

In attempting to establish whether specific munitions are potentially in breach of the CWC two further elements have been highlighted by leading CWC scholars, Krutzsch and Trapp. Firstly from their reading of Article 2.1, Krutzsch and Trapp believe that munitions are covered under the definition of chemical weapons if they have been “*designed exclusively or specifically for delivery of chemical weapons even when later used as dual-use weapons.*”⁷¹⁹ Furthermore, Krutzsch and Trapp believe that the definition of a chemical weapon under 2.1 would cover “*unfilled chemical ammunition.*”⁷²⁰

The Krutzsch/Trapp interpretation appears to be reinforced by an explanatory note prepared by Ambassador Von Wagner, Chairman of the Conference on Disarmament’s (CD) ad hoc committee on chemical weapons, at the time of the introduction of the draft CWC text (CD/WP.44/Rev.1) to the CD. In his paper, Von Wagner states:

*“The definition of the term “chemical weapons” in Article II is formulated broadly to cover not only toxic chemicals and their precursors, but also specifically-designed means of delivery. The term “munitions” refers to items that utilize directly or indirectly an explosive to disseminate a toxic chemical on the battlefield. The term “devices” refers to items that use non-explosive means to disseminate a toxic chemical on the battlefield. The term “equipment” refers to, inter alia, items that are part of a chemical weapons delivery system but do not actually contain toxic chemicals or precursors. It does not refer to general purpose delivery systems that are common in all modern armed forces that can be used to deliver different types of ammunition containing, inter alia, conventional explosives, but which do not contain any special features designed specifically for the delivery of chemical munitions or devices.”*⁷²¹

Despite the Convention’s restrictions on munitions and means of delivery outlined above, certain States Parties have apparently developed or are developing artillery or mortar munitions

⁷¹⁶ Neill, D. (2007) *op.cit*, p.12.

⁷¹⁷ Chayes, A. and Meselson, M. (1997) *op.cit*, p.14.

⁷¹⁸ Chayes, A. and Meselson, M. (1997) *op.cit*, p.14.

⁷¹⁹ Krutzsch, W. and Trapp, R. (1994) *op.cit*, p.27.

⁷²⁰ Krutzsch, W. and Trapp, R. (1994) *op.cit*, p.27.

⁷²¹ Conference on Disarmament, 26th June 1992, CD/CW/WP.414.

which may contain RCAs (or other toxic chemicals), and which appear to be for military purposes.

Turkish development of munitions containing CS:

In 2003, *Janes Defence Weekly* reported that the Turkish arms manufacturer MKEK (Makina ve Kimya Endustrisi Kurumu) had developed a 120mm mortar round - the CS MKE MOD 251 - filled with CS.⁷²² Researchers attending the 7th International Defense Industry Fair (IDEF)⁷²³ in Ankara, Turkey, in September 2005 have recorded the promotion and marketing of these devices (see figure 4.3). A recent review of the MKEK website shows that the CS MKE MOD 251 Mortar round is still currently being promoted and offered for sale. According to MKEK, the CS MKE MOD 251 mortar round weighs over 17.34 kg and has a maximum range of 8,132 metres.⁷²⁴ According to *Janes Defence Weekly*, the CS mortar ammunition would be utilised in the trailer mounted HY-12 120mm rifled mortar, which has been in service with the Turkish Army.⁷²⁵



Figure 4.3: MKEK Tactical CS 120mm mortar round, photographed in Ankara, Turkey, 29th September 2005 (Photo: Robin Ballantyne/Omega Research Foundation).

Janes Defence Weekly has also reported that MKEK 120mm CS mortar ammunition may also be utilised in a 120mm Automatic Mortar system that has been developed by a second Turkish company Deha Insaat ve Savunma Sanayii AS. The 120mm Automatic Mortar is reportedly based on the Israeli Soltam Systems design with a rifled barrel produced by MKEK. The system incorporates a command console and an advanced ballistic computer which can hold information on 999 targets. The maximum rate of fire is reported as 10-12 rounds per minute.⁷²⁶ According to the manufacturer, successful trials were held at the Turkish Land Forces Command (TFLC) main depot in Kayseri. It has also been tested at the Tuzla infantry school near Istanbul.⁷²⁷

Given the design specifications for the MKEK 120mm CS mortar ammunition, the 120mm Automatic Mortar system and the HY-12 rifled mortar, the use of these delivery systems for riot control or other law enforcement operations would be inappropriate. Furthermore, given reports that the Deha Insaat ve Savunma Sanayii AS 120 automatic mortar has been trialled at the TFLC main depot and that the HY-12 has been in service with the Turkish Army, the CS munition and delivery system have apparently been developed and deployed for use by the Turkish Army in military operations rather than for use by law enforcement agencies. Although there have been no reports, to date, of the 120mm CS munition being used in military operations, the development and deployment of such munitions itself appears to be a breach of both Articles 1.5 and 2.1.a of the Convention. Concerns about the Turkish development and deployment of CS munitions and delivery mechanisms are exacerbated by the reported

⁷²² Foss, C. Turkey details 120mm Automatic Mortar, *Janes Defence Weekly*, 12th November 2003.

⁷²³ The 7th annual International Defense Industry Fair, was held by The Turkish Armed Forces Foundation under the auspices of the Turkish Ministry of Defense at the Ankara Hippodrome between 27th-30th September 2005. Over 400 companies from 49 countries exhibited their goods and services at IDEF, of which 108 were from Turkey. For further information see 7th International Defense Industry Fair held in Turkey, Turkish-US Business Council, <http://www.turkey-now.org/default.aspx?pgID=420>, (accessed 26th July 2009).

⁷²⁴ MKEK website (www.mkek.gov.tr), (accessed 14th September 2009).

⁷²⁵ Foss, C. (2003) *op.cit.*

⁷²⁶ Foss, C. (2003) *op.cit.*

⁷²⁷ Foss, C. (2003) *op.cit.*

use of CS by the Turkish military in counter-insurgency operations against Kurdish fighters in 1999 (see Chapter 2 for further discussion of these operations).

Further information was sought from MKEK and the Turkish Government on the current status of the 120mm CS munition's manufacture, stockpiling and deployment⁷²⁸ to determine whether such activities are potentially in breach of Article 1.1 (a) and Article 1.5 of the Convention. Information has also been sought as to the promotion and possible transfer of such munitions which may breach Article 1.1 (a) and Article 1.1. (d) of the Convention. Whilst no response has been received from MKEK, the Turkish Government did reply as follows:

"CWC is a successful disarmament and non-proliferation step that we fully support. We are committed to the CWC from the outset, and attach great importance to its strict implementation and universalization.

In terms of Article VII obligations, I would like to reiterate that Turkish national implementation legislation of the Convention entered into force in 2006 and the regulation to implement this legislation came into force in 2007. Turkey fully implements the Convention by covering all key areas including penalty for failure to declare.

*Please note that Turkey has never used the CS MKE MOD 251 mortar rounds for any purpose."*⁷²⁹

A review of relevant open source documents shows that to date no State Party has raised this matter publicly under the auspices of the CWC nor initiated multilateral consultation or investigatory mechanisms under the Convention.⁷³⁰

Development of chemical irritant munitions by Russian Federation

On 5th December 2002, the ITAR-TASS press agency reported a statement by Vladimir Korenkova, then Director of the Russian arms and ammunition manufacturer Bazalt, declaring that his company was ready to offer to supply 'non-lethal' munitions filled with irritants for aeronautical delivery, portable grenade launchers and hand grenades.⁷³¹

In March 2008, the Russian arms industry publication, *Defence Technologies*,⁷³² highlighted the utility of Bazalt 'non-lethal' weapons to the military: "*Bazalt can manufacture a wide range of non-lethal weapons. The company offers a selection of such weapons varying from an individual soldier's arms to airborne systems.*" The article states that 'non-lethal' weapons employing chemical irritants "*are the most effective method and Bazalt gives priority to it.*"⁷³³

A further article in the March 2008 edition of *Defence Technologies* describes the utility of tear gas munitions launched from the RPG-7V1 grenade launcher against "*manpower hidden in a building*" and manpower in open terrain.⁷³⁴ The article describes how "*on an open terrain such a munition neutralizes manpower on an area not smaller than 600m².*" Furthermore, the article states that "*this teargas munition can be manufactured based on a standard RShG-2 jet-propelled assault grenade.*"⁷³⁵ Both the RPG-7V1 reloadable grenade launcher and the

⁷²⁸ Letters were sent to representatives of MKEK, the Turkish Ministry of Foreign Affairs and Turkish Ministry of Defence on 19th December 2008.

⁷²⁹ Email correspondence, Head of Department, Disarmament and Arms Control, Ministry of Foreign Affairs, 21st January 2009.

⁷³⁰ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

⁷³¹ ITAR-TASS, 5th December 2002, Предприятие "Базальт" готовится к выпуску боеприпасов для антитеррористической операции, available from Bazalt website. <http://www.bazalt.ru/pr-itar-tass51202.htm>, (accessed 25th July 2009).

⁷³² Non lethal weapon a powerful means of countering terrorism, *Defence Technologies*, March 2008, vol.6, no.1, <http://www.armstass.su/data/Files/File/109.pdf>, (accessed 25th July 2009), p.20.

⁷³³ *Defence Technologies*, (March 2008) *op.cit*, p.20.

⁷³⁴ Selective Non-Lethal Weapons, *Defence Technologies*, March 2008, www.armstass.su/data/Files/File/109.pdf, (accessed 25th July 2009), pp.30-31.

⁷³⁵ *Defence Technologies*, (March 2008), *op.cit*, pp.30-31.

RShG-2 grenade were developed and manufactured by Bazalt.⁷³⁶ The article subsequently states that “Irritants can be used for manufacture of highly effective single piece and cluster-type munitions for 82mm and 120mm mortars and artillery systems”, although the article does not specifically name Bazalt as the manufacturer of such goods.⁷³⁷

In July 2008, the Interfax-AVN military news agency reported that GNPP Bazalt is developing a range of ‘non-lethal’ weapons, of which “chemicals, various types of police gases with reduced negative effect on humans” account for between 50 and 60 per cent.⁷³⁸

In May 2009, a summary of the english language version of the “Ordnance and munitions” volume of “Russia’s Arms and Technologies, the 21st Century Encyclopedia” (a publication series supported by the Russian Federation Defense Ministry⁷³⁹) listed the following ‘non-lethal’ munitions:

- **“The 120-mm mortar shell filled with irritant-action pyrotechnic composition for Model 1938 and 2B11 mortars, for 2S9, 2S23 and 2B16 artillery pieces;**
- **The 82-mm mortar shell filled with irritant-action pyrotechnic composition for Model 1937 and 2B14-1 mortars and for 2B9 automatic mortar**
- **The RPG-7 grenade launcher round with warhead filled with irritant-action pyrotechnic composition**
- **The 40-mm round with a grenade filled with irritant-action pyrotechnic composition designed for GP-25, GP-30 under-barrel and 6G30 (six-barrel) grenade launchers**
- **The obstacle-penetrating grenade filled with irritant-action pyrotechnic composition designed for the RPG-7 grenade launcher**
- **The 45-mm round with a grenade filled with irritant-action pyrotechnic composition designed for the DP-64 grenade launcher**
- **The 30-mm round with a grenade filled with irritant-action pyrotechnic composition designed for the AGS-17 automatic grenade launcher**
- **The hand grenade filled with irritant-action pyrotechnic composition**
- **The RSG-1 special rocket grenade for single-shot grenade launcher fitted with lachrymatory/irritation-action warhead**
- **The 500-kg cluster bomb packed with sub-munitions charged with irritant-action pyrotechnic composition**
- **The heliborne KMGV-type dispenser of packages of sub-munitions filled with irritant-action pyrotechnic composition**
- **The package of aerosol pots filled with irritant-action pyrotechnic composition.**⁷⁴⁰

Although the summary did not specify which Russian company (or companies) manufactured these arms and munitions, “Bazalt State Research and Production Enterprise (Federal State Unitary Enterprise)” was listed among the 58 producers whose products were included in the volume.⁷⁴¹

⁷³⁶ See Bazalt website for more information on these products. <http://www.bazalt.ru/english.htm>, (accessed 25th July 2009).

⁷³⁷ *Defense Technologies*, (March 2008), *op.cit.*, pp.30-31.

⁷³⁸ News Chronology, *CBW Conventions Bulletin*, No.81, December 2008, Harvard Sussex Program, p.48; 080728, Harvard Sussex Events Database, Interfax-AVN military news agency (Moscow), 1045 hrs, 1107 hrs and 1138 hrs GMT, 28th July 2008, as translated from the Russian in BBC-WWM, 28th July 2008, Russian plant chief on bomb technologies, cooperation with Jordan.”

⁷³⁹ See Publishing House “Arms and Technologies” website: <http://www.orteh.com/eng/company/facts/>, (accessed 25th July 2009).

⁷⁴⁰ Non lethal weapons, Summary of Volume 12 “Ordnance and Munitions” (English language version), “Russia’s Arms and Technologies. The XXI Century Encyclopedia”, version 2006.1rus, Arms and Technologies Publishing House, 5th May 2009, <http://www.orteh.com/eng/products/catalogue/books/12.php>, (accessed 25th July 2009).

⁷⁴¹ Arms and Technologies Publishing House, (2009) *op.cit.*

If these product details are confirmed, the manufacture, stockpiling and deployment of several of these munitions (particularly those highlighted in bold) may potentially breach Article 1.1(a) and Article 1.5 of the CWC. In addition, promotion and transfer of such munitions may potentially breach Article 1.1 (a) and Article 1.1 (d) of the Convention.

Further information has been sought from Bazalt and the Russian Federation Government on the current status of Bazalt's chemical irritant munitions manufacture, marketing and transfer, and of the Russian Federation's deployment and use of such munitions.⁷⁴² To date, no response has been received from either party. Although concerns relating to Bazalt were originally raised by a representative of the Federation of American Scientists in May 2003⁷⁴³ at an event opened by the OPCW Director General and attended by government delegates to the CWC First Review Conference, to date no State Party has raised this matter publicly under the auspices of the CWC, nor initiated multilateral consultation or investigatory mechanisms under the Convention.⁷⁴⁴

Development of munitions with chemical payloads by the USA

The US appears to be developing a range of munitions for use by the US armed forces that can potentially carry a range of payloads including chemical irritants or incapacitants. Whilst these munitions are at different stages of development none as yet has apparently been fully developed. Whilst US activities to date do not yet appear to breach the Convention, they are indicative of a research and development trajectory of concern that should be questioned by the relevant organs of the CWC.

155mm Projectile

General Dynamics Ordnance and Tactical Systems has been working under the direction of the US Army's Armament Research, Development and Engineering Center (ARDEC) to develop a 155mm artillery projectile called the XM1063, which is adapted to carry a liquid payload.⁷⁴⁵ According to General Dynamics, the XM1063 (also called the Non-Lethal Personnel Suppression Projectile) is intended to carry out three interrelated functions to *"separate combatants from non-combatants; suppress, disperse or engage personnel [and] deny personnel access to, use of, or movement through a particular area, point or facility."*⁷⁴⁶

The XM1063 is based upon the M864 artillery projectile⁷⁴⁷ currently in use with the US military, and is intended to have a range of at least 20km, and potentially up to 28km.⁷⁴⁸ The multiple sub-munitions will be released above the target area and then fall to the ground via parachute and disperse their liquid payloads.⁷⁴⁹ Estimates of the area

⁷⁴² Letters were sent to Bazalt, the Russian Federation Ministry of Foreign Affairs and Russian Federation Ministry of Defence on 17th December 2008 and 25th July 2009.

⁷⁴³ Hatch Rosenberg, B. (2003) *Riot Control Agents and the Chemical Weapons Convention, Open Forum on Challenges to the Chemical Weapons Ban*, Federation of American Scientists Working Group on Biological and Chemical Weapons, The Hague, Netherlands, 1st May 2003, <http://www.fas.org/bwc/papers/rca.pdf>, (accessed 25th July 2009).

⁷⁴⁴ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

⁷⁴⁵ US Army, Picatinny Centre (2004) "Non-Lethal Artillery Structural Firing (FY04) Purchase Order Contract in Support of the FY04 155mm Non-Lethal Artillery Projectile Program, Contract Number W15QKN-04-M-0328, 14th September 2004, <http://www.sunshine-project.org/incapacitants/jnlwdpdfXM1063.pdf>, (accessed 25th July 2009); Davison, N. (2007) *op.cit.*, p.34.

⁷⁴⁶ McCormick, J. (2007) Presentation on 155mm XM1063 Non-Lethal Personnel Suppression Projectile, General Dynamics OTS, National Defense Industrial Association, 42nd Annual Armament Systems: Gun and Missile Systems Conference and Exhibition, 23rd-26th April 2007, Charlotte, North Carolina, USA, http://www.dtic.mil/ndia/2007gun_missile/GMTuePM2/McCormickPresentation.pdf, (accessed 25th July 2009).

⁷⁴⁷ For information on the M864 projectile see: Globalsecurity.org, M864 Base Burn DPICM, <http://www.globalsecurity.org/military/systems/munitions/m864.ht>, (accessed 25th July 2009).

⁷⁴⁸ US Army, Picatinny Centre, (2004) *op.cit.*

⁷⁴⁹ McCormick, J. (2006) 155mm XM1063 Non-Lethal Personnel Suppression Projectile. Presentation to the 41st Annual Armament Systems: Guns and Missile Systems, Conference & Exhibition, National Defense Industrial Association (NDIA), Sacramento, US, 27th-30th March 2006, <http://www.dtic.mil/ndia/2006garm/tuesday/mccormick.pdf>, (accessed 25th July 2009), as cited in Davison, N. (2007) *op.cit.*, p.34.

covered vary between a minimum of 5,000 square metres⁷⁵⁰ to a reported maximum of 1 hectare (10,000 square metres).⁷⁵¹ Details of the proposed payload are limited but the available documentation describes it as a “personnel suppression payload.”⁷⁵² Payload agent effectiveness was apparently tested at Army Edgewood Chemical Biological Center.⁷⁵³ This had led to Davison to conclude that the anti-personnel payload “will certainly be some kind of chemical agent.”⁷⁵⁴ It is, however, unclear at present what the chemical agent payload will be. If the proposed payload is a chemical irritant or incapacitant then this delivery system would appear to be in contravention of the CWC. According to UK newspaper, *The Guardian*, testing of the XM1063 was completed successfully in 2007 and it is due for low-rate production from 2009. According to *The Guardian*, ARDEC has stated “that the production decision is on hold awaiting further direction from the program manager.”⁷⁵⁵

81mm Mortar munition

The Joint Non-Lethal Weapons Directorate (JNLWD) began funding a project, managed by ARDEC, to develop a delivery system incorporating a 81mm ‘non-lethal’ mortar munition (NLMM) under the fiscal year 1999 Technology Investment Program (TIP). Work was reportedly carried out by United Defense, the Army Research Laboratory (ARL), and the Army’s Edgewood Chemical Biological Center (ECBC).⁷⁵⁶ The project’s goal was the development of a delivery system utilising a mortar munition that could deliver a solid, liquid, aerosol or powder payload from 200 m up to 2.5 km from the target with a casing that does not cause any injury through kinetic impact on the target person(s).⁷⁵⁷ Potential payloads include: pyrotechnic submunitions (e.g. tear gas), malodorants and a liquid dispenser.⁷⁵⁸

The most recent version of the ‘non-lethal’ mortar munition (re-named the Non-Lethal Mortar Carrier Projectile) reported publicly appears to include four payload units, each of which is capable of holding approximately 35cc of agent.⁷⁵⁹ According to Pearson: “It seems likely that work on the NLMM continues, although it is unclear if or when the first critical go/no-go decision point in the US weapons development process (called “Milestone A”) required for advancement of the programme was reached.”⁷⁶⁰ Pearson believes that the authority and funding for continued development of the system would have been transferred from JNLWD to the Army soon after a positive Milestone-A decision was reached.⁷⁶¹

⁷⁵⁰ NLOS-C Non-Lethal Personnel Suppression, US Army ARDEC brochure, 2005, as cited in Davison, N. (2007) *op.cit.*, p.34.

⁷⁵¹ Hambling, D, *The Guardian*, Raising a stink, 10th July 2008, <http://www.guardian.co.uk/science/2008/jul/10/weaponstechnologyresearch>, (accessed 25th July 2009).

⁷⁵² McCormick, J. (2006) *op.cit.*, as cited in Davison, N. (2007) *op.cit.*, p.34.

⁷⁵³ US Army ARDEC (2004) Solicitation (Modification) R -- 155mm XM1063 Non-lethal Artillery Engineering Support Contract (Ref: W15QKN-04-X-0819). *FBO Daily*, 30 September 2004. As cited in Davison, N. (2007) *op.cit.*, p.34.

⁷⁵⁴ Davison, N. (2007) *op.cit.*, p.34.

⁷⁵⁵ Hambling, D. (2008) *op.cit.*

⁷⁵⁶ See Davison, N.(2007) *op.cit.*, p.32; Pearson, A. (2007) *op.cit.*, pp.80-82; for government contracts, presentations and reports, see Sunshine Project website (<http://www.sunshine-project.org/>).

⁷⁵⁷ Evangelisti, M. (2002) Delivery of Non-Lethal Mortar Payloads by Mortar Systems, Joint RDT&E Pre-Milestone A Program. Presentation to the 2002 International Infantry & Joint Services Small Arms Systems Section Symposium, National Defense Industrial Association (NDIA), US, 13-16 May 2002. As cited by Davison, N. (2007) *op.cit.*, p.32.

⁷⁵⁸ Lyon, D., Johnson, R., Domanico, J. (2000) Design and Development of an 81mm Non-Lethal Mortar Cartridge. *Presentation to Non-Lethal Defense IV, National Defense Industrial Association (NDIA), US, 20th -22nd March 2000* <http://www.sunshine-project.org/incapacitants/jnlwdpdf/udlpmort.pdf> (accessed 25th July 2009), slide 17.

⁷⁵⁹ Evangelisti, M. “81mm Non-Lethal Mortar”, US Department of the Navy, “Fiscal Year 2006/2007 Budget Estimates Submission, Justification of Estimates, Research, Development, Test and Evaluation, Navy Appropriation, Volume II, Budget Activity 4. Cited in Pearson, A. (2007) *op.cit.*, p.82.

⁷⁶⁰ Pearson, A. (2007) *op.cit.*, p.82.

⁷⁶¹ Pearson, A. (2007) *op.cit.*, p.82.

120mm mortar munition

In 2003, work was reportedly initiated on a 120mm mortar cartridge design based on the XM984 munition which is currently in development for use in the Future Combat System Non Line-of-Sight (NLOS) Mortar.⁷⁶² The XM984 is designed to deliver up to 54 M80 DPICM grenades and will cover distances of 10-12km.⁷⁶³ The XM984 reportedly “accommodates a wide variety of payloads, [which] include unitary, smoke, illumination, SFM [sensor fuzed munition], thermobaric, mines and non-lethal.”⁷⁶⁴ However, to date, no further information is publicly available as to the ‘non-lethal’ payload.

Unmanned Aerial Vehicles

According to Davison a “very small but significant area of interest is the use of [Unmanned Aerial Vehicles] UAVs to deliver various ‘non-lethal’ payloads at long distances including chemical agents.”⁷⁶⁵ In 2000, Southwest Research Institute (SwRI) reported their development of a computer controlled unmanned powered para foil designed to spray liquid payloads by remote control. The platform was developed for the Marine Corps Non-Lethal Directorate, and “intended to provide non-lethal crowd control options for the U.S. military.”⁷⁶⁶ Although there were indications in 2005 of continuing interest in using UAVs for the delivery of ‘non-lethal’ payloads,⁷⁶⁷ it is currently not possible to fully determine the status and nature of current US research and development in this area due to the limitations of information publicly available. Although information on R&D programmes in other States is also difficult to obtain, it is apparent that there has been a dramatic increase in the development and use of UAVs worldwide⁷⁶⁸ and there are indications that researchers in other countries are investigating the utility of UAVs for the delivery of ‘non-lethal’ chemical payloads.⁷⁶⁹

A review of relevant documentary sources shows that no State Party has raised specific concerns about the preceding US munition development, under the auspices of the CWC nor initiated multilateral consultation or investigatory mechanisms under the Convention.⁷⁷⁰

⁷⁶² Hegarty, R. (2003) Joint Non-Lethal Weapons Program: Non-Lethal Mortar Cartridge (NLMC) (Powerpoint presentation to 2003 Picatinny Chapter/PEO Mortars Conference, Morristown, NJ, 1st-3rd October 2003) as cited in Pearson, A. (2007) *op.cit.*, p.82.

⁷⁶³ Pascua, D. (2002) XM984 120mm Mortar Cartridge Extended Range DPICM, US Army TACOM-ARDEC, 2002 International Infantry & Small Arms Symposium, Exhibition & Firing Demonstration, 14th May 2002, <http://www.dtic.mil/ndia/2002infantry/pascua.pdf>, (accessed 25th July 2009).

⁷⁶⁴ Pascua, D. (2002) *op.cit.*

⁷⁶⁵ Davison, N. (2007) *op.cit.*, p.35.

⁷⁶⁶ Southwest Research Institute (SwRI) (2000) *Automation, Bioengineering, Avionics, and Training Systems*. SwRI Annual Report 2000. As cited in Davison, N. (2007) *op.cit.*, pp. 35-36.

⁷⁶⁷ Office of the Secretary of Defense (2005) *Unmanned Aircraft Systems Roadmap 2005-2030*. August 2005. Washington D.C.: Office of the Secretary of Defense. As cited in Davison, N. (2007) *op.cit.*, p.35.

⁷⁶⁸ An open source survey of non-US UAVs by the National Intelligence Council’s Scientific and Technical Intelligence Committee (STIC) concluded that 33 countries were developing and manufacturing UAVs. Of these, Israel, China and France accounted for 78 of the 195 UAV systems in production. Apart from UAV-producing nations, 41 countries are known to operate UAVs. Executive Summary, STIC Technical Report: Unmanned Aircraft Systems: Survey of Non-US Systems, 1st June 2006, OSC Document EUP20060831374006. National Intelligence Council, Scientific and Technical Intelligence Committee, *Unmanned Aircraft Systems: Open Source Data Survey of Non-United States Systems*, June 2006, as cited in Melikishvili, A. (2008) Downing of Georgian Drone over Breakaway Region Highlights Potential Proliferation Challenges, *WMD Insights*, August 2008, http://www.wmdinsights.com/I26/I26_RU1_Downing.htm, (accessed 5th August 2009). According to a more recent report by Van Blyenburgh 48 countries now produce UAVs and 20 export them. See Blyenburgh, P. (ed.) 2007, *UAS: Unmanned Aircraft Systems – The Global Perspective 2007/2008*, Paris: Blyenburgh & Co. See also *Jane's Unmanned Vehicles and Aerial Targets*, Coulsdon: Jane's, 2007.

⁷⁶⁹ Liehmann, W., Zettl, S., Thiel, K. (2007) Airborne Long-Range NLW Dispenser, *Proceedings of the 4th European Symposium on Non-Lethal Weapons, Ettlingen, Germany, 21st-23rd May 2007*. V7. Pfnztal: Fraunhofer ICT.

⁷⁷⁰ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

OPCW response

Although the CWC includes munitions and means of delivery within its definition of a chemical weapon, there is continuing ambiguity as to the type and specifications of those means of delivery that are permissible (primarily for law enforcement operations) under the Convention. Despite instances of potential conflict with the Convention, some of which have been highlighted in this chapter, none of the OPCW policy making organs have effectively addressed this issue.⁷⁷¹

A UK official questioned for this report described the situation as follows for munitions containing RCAs:

*“Whether the development of large mortar shells, cluster munitions or RPGs filled with RCA is a breach of the CWC would be a matter for SPs [States Parties] to judge in the light of the circumstances. However, to date SPs [States Parties] have not reached any common understandings on such matters. The UK believes it would be helpful if SPs [States Parties] were to do so, but at present there is no consensus among SPs [States Parties].”*⁷⁷²

However, there are growing indications that certain States Parties and the OPCW Technical Secretariat increasingly recognise the dangers of research into means of delivery coupled with possible development of incapacitants.

For example, in a Working Paper to the Second Review Conference the Swiss Government stated:

*“Switzerland is of the view that the development of substances that will incapacitate a wide range of people with a varying degree of susceptibility, but not endanger their health, is technically close to impossible. The search for incapacitating agents which take instant effect and have a high therapeutic index is similar to a search for new “toxic chemicals” which could be used as chemical weapons. **The same applies to the development of new delivery means that will allow incapacitating agents to be administered over a whole range of distances to crowds of various sizes. Switzerland is therefore concerned that such activities could undermine the object and purpose of the Convention.**”*⁷⁷³ [Emphasis added].

Furthermore, in his report to the Second Review Conference the OPCW – which highlighted the findings of the Scientific Advisory Board - the Director General stated that: *“some aspects of the development of means of delivery of such incapacitants for law enforcement purposes might be difficult to distinguish from aspects of a chemical weapons development programme.”*⁷⁷⁴

He also noted that: *“If States Parties find it desirable to evaluate the broader implications of the use of incapacitants for law-enforcement purposes, the Second Review Conference could*

⁷⁷¹ Analysis was undertaken of all OPCW documents publicly available on the OPCW website (<http://www.opcw.org>).

⁷⁷² UK government official, correspondence with author, 10th November 2008.

⁷⁷³ Switzerland Working Paper, Riot Control and Incapacitating Agents Under the Chemical Weapons Convention, The Hague, Netherlands, RC-2/NAT.12, 9th April, <http://www.opcw.org/documents-reports/conference-of-the-states-parties/second-review-conference/> (accessed 25th July 2009).

⁷⁷⁴ OPCW, Note by the Director General, Report of the Scientific Advisory Board on Developments in Science and Technology, RC-2/DG.1, 28th February 2008, [http://www.opcw.org/docs/csp/rc2/en/rc2dg01\(e\).pdf](http://www.opcw.org/docs/csp/rc2/en/rc2dg01(e).pdf) (accessed 25th July 2009), p.2, para 2.3.

offer an opportunity to initiate such an evaluation, and the SAB's observations might help in such an endeavour."⁷⁷⁵

However, although certain States – most notably Switzerland – raised means of delivery for RCAs and incapacitants, at the Second CWC Review Conference, there was no sustained discussion of the issue. Consequently the issue was not included in the Final Report of the Conference.⁷⁷⁶ It is uncertain if, and how, the OPCW will deal with this issue in the future.

⁷⁷⁵ OPCW (February 2008) *op.cit.*, p.2, para 2.3.

⁷⁷⁶ OPCW, Report of the Second Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (Second Review Conference), 7th-18th April 2008, RC-2/4, 18th April.

Chapter 5: Conclusions and recommendations

Conclusions:

A review of the CWC and its related mechanisms and structures has highlighted limitations in both design and implementation of the control regime in a number of important areas.

Firstly, there are weaknesses in the CWC's textual architecture. A number of Articles detailing States Parties' obligations are ambiguous and there is a lack of clarity regarding their inter-relationship. Such ambiguity is exacerbated by the lack of definitions of certain key terms used in the Convention. For example, although RCAs are defined under the CWC, the scope and nature of their permissible use in situations of armed conflict and in law enforcement operations are ambiguously regulated, due in part to the Convention's failure to describe and demarcate 'method of warfare' and 'law enforcement'. The situation is even more uncertain regarding incapacitants, which are not specifically defined under the Convention.

Secondly, whilst the Convention establishes declaration and transparency mechanisms for the three groupings of Scheduled chemicals, the comparable mechanisms that relate to RCAs have severe limitations. Furthermore, there are no effective declaration or transparency mechanisms for those incapacitants that are not Scheduled chemicals.

Thirdly, although States Parties have employed bi-lateral consultation mechanisms, the potentially powerful multilateral consultation, investigation and fact-finding procedures that could be applied to cases of concern under the Convention have never been utilised. The consequences of this apparent failure by States Parties to use such mechanisms are exacerbated by the very circumscribed ability of the Technical Secretariat to undertake independent information gathering and monitoring activities. For example, there are no formal mechanisms for the Technical Secretariat to receive and act upon information provided by the media, NGOs or academia. Furthermore, the Technical Secretariat cannot undertake consultation, investigation and fact-finding mechanisms unless requested to do so by a State Party.

Finally, there has been a failure by the OPCW oversight and policy making organs to effectively monitor implementation of the Convention with regard to RCAs and incapacitants and to take action where reports of possible breaches of the Convention have become public.

Whilst the international governmental community has been unable or unwilling to address the ambiguities and weaknesses in the CWC regulatory regime, a number of countries have permitted activities that may undermine (and potentially breach) the Convention and/or may be in contravention of relevant international law. The areas of concern highlighted by this report include: the reported misuse of riot control agents by law enforcement officials, military personnel and private military company employees; the development and use of incapacitants; and the manufacture of certain munitions containing chemical agents.

It is imperative that the CWC States Parties give serious and urgent consideration to resolving the dangerous ambiguities that threaten to undermine the Convention, and ensure that the CWC regulatory regime is applied effectively to RCAs and incapacitants.

Policy recommendations:

Riot Control Agents:

1. Informal inter-governmental mechanism on regulation of RCAs:

BNLWRP recommends that concerned CWC States Parties should create an informal intergovernmental mechanism to address the regulation of RCAs under the Convention. BNLWRP believes that this process could usefully:

- Seek to identify the range of chemical agents that are covered by the term RCA;
- Clarify the specific restricted circumstances under which the use of RCAs by military personnel may be permissible, and those circumstances under which use is prohibited under the CWC;
- Explore the CWC limitations on the use of RCAs for law enforcement, specifically taking into account the CWC's constraints upon 'types and quantities';
- Explore the CWC limitations on the development, transfer and use of munitions and delivery devices for RCAs;
- Explore the implications of the CWC prohibition on the transfer of chemical weapons, for the regulation of RCA transfers, particularly to States that, from past experience, may use such chemical agents in contravention of the Convention;
- Explore the limitations on the development, production, stockpiling, transfer and use of RCAs arising from existing obligations under relevant international law including international human rights law and international humanitarian law;
- Propose options for improving the CWC reporting and transparency measures for RCAs, including possible expansion to include quantities, and their means of delivery;
- Explore measures to improve the effectiveness of the CWC verification system including identification of the presence of RCAs.

Given the multifaceted and multidisciplinary nature of the issues surrounding the regulation of RCAs, BNLWRP believes that it is important that relevant experts from governmental, intergovernmental and non-governmental scientific, medical, legal, law enforcement, security, human rights and humanitarian communities contribute to these discussions.

Recommendations from this process should be submitted to the relevant policy making organs of the Chemical Weapons Convention, with the aim that the issues of RCA regulation be formally addressed at the Conference of the States Parties in regular session and subsequently by the Third CWC Review Conference.

2. Utilising existing CWC consultation, investigation and fact-finding mechanisms:

Concerned CWC States Parties should seek information from Signatory States or States Parties where law enforcement, security or military officials have reportedly misused RCAs for human rights abuses or breaches of international humanitarian law, and where the national authority has not implemented measures to end such activity and bring those responsible to justice. If bilateral consultations with the relevant States are not fruitful, concerned States Parties should consider a formal request under Article 9 of the CWC.

3. Promoting good practice in reporting and transparency:

BNLWRP recommends that all CWC States Parties provide full and timely RCA declarations to the Technical Secretariat as required under Article 3.1(e). Furthermore, States Parties should consider unilaterally providing additional relevant information to the Technical Secretariat on their holdings of RCAs. Such information could include details of:

- Quantities of each type of RCAs held;
- Associated means of delivery or dispersal;
- Authorities holding and permitted to use RCAs.

In the interests of promoting good practice in transparency, BNLWRP recommends that CWC States Parties consider unilaterally publishing the RCA declarations provided to the Technical Secretariat.

Incapacitants:

1. Moratorium on the weaponisation of incapacitants:

Given the dangers of ‘creeping legitimization’ of incapacitants with the consequent risks of their proliferation and misuse, BNLWRP recommends that CWC States Parties take a preventative or precautionary approach to this issue. BNLWRP recommends that those States Parties currently engaged in the development of incapacitants should suspend such activities, and no other State Party should initiate such work. This moratorium should remain in place until the status of incapacitants under the CWC has been resolved by the States Parties to the Convention. [This moratorium is not intended to cover research, development and utilisation of incapacitating chemical or biochemical agents legitimately employed for medical and veterinary purposes, but solely those intended for use as weapons.]

2. Technical study

Given the limited information available regarding the development of incapacitants, the often unsubstantiated claims made by their proponents, and the long-standing concerns over their effectiveness and lethality in practice, BNLWRP believes that there is a need to initiate independent technical studies of such weapons.

Such studies should explore whether existing incapacitants and means of delivery would incapacitate the designated target population without causing death or permanent harm to members of that population. Studies should examine likely tactical scenarios under which such weapons would be utilised, and ensure that the effects of consequent variability both in exposure and within target populations are fully explored.

Such studies should be multidisciplinary in nature involving experts from relevant scientific and medical disciplines, with the input of international legal experts, law enforcement officials and military personnel. It is important that such studies be undertaken by authoritative and independent bodies.

3. Informal inter-governmental mechanism on regulation of incapacitants:

BNLWRP recommends that concerned CWC States Parties should create an informal intergovernmental mechanism to address the regulation of incapacitants under the Convention. BNLWRP believes that this process could usefully:

- Develop proposals for a definition of incapacitants and explore the status of incapacitants under the CWC;
- Explore the implications of the prohibition on the use of toxic chemicals (save for purposes not prohibited) on the employment of incapacitants by military personnel;
- Explore the CWC limitations on the use of toxic chemicals (save for purposes not prohibited) for law enforcement, specifically taking into account the CWC's constraints upon 'types and quantities';
- Explore the CWC limitations on the development, transfer and use of munitions and delivery devices for incapacitants;
- Explore the implications of the CWC prohibition on the transfer of chemical weapons, for the regulation of incapacitant transfers;
- Explore the limitations (and/or prohibitions) on the development, production, stockpiling, transfer and use of incapacitants arising from existing obligations under relevant international law, specifically including the Geneva Protocol, Biological Weapons Convention, Single Convention on Narcotic Drugs, UN Convention on Psychotropic Substances, as well as relevant aspects of international human rights law and international humanitarian law (specifically including the Geneva Conventions and Additional Protocols);
- Propose options for CWC reporting and transparency measures for incapacitants and their means of delivery, possibly including amendment of the CWC Schedules to include additional incapacitating chemicals.

Given the multifaceted and multidisciplinary nature of the issues surrounding the regulation of incapacitants, BNLWRP believes that it is important that relevant experts from governmental, intergovernmental and non-governmental scientific, medical, legal, law enforcement, security, human rights and humanitarian communities contribute to these discussions.

The findings of the technical study and the recommendations from this inter-governmental process should be submitted to the relevant policy making organs of the OPCW, with the aim that the issues relating to the regulation of incapacitants be formally addressed by the Conference of the States Parties in regular session and subsequently by the Third CWC Review Conference. If it is deemed appropriate, recommendations from this process should also be submitted to the relevant policy making organs and meetings of other treaty bodies including the Biological Weapons Convention.

4. Utilising existing CWC consultation, investigation and fact-finding mechanisms:

BNLWRP recommends that concerned States Parties should seek relevant information from those CWC States Parties reportedly undertaking research into incapacitants, that will demonstrate that their activities are in conformity with the CWC and relevant international law. If bilateral consultations with the relevant States are not fruitful, concerned States Parties should consider a formal request under Article 9 of the CWC.

Given the Russian Federation's reported use of incapacitants on two occasions, BNLWRP recommends that concerned States Parties should seek clarification regarding its presumptive stockpile of incapacitants, the anticipated uses to which they might be put, and the political and legal controls on their deployment and use. If bilateral consultations with the Russian Federation are not fruitful, concerned States Parties should consider a formal request under Article 9 of the CWC.

5. Promoting good practice in reporting and transparency:

BNLWRP recommends that CWC States Parties that have undertaken research into incapacitants and/or associated means of delivery should provide the Technical Secretariat with full information about their activities so as to demonstrate that they are in conformity with the Convention. States Parties should also consider making this information public.

Ambiguities in the CWC and limitations of OPCW structures and mechanisms:

BNLWRP recommends that concerned States Parties create informal intergovernmental mechanisms seeking to clarify ambiguities and obscurities in the CWC, and to address the perceived limitations of OPCW structures and mechanisms. BNLWRP believes that such processes could usefully:

Ambiguities in the CWC

- Seek to define the terms ‘law enforcement’ and ‘method of warfare’ as used in the CWC, explore the range of activities contained within each term and determine where activities such as counter-insurgency operations should lie;
- Explore how the use of chemical agents by non-governmental entities such as private military companies and private security companies should be regulated under the CWC;
- Identify which chemicals should be considered as toxic chemicals in the sense of having a “chemical action on life processes that can cause temporary incapacitation in human beings or other animals”;

OPCW structures and mechanisms:

- Technical Secretariat:
 - Explore measures to strengthen the independence and autonomy of the Technical Secretariat (TS) such as:
 - allowing it to undertake independent information gathering and monitoring activities and to systematically receive and act upon information provided by the media, NGOs or academia;
 - allowing it to formally initiate consultation, investigation and fact-finding mechanisms in situations it deems appropriate;
 - ensuring that the Executive Council investigate credible reports of breaches of inviolability of TS inspection teams;
- Executive Council:
 - Explore measures to improve the decision making processes of the Executive Council, including recourse to majority voting as provided for in the Convention;
- Conference of States Parties:
 - Discuss possible measures to improve the preparation for, and the operation of, Review Conferences to ensure that they fully meet their obligations under the Convention;
- Civil society:

- Review the existing policies regarding confidentiality and the provision of information to civil society and the media, and bring forward proposals for greater transparency and access to information. Full and timely provision of information regarding implementation of the CWC should be the norm, unless such information was deemed to compromise commercial confidentiality or national security considerations;
- Explore mechanisms for increasing the interaction of, and information exchange between, relevant OPCW structures (including the TS, SAB and national authorities) and civil society organisations;
- Develop mechanisms to ensure that relevant civil society organisations have the opportunity to engage fully in relevant decision making processes such as the Conferences of States Parties (particularly Review Conferences).

Recommendations from this process should then be submitted to the relevant policy making organs of the Chemical Weapons Convention, with the aim that these issues be formally addressed by the Conference of the States Parties in regular session and subsequently by the Third CWC Review Conference.