

Submission by Bradford Nonlethal Weapons Research Project¹

To

Foreign Affairs Select Committee Inquiry on Global Security: Non-Proliferation

6th November 2008

Introduction:

Bradford non-lethal weapons research project (BNLWRP) welcomes the opportunity to present a submission to the Foreign Affairs Select Committee inquiry examining the UK government's work in furthering the Foreign and Commonwealth Office's policy goal of countering weapons proliferation and its causes. In our submission we will focus upon the development, utilisation and potential proliferation of an emerging class of weapons – incapacitating biochemical weapons. We will examine the current limitations of the existing international control regime, specifically the Chemical Weapons Convention, to regulate incapacitating biochemical weapons. Finally, we will explore the role that the UK government can play in facilitating effective control of such weapons.

Bradford Non lethal weapons Research Programme

The Bradford non-lethal weapons research project (BNLWRP) was established at the Centre for Conflict Resolution, Department of Peace Studies, University of Bradford in 1995. The project's key objectives are to:

- Review and describe non-lethal weapons (NLWs), which are being developed and deployed.
- Identify and track defence and related research institutes involved in the development and manufacture of NLWs.
- Follow doctrine and policy debates related to the use of NLWs.
- Monitor the operational use of NLWs.
- Examine the impact of NLWs on international laws, arms treaties and conventions.
- Highlight the ethical and societal issues that surround the research, development, deployment and use of such weapons.

Incapacitating biochemical weapons

Although there is currently no universally agreed definition, incapacitating biochemical agents 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

¹ This report was written by Michael Crowley and Malcolm Dando, Bradford Nonlethal Weapons Research Project, Department of Peace Studies, Bradford University.

(e.g. can cause incapacitation or disorientation, incoherence, hallucination, sedation, loss of consciousness)². They are also called chemical incapacitating agents, biotechnical agents, calmatives, and immobilizing agents. There are a wide variety of chemicals that could potentially be utilised as incapacitating biochemical agents 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.³ A number of these agents are currently in use by the medical or veterinary professions as tranquilising or anaesthetising agents. It is important to differentiate incapacitating biochemical agents from another distinct class of chemical agents currently used by many states for law enforcement, namely the riot control agents (RCAs). Unlike incapacitating biochemical agents, riot control agents act peripherally on the eyes, mucous membranes and skin to produce rapid sensory irritation or disabling physical effects which disappear within a short time following termination of exposure.

Proponents of incapacitating biochemical weapons 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 disability. Incapacitating biochemical agents have also been raised as a possible tool in a variety of military operations, especially in situations where combatants and non-combatants are mixed.

Concerns relating to the development and use of incapacitating biochemical weapons:

A broad range of observers including scientific and medical professionals, arms control organisations, international legal experts, human rights monitors and humanitarian organisations such as the International Committee of the Red Cross, as well as a number of states, are highly sceptical about the development and utility of incapacitating biochemical weapons, highlighting the fact that such weapons are not inherently “non-lethal”, even if they were to be used with a non-lethal intent. As one leading US academic notes: “*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.*”⁴ Similarly, a report by the British Medical Association states: “*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 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.*”⁵ This was grimly illustrated following the use of an incapacitating biochemical weapon by the Russian Federation in October 2002 (see case study below).

² Pearson, Chevrier & Wheelis (eds), *Incapacitating Biochemical Weapons*, 2007, Lexington Books, Lanham, United States.

³ 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.

⁴ Pearson, A. Incapacitating Biochemical Weapons: Science, Technology, and Policy for the 21st Century, *Non-proliferation Review*, Vol.13, No: 2, July 2006.

⁵ British Medical Association Board of Science and BMA Science & Education department, *The use of drugs as weapons: The concerns and responsibilities of healthcare professionals*, London: BMA, May 2007

Even if all technical barriers to the development of a truly non-lethal incapacitating biochemical weapon were overcome, there are a number of serious risks that could follow from the development of such weapons. These include:

- **Proliferation and creeping legitimization:** Pearson believes 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.”⁶ Professor Julian Perry Robinson has described this process as “creeping legitimization” and believes that it is the greatest threat to the existing prohibitions on chemical weapons.⁷
- **Facilitation of torture and other human rights violations:** Amnesty International, the Omega Research Foundation and other human rights and arms control organisations have highlighted how existing “non-lethal” weapons have been widely misused for torture, cruel, inhuman and degrading treatment or punishment.⁸ As well as potentially being utilised for torture and ill-treatment, incapacitating biochemical weapons could also facilitate wide-scale repression by, for example, allowing the capture of large numbers of peacefully demonstrating crowds.
- **Use as a lethal force multiplier:** There is a danger that incapacitating biochemical weapons could 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 with previous “non-lethal” weapons for example the US military employment of CS in the Vietnam war.⁹ And the indications for incapacitants are worrying. During the October 2002 Moscow theatre siege, those Chechen hostage takers who were rendered unconscious by the incapacitating biochemical agent were then shot by Russian Forces rather than being arrested.¹⁰
- **Confusion between lethal and non-lethal chemical weapons:** A state deploying or using a “non-lethal” incapacitating biochemical weapon 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.

⁶ Pearson, A. Incapacitating Biochemical Weapons: Science, Technology, and Policy for the 21st Century, *Non-proliferation Review*, Vol.13, No: 2, July 2006

⁷ Perry Robinson, J. 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>

⁸ Amnesty International, *The Pain Merchants: Security Equipment and Its Use in Torture and Other Ill-Treatment*, 2003; Omega Foundation, *An Appraisal of the Technologies of Political Control*, European Parliament, Scientific and Technological Options Assessment, 1998.

⁹ Furmanski, Historical military interest in low-lethality biochemical agents, in: Pearson, Chevrier & Wheelis (eds), *Incapacitating Biochemical Weapons*, 2007, Lexington Books, Lanham, United States

¹⁰ Kaplow, *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* (2006).

- **Proliferation to, and misuse by, non-state actors:** A number of analysts have highlighted the potential utility of incapacitating biochemical weapons 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.¹¹
- **Militarisation of biology:** The continuing utilisation of the life sciences in the development of incapacitating biochemical weapons 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*”¹².

Regulation of incapacitating biochemical weapons under the Chemical Weapons Convention

Although there is a range of international law that is potentially applicable to incapacitating biochemical weapons, currently discussions on the regulation of such weapons have largely concentrated on the Chemical Weapons Convention¹³.

The Chemical Weapons Convention (CWC) entered into force on 29th April 1997 and, at the time of writing, it comprises 184¹⁴ Member States that have either ratified or acceded to the Convention¹⁵. The Convention prohibits the development, production, stockpiling, transfer and use of chemical weapons¹⁶. In addition, it also requires that all existing stocks of chemical weapons¹⁷ and chemical weapons production

¹¹ See for example: Wheelis, M. and Dando, M. Neurobiology: A case study of the imminent militarization of biology, *International Review of the Red Cross*, Vol 87, Number 859, September 2005; Pearson, A. Incapacitating Biochemical Weapons: Science, Technology, and Policy for the 21st Century, *Non-proliferation Review*, Vol.13, No: 2, July 2006.

¹² British Medical Association Board of Science and BMA Science & Education department, *The use of drugs as weapons: The concerns and responsibilities of healthcare professionals*, London: BMA, May 2007

¹³ Incapacitating biochemical agents also potentially fall within the auspices of the Biological Weapons Convention. For an analysis of this see: Chevrier, M and Leonard, J, *Incapacitating Biochemicals and the Biological Weapons Convention*. In Pearson, Chevrier & Wheelis (eds), *Incapacitating Biochemical Weapons*, 2007, Lexington Books, Lanham, United States. For a discussion of the applicability of international law to the regulation of incapacitating biochemical weapons see: Hampson, F, *International law and the Regulation of Weapons*, in Pearson, Chevrier & Wheelis Op cit; Aceves, J. *Human Rights Law and the Use of Incapacitating Biochemical Weapons*, in Pearson, Chevrier & Wheelis Op cit; Fidler, D. *Incapacitating Chemical and Biochemical Weapons and Law Enforcement Under the Chemical Weapons Convention*, in Pearson, Chevrier & Wheelis Op cit.

¹⁴ See OPCW website for full details of States Parties. <http://www.opcw.org>

¹⁵ An additional four Signatory States (Bahamas, Dominican Republic, Israel, 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 seven Non-Signatory States (Angola, DPRK, Egypt, Iraq, Lebanon, Somalia and Syria) have not taken any action on the Convention.

¹⁶ Article 1.1, Chemical Weapons Convention

¹⁷ Article 1.3, Chemical Weapons Convention

facilities¹⁸ be destroyed. The implementation of the CWC is overseen and facilitated by the Organisation for the Prohibition of Chemical Weapons (OPCW)¹⁹.

Although the Convention prohibits chemical weapons, it allows for the controlled peaceful use of toxic chemicals. Article 2.2 of the Convention 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.”*²⁰

The Convention therefore covers all toxic chemicals within its scope including chemical agents that could be used for so-called “non-lethal” chemical weapons, such as riot control agents and incapacitating biochemical agents.

To determine whether the use of a toxic chemical such as an incapacitating biochemical agent would be 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;”*²¹

Consequently 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.”*²²

Toxic chemicals such as incapacitating biochemical agents that are used for purposes not provided for in Article 2.9 (for example as a method of warfare) would then constitute a chemical weapon and be prohibited under the CWC.

Limitations of the CWC control regime

There are a number of limitations in the CWC and its current implementation which BNLWRP believes could seriously restrict its ability to effectively regulate incapacitating biochemical weapons.

Firstly, there are ambiguities in the terminology of certain articles detailing the obligations of State Parties under the Convention. For example, although use of toxic chemicals is permitted for law enforcement, there is no definition of “law enforcement” in the Convention. This, in turn, has led to questions being raised by

¹⁸ Article 1.4, Chemical Weapons Convention,

¹⁹ The mandate and powers of the OPCW are elaborated in Article 8 of the Chemical Weapons Convention.

²⁰ Article 2.2, Chemical Weapons Convention

²¹ Article 2.1, Chemical Weapons Convention

²² Article 2.9, Chemical Weapons Convention

international legal experts over the scope and nature of law enforcement activities permitted under the Convention both domestically and internationally²³. Consequently, the extent to which incapacitating biochemical agents could be used for activities such as counter-terrorist and counter-insurgency operations is unclear. As Dando has stated: “...*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?*”²⁴

Secondly, whilst there are (albeit limited) declaration and transparency mechanisms in the Convention which require State Parties to declare the identity (but not the amount) of all chemicals held for riot control purposes²⁵, there are no such declaration requirements for other “law enforcement purposes”. States are therefore under no specific obligation under the Convention to provide the OPCW with information about the research, development and stockpiling of incapacitating biochemical agents.

Thirdly, although there are potentially strong consultation, investigation and fact-finding mechanisms²⁶ that could be applied to cases of concern relating to the development, production, stockpiling, transfer and use of chemical weapons (including incapacitating biochemical weapons) there has been a significant failure by State Parties to utilise them. This is exacerbated by the fact that there are currently no mechanisms for civil society to bring concerns about the development, production, stockpiling, transfer or use of such chemicals to the OPCW.

Finally, there has been a collective failure by the CWC State Parties and the OPCW policy making organs to effectively address (or even adequately discuss) the issue of incapacitating biochemical weapons.

BNLWRP believes that this combination of failures of design and action risks allowing state practice to determine the scope and nature of the regulation of incapacitating biochemical weapons under the Convention, without challenge. If this situation remains, there is a consequent danger that the restrictions on the use of incapacitating biochemical agents, and toxic chemicals more generally, will be fundamentally undermined. This in turn could lead potentially to the undermining of the Chemical Weapons Convention itself with consequent dangers of chemical weapon proliferation. As the Weapons of Mass Destruction Commission 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*

²³ For divergent argumentation on this issue see Fidler, D. Incapacitating Chemical and Biochemical Weapons and Law Enforcement Under the Chemical Weapons Convention, in Pearson, Chevrier & Wheelis Op cit; Von Wagner, A. Toxic Chemicals for Law Enforcement Including Domestic Riot Control Purposes Under the Chemical Weapons Convention, in Pearson, Chevrier & Wheelis Op cit

²⁴ Dando, M. Scientific and technological change and the future of the CWC: the problem of non-lethal weapons. Disarmament Forum. No.4. 2002.

²⁵ Article 3.1(e), Chemical Weapons Convention

²⁶ 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 elaborated under Article 9 of the Convention. These 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. 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 Conference of States Party for resolution.

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.”²⁷

Concerns about the potential threats of incapacitating biochemical weapon proliferation and misuse have been heightened following the use of such weapons by the Russian Federation and the failure of the international community to adequately respond to such use.

Case study: Russian Federation use of an incapacitating biochemical weapon

On the evening of 23rd October 2002, a group of heavily armed Chechen separatists invaded the Dubrovka theatre in Moscow, taking more than 800 people hostage. They demanded the withdrawal of Russian armed forces 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 gas 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 forces²⁸ stormed the theatre killing all of the hostage takers, including those unconscious from the gas. An estimated 129 hostages died during or following the raid, mostly as a result of the incapacitating gas used by the Russian forces²⁹. An additional unknown number have suffered permanent disability.³⁰

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 gas had been used in the theatre for four days after the siege had ended. On 30th October 2002 the Health Minister Yuri Shevchenko finally identified the incapacitating agent as "a mixture of derivative substances of the fast action opiate Fentanyl."³¹ 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."*³² However, the Minister refused to be more precise about the chemicals used even on 11th December 2002 when faced with a

²⁷ Weapons of Mass Destruction Commission, *Weapons of Terror: Freeing the World of Nuclear, Biological and Chemical Arms*, 2006.

²⁸ 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 Kaplow, *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* (2006).

²⁹ For descriptions of the incident see: Amnesty International 2003 Annual Report entry on the Russian Federation; Amnesty International: *Rough Justice: The law and human rights in the Russian Federation*, October 2003 (AI Index EUR 46/054/2003); Kaplow, *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* (2006); BBC news coverage; Pearson, Chevrier & Wheelis (eds), *Incapacitating Biochemical Weapons*, 2007, Lexington Books, Lanham, United States;

³⁰ Pearson, Chevrier & Wheelis (eds), *Incapacitating Biochemical Weapons*, 2007, Lexington Books, Lanham, United States

³¹ 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, *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*, Harvard Sussex Program, SPRU – Science & Technology Policy Research, University of Sussex, UK

³² Sebastian Alison from Moscow for Reuters, 1257 hrs ET 30th October 2002, 'Russian confirms siege gas based on opiate fentanyl', as cited in Perry Robinson (2007) *Op cit*.

parliamentary question. He said it was a "state secret".³³ At the time of writing, the Russian authorities have still not stated officially exactly what chemical or chemicals were used.

The Moscow incident was not met with any significant public expressions of concern from the international governmental community. Indeed some governments, such as the USA³⁴, supported Russia's actions. The NATO Research and Technology Organisation 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 a novel courageous attempt at saving the most lives. This counterterrorist action showed on the other hand that chemical "non-lethal" weapons are not always non-lethal."*³⁵

Denmark, which then had the Presidency of the European Union, also 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."*³⁶

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.³⁷

In April 2008 in correspondence with BNLWRP, the UK Ministry of Defence has been more forthright in its position:

³³ Amnesty International: *Rough Justice: The law and human rights in the Russian Federation*, October 2003 (AI Index EUR 46/054/2003)

³⁴ 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"*. [As reported in the CBW Conventions Bulletin No 59 (March 2003) p.16 (www.sussex.ac.uk/Units/spru/hsp/cbwcb59.pdf)]

³⁵ The Human Effects of Non-Lethal Technologies, RTO-TR-HFM-073, August 2006
[ftp://ftp.rta.nato.int/PubFullText/RTO/TR/RTO-TR-HFM-073/\\$\\$TR-HFM-073-ALL.pdf](ftp://ftp.rta.nato.int/PubFullText/RTO/TR/RTO-TR-HFM-073/$$TR-HFM-073-ALL.pdf)

³⁶ 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]

³⁷ 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]

*“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.”*³⁸

Despite the serious immediate consequences and long-term implications of the first utilisation of an incapacitating biochemical weapon, the vast majority of states appeared to turn a blind eye to the actions of the Russian Federation. Even during the First Review Conference of the Chemical Weapons Convention, which took place during April-May 2003, just six months after the Moscow siege, State Parties failed to address the issue. Although three states – New Zealand³⁹, Norway⁴⁰ and Switzerland⁴¹ - did raise the issue of non-lethal weapons in their opening national statements to the Review Conference, there was no subsequent public discussion by the CWC State Parties and no mention made in the Review Conference Final Document.⁴²

Contemporary research and development of incapacitating biochemical weapons⁴³

Whilst the international governmental community has refused to adequately address or even to discuss the issue of incapacitating biochemical weapons, 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 is reportedly close to the US incapacitating biochemical programme⁴⁴ 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.”*⁴⁵

Russian Federation

There are indications that research into incapacitating biochemical agents is an area that Russia intends to continue to work on, building upon the experiences gained

³⁸ Correspondence with authors, Des Browne, Secretary of State, Ministry of Defence, 9th April 2008

³⁹ 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

⁴⁰ 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

⁴¹ 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.

⁴² 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

⁴³ For a comprehensive overview of past and present research into incapacitating biochemical weapons see: Davison, N. ‘Off the rocker’ and ‘On the floor’: The Continued Development of Biochemical Incapacitating Weapons, Bradford Disarmament Research Centre, University of Bradford, August 2007.

⁴⁴ Pearson, A., Late and Post Cold War Research and Development of Incapacitating Biochemical Weapons, in Pearson, Chevrier & Wheelis Op.Cit.

⁴⁵ Stanley, T., cited in N.Davison and N.Lewer, Bradford Non-Lethal Weapons Research Project Research Report no.5, Bradford University, May 2004.

following the Moscow incident.⁴⁶ In May 2005, for example, Russian researchers 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 states 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 left.”

The researchers further note that:

“...the full solution [to this problem] demands the big intensive work of many scientific teams within several years”⁴⁷.

Since the Moscow incident, there has been one further reported use of an incapacitating biochemical weapon by Russian Security Forces. On 13 October 2005, armed Chechen separatists launched attacks on the Russian town of Nalchik. Russian Special Forces were deployed in response. On the second day of fighting, Russian NTV reported that Russian Forces employed a “knockout gas” against the armed separatists who were holding two women hostage in a shop. There was no information about the nature of the chemical used.⁴⁸ However, it was reported that victims of the attack were administered an antidote.⁴⁹

United States

The US has a long history of research into incapacitating biochemical agents⁵⁰. There are indications that research was ongoing prior to, and continued after, the Moscow theatre siege. In 2003 the National Research Council (NRC) issued a report highlighting incapacitating chemicals as one of the major weapons technologies for further development⁵¹. Whilst the report highlighted concerns regarding compliance with the Chemical Weapons Convention (CWC), the National Research Council panel

⁴⁶ See Klochikin, 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; Klochinkhin, 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.

⁴⁷ ; Klochinkhin, 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, page 4.

⁴⁸ Perry Robinson, J. October 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*, Harvard Sussex Program, SPRU – Science & Technology Policy Research, University of Sussex, UK.

⁴⁹ D. Holley “Russian Forces Crush Rebels After Two Days of Fighting”, Los Angeles Times, 15th October 2005, A3.

⁵⁰ See for example: Furmanski, Historical military interest in low-lethality biochemical agents, in: Pearson, Chevrier & Wheelis (eds), *Incapacitating Biochemical Weapons*, 2007, Lexington Books, Lanham, United States; Pearson, A., Late and Post-Cold War Research and Development of Incapacitating Biochemical Weapons in: Pearson, Chevrier & Wheelis (eds), *Incapacitating Biochemical Weapons*, 2007, Lexington Books, Lanham, United States 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.

⁵¹ National Research Council (2003) *An Assessment of Non-Lethal Weapons Science and Technology*. Washington, DC: National Academies Press.

recommended “increase[d] research in the field of human response to calmatives”, arguing: “Calmatives have potential as NLWs [non lethal weapons] in many types of missions where calming of individuals or crowds is needed”.⁵²

Previously, in fiscal year 2001 the National Institute of Justice (NIJ) had 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 exposure to calmative-based oleoresin capsicum.”⁵³ Although publicly available information regarding this project is scarce, it apparently involved the combination of incapacitating biochemical agents with the chemical irritant oleoresin capsicum (commonly used in varieties of pepper spray) 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 University⁵⁴.

The US Joint Non Lethal Weapon Department 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,” including long range mortars and airbursting grenades.⁵⁵ In its 2003 report the National Research Council panel also recommended that the US should “target efforts to develop chemical delivery systems”⁵⁶. There have also been indications of US interest in exploring the use of unmanned aerial vehicles (UAVs) to deliver “non-lethal” payloads including chemical agents at long distances⁵⁷.

Although there have been reports that US Special Forces are equipped with a form of “knock-out” gas⁵⁸ these reports have not been substantiated. There is currently no

⁵² National Research Council (2003) *An Assessment of Non-Lethal Weapons Science and Technology*. Washington, DC: National Academies Press.

⁵³ *National Institute of Justice Grant No. 2001-RD-CX-K002*. Details from NIJ Research Portfolio available December 2006 at: <http://nij.ncjrs.org/portfolio/>. Cited in Davison, N. ‘Off the rocker’ and ‘On the floor’: The Continued Development of Biochemical Incapacitating Weapons, Bradford Disarmament Research Centre, University of Bradford, August 2007.

⁵⁴ Ceconi, J. (2003) Less-Than-Lethal Program. *Presentation to the 2003 National Institute of Justice Annual Technology Conference*. Cited in Davison, N. ‘Off the rocker’ and ‘On the floor’: The Continued Development of Biochemical Incapacitating Weapons, Bradford Disarmament Research Centre, University of Bradford, August 2007.

⁵⁵ See for example, Robert J. Hegarty, “Joint Non-Lethal Weapons Program: Non-Lethal Mortar Cartridge (NLMC),” presentation at National Defense Industry Association 2003 Picatinny Chapter/PEO Mortars Conference, Oct. 2003, B www.sunshine-project.org/incapacitants/jnlwdpdf/usamort03.pdf; Camilo A. Sanchez, “Non-Lethal Airburst Munition(s) for Objective Individual Combat Weapon,” presentation at 2001 National Defense Industry Association Joint Services Small Arms Symposium, Aug. 15, 2001, B www.sunshineproject.org/incapacitants/jnlwdpdf/sanchez.pdf. As cited in Pearson, A. Incapacitating Biochemical Weapons: Science, Technology, and Policy for the 21st Century, *Non-proliferation Review*, Vol.13, No: 2, July 2006.

⁵⁶ National Research Council (2003) *An Assessment of Non-Lethal Weapons Science and Technology*, Washington DC: National Academies Press.

⁵⁷ 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. Op cit.

⁵⁸ 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

publicly available evidence that the US has successfully developed or deployed weapons containing incapacitating biochemical agents for either military or police use.⁵⁹ 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*".⁶⁰ However, given the limited information released to the public since 2003, BNLWRP is unable to determine the nature of current US activities in this area.

Czech Republic

In 2005 evidence came to light that the Czech military were funding the development of biochemical incapacitating agents. At the 3rd European Symposium on Non-Lethal Weapons in Ettlingen, Germany in May 2005 a paper was presented entitled *Pharmacological non-lethal weapons*.⁶¹ The research, to develop sedative and anaesthetic agent combinations for use as weapons, had been funded by the Czech Army under Project No: MO 03021100007. The Czech paper describes the results of experiments with rhesus monkeys over several years in which the researchers injected the animals with different mixtures of drugs to determine combinations and doses that would result in what they termed "*fully reversible immobilization*". One of the Czech researchers has also described testing on human subjects, with one combination of ketamine, midazolam and dexmedetomidine administered to ten nurses and a second combination of fentanyl, midazolam and dexmedetomidine given to patients prior to surgery⁶².

In a follow-up paper presented in May 2007 to the 4th European Symposium on Non-Lethal Weapons, Czech researchers describe how they "*decided to test new combinations [of calmatives – drugs producing calm, non-violent behaviour] for suppression or complete abolition of aggressive behaviour.*" According to the researchers "*All tested combinations resulted in macaques in reduction or complete loss of aggressiveness...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 production of new pharmacological non-lethal weapons.*"⁶³

The Czech researchers have also investigated various delivery routes including testing of an aerosol route using rats and human volunteers, who were reported to have been

⁵⁹ Pearson, A. Late and Post Cold War Research and Development of Incapacitating Biochemical Weapons, in Pearson, Chevrier & Wheelis Op.Cit.

⁶⁰ CWC Review Conference Avoids Difficult Issues, *Arms Control Today*, May 2008, http://www.armscontrol.org/act/2008_05/CWC

⁶¹ Hess, L., Schreiberova, J., and Fusek, J. (2005) *Pharmacological Non-Lethal Weapons. Proceedings of the 3rd European Symposium on Non-Lethal Weapons, Ettlingen, Germany, 10-12 May 2005.* V23. Pfinztal: Fraunhofer ICT. As cited in Davison, N., 'Off the Rocker' and 'On the Floor': The Continued Development of Biochemical Incapacitating Weapons, Bradford Science and Technology Report No. 8.

⁶² Davison, N., 'Off the Rocker' and 'On the Floor': The Continued Development of Biochemical Incapacitating Weapons, Bradford Science and Technology Report No. 8

⁶³ Drug-Induced Loss of Aggressiveness in the Macaque Rhesus. Hess, L., Schreiberová, J., Málek, J., Fusek, J. 4th European Symposium on Non-Lethal Weapons, 21st-23rd May 2007, Ettlingen, Germany, European Working Group on Non-Lethal Weapons.

children in hospital⁶⁴. Subsequently the researchers reportedly have been exploring a number of weapon-delivery system options such as projectiles uploaded with formulations of the drugs containing dimethyl sulphoxide to enhance skin penetration.⁶⁵ 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] presentation is compelling.*”⁶⁶

Other countries:

Although there is no open source information describing specific current incapacitating biochemical agent programmes, there are indications that a number of other states are interested in exploring this issue.

NATO:

In its report 2004 report outlining the utility of non lethal weapons in peace keeping operations, NATO’s Research and Technology Organisation 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”⁶⁷.

France:

In 2004, a non-governmental research organisation, the Sunshine Project, published a report entitled *Biological and Biochemical Weapons Related Research in France*⁶⁸. The report described military research investigating the behavioural and cognitive effects of various psychoactive and anaesthetic compounds, however it noted that researchers did not find any indication of an incapacitating agent programme at that time.

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*”.⁶⁹ They claimed

⁶⁴ Hess, L., Schreiberova, J., and Fusek, J. (2005) Pharmacological Non-Lethal Weapons. *Proceedings of the 3rd European Symposium on Non-Lethal Weapons, Ettlingen, Germany, 10-12 May 2005*. V23. Pfinztal: Fraunhofer ICT. As cited in Davison Op.Cit.

⁶⁵ Dumiak, M., Defense Technology International, November 2007, as cited in CBW Conventions Bulletin, June 2008, Harvard Sussex Programme, <http://www.sussex.ac.uk/Units/spru/hsp/bulletin/cbwcb79.pdf>

⁶⁶ Dumiak, M., Defense Technology International, November 2007, as cited in CBW Conventions Bulletin, June 2008, Harvard Sussex Programme, <http://www.sussex.ac.uk/Units/spru/hsp/bulletin/cbwcb79.pdf>.

⁶⁷ NATO Research and Technology Organisation, 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. Incapacitating Biochemical Weapons: Science, Technology, and Policy for the 21st Century, *Nonproliferation Review*, Vol 13, No 2, July 2006

⁶⁸ The Sunshine Project (2004) French ‘Non-Lethal’ Chemical Weapons In: *Sunshine Project Country Study No. 2: A Survey of Biological and Biochemical Weapons Related Research Activities in France*, 16 November 2004. pp. 26-32. Available March 2007 at: http://www.sunshine-project.org/countrystudies/France_BW_Report.pdf

⁶⁹ Guo Ji-Wei and Xue-sen Yang, “Ultramicro, Nonlethal and Reversible: Looking Ahead to Military Biotechnology, *Military Review*, July-August 2005, as cited in A. Pearson Late and Post-Cold War

that “*War through the command of biotechnology*” will “...lead to success through ultramicro, nonlethal and reversible effects...Modern biotechnology offers and enormous potential military advantage.”⁷⁰ It is not clear what, if any, militarily applicable research or development China has undertaken in this area. However, there does appear to be some research and development of incapacitating biochemical agents for law enforcement devices, with one state-owned Chinese company promoting an apparent anaesthetic dart-firing gun.⁷¹

UK:

Although there is documentation indicating previous UK research into biochemical incapacitating agents from the late 1950s till the early 1970s⁷², there is no evidence of contemporary military research in this area. Furthermore, although proposals for utilising chemicals other than RCAs for UK law enforcement were reportedly considered, they were not implemented⁷³. In January 2004, the UK’s Northern Ireland Office Steering Group published the Patten report recommendations relating to public order equipment⁷⁴. 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.*”⁷⁵ 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.*”⁷⁶

Research and Development of Incapacitating Biochemical Weapons, in Pearson, Chevrier & Wheelis Op cit.

⁷⁰ Guo Ji-Wei and Xue-sen Yang, “Ultramicro, Nonlethal and Reversible: Looking Ahead to Military Biotechnology, *Military Review*, July-August 2005, as cited in A. Pearson Late and Post-Cold War Research and Development of Incapacitating Biochemical Weapons, in Pearson, Chevrier & Wheelis Op cit.

⁷¹ Omega Research Foundation database

⁷² Advisory Council on Scientific Research and Technical Development. Minutes of the 32nd meeting of the Chemistry Committee, 5th Marcy 1959 as cited in *The Use of Drugs as Weapons*, British Medication Association, 2007; *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., ‘Off the Rocker’ and ‘On the Floor’: The Continued Development of Biochemical Incapacitating Weapons, Bradford Science and Technology Report No. 8.

⁷³ 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 *Non Lethal Warfare and the Chemical Weapons Convention*, Perry Robinson, J, Further HSP submission to the OPCW Open Ended Working Group on Preparations for the Second CWC Review Conference, October 2007.

⁷⁴ Northern Ireland Office (2004) *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.

⁷⁵ Patten Report

⁷⁶ Patten Report

Scientific and technological developments – the future threat

The brief survey above indicates that currently a number of states have initiated research programmes exploring incapacitating biochemical agents, whilst a larger number of 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, 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.”*⁷⁷

Of course many of these advances have great potential to benefit mankind – for example in the development of more effective, safer medicines. As one expert has noted: *“We are at present in the midst of a golden age of biomedical research. We are currently engaged in two of the most important endeavours in the history of science and medicine. We are simultaneously mapping the human brain and the human genome...The achievements occurring on these two levels will meet one another some time within the next decade or perhaps two...Once mind and molecule meet, prevention is possible. Improvements in treatment are certain.”*⁷⁸

However, there is also concern at the potential for the misapplication of the new capabilities for hostile purposes. Professor Matthew Meselson of Harvard University has stated: *“During the century ahead, as our ability to modify fundamental life processes continues its rapid advance, 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.”*⁷⁹

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...”*⁸⁰

There are indications that the current advances in genomics, biotechnology, neuroscience, etc are being monitored by the military of certain states. As one review noted: *“Advances in discovery of novel bioregulators, especially bioregulators for incapacitation, understanding of their mode of operation and synthetic routes for manufacture have been very rapid in recent times...”*⁸¹

The review continued:

⁷⁷ Neuroscience 2000: A New Era of Discovery”, Symposium Organised by the Society of Neuroscience, Washington DC, 12-13 April 1999

⁷⁸ Andreasen, N., Brave New Brain: Conquering Mental Illness in the Era of the Genome, Oxford University Press US, 2004

⁷⁹ M. Meselson, “Averting the Hostile Exploitation of Biotechnology”, The CBW Conventions Bulletin 48 (2000), p 16-19.

⁸⁰ M. Meselson, “Averting the Hostile Exploitation of Biotechnology”, The CBW Conventions Bulletin 48 (2000), p 16-19.

⁸¹ Boken, S., Breen, J. and Orehovec, Z., “An Evaluation of Bioregulators as Terrorism and Warfare Agents”, Applied Science and Analysis Newsletter 90 (2002): 1, 16-19

*“Some of these compounds may be potent enough to be many hundreds of times more effective than the traditional chemical warfare agents. Some very important characteristics of new bioregulators that would offer significant military advantages are novel sites of toxic action; rapid and specific effects; penetration of protective filters and equipment; and military effective physical incapacitation.”*⁸²

Wheelis and Dando have surveyed current developments and future trends in neurobiology and believe that there are indications that military interest is 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, cholecystinin 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.”*⁸³

Current debate concerning incapacitating biochemical weapons

There are some indications that the international community is at last beginning to discuss the issue of incapacitating biochemical agents. For example, during the January 2008 meeting of the International Union of Pure and Applied Chemistry that was held in preparation for the CWC Second Review Conference, the issue of non-lethal (bio)chemical weapons was discussed in some depth. 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’).”*⁸⁴

A briefing document circulated by the OPCW Director General to all State Parties before the Second Review Conference stated that: *“the SAB [OPCW Scientific Advisory Board] noted again the question of the use of incapacitating chemicals for law enforcement, pointing to the possibility that new compounds might be discovered that more closely fit the profile required of such agents...The Director-General wishes to add 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. 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 offer an opportunity to*

⁸² Boken, S., Breen, J. and Orehovec, Z., “An Evaluation of Bioregulators as Terrorism and Warfare Agents”, Applied Science and Analysis Newsletter 90 (2002): 1, 16-19

⁸³ Wheelis, M. and Dando, M. Neurobiology: A case study of the imminent militarization of biology. International Review of the Red Cross, Volume 87, Number 859, September 2005.

⁸⁴ Balali-Mood, M., Steyn, P., Sydnes, L., Trapp, R., International Union of Pure and Applied Chemistry (IUPAC), Impact of Scientific Developments on the Chemical Weapons Convention (IUPAC Technical Report), January 2008.

*initiate such an evaluation, and the SAB's observations might help in such an endeavour.*⁸⁵

During the Second Review Conference, a number of State Parties raised concerns about incapacitants and other non-lethal weapons, 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."*⁸⁶ Switzerland also presented a formal National Working Paper on incapacitating biochemical 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."*⁸⁷

Because of the EU's working practices, the UK did not present an individual statement to the Second Review Conference, but rather adhered to the EU joint statement which was made on behalf of the EU by its then president, Slovenia.⁸⁸ Unfortunately, the EU joint statement made no explicit reference to incapacitating biochemical weapons.

However, the UK government did outline its position with regard to incapacitating biochemical weapons in a statement to the House of Lords on 21st April 2008. In response to a Parliamentary Question by Lord Avebury⁸⁹, Baroness Taylor of Bolton, the Parliamentary Under-Secretary of State, Ministry of Defence stated that: *"The issues surrounding so-called incapacitating biochemical weapons and their potential impact on the Chemical Weapons Convention are highly complex and most states party to the convention have yet to express clear ideas on the implications for the convention. The UK believes that thorough study of the complex technical and legal implications is required and therefore does not consider the issue ready for detailed discussion at the second review conference. But we are willing to examine, with other states party to the convention, the options for taking forward work after the conference, if it appears that consensus on how to move forward seems achievable, and if a suitable mechanism and scope for discussions can be decided."*⁹⁰

⁸⁵ 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)

⁸⁶ 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.

⁸⁷ Switzerland Working Paper, Riot Control and Incapacitating Agents Under the Chemical Weapons Convention, The Hague, Netherlands, RC-2/NAT.12, 9th April.

⁸⁸ 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.

⁸⁹ 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".

⁹⁰ Baroness Taylor of Bolton, Written Answer, Column WA216, Hansard, 21st April 2008, http://www.publications.parliament.uk/pa/ld200708/ldhansrd/text/80421w0001.htm#80421w0001.htm_spnew18

In correspondence with the BNLWRP, the UK Ministry of Defence 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.”*⁹¹

During the Review Conference, Switzerland put forward language on incapacitating biochemical agents for inclusion in the Review Conference Final Document. Although this language gained widespread support from State Parties, it was removed “at the last minute” due to the objection of Iran.⁹²

The Role of the UK in Combating the Proliferation and Misuse of Incapacitating Biochemical Weapons

Incapacitating biochemical weapons and the UK government’s National Security Strategy:

BNLWRP notes the inclusion in the UK National Security Strategy of sections relating to chemical and biological weapons, including the following threat assessment:

*“ A number of states retain the ability to produce chemical and biological weapons. Again, we do not judge that they currently pose a direct threat to the United Kingdom, but we will continue to monitor their ability to produce weapons, the development and proliferation of potential delivery mechanisms, and the possibility of material falling into the hands of terrorists. ”*⁹³

Furthermore, BNLWRP welcomes the UK government’s commitment to countering the threat of chemical and biological weapons. Specifically its adoption of an *“integrated, multilateral approach to tackling chemical and biological weapons.”* This approach incorporates commitments to: *“work to strengthen international conventions and to press possessor states to meet the agreed 2012 deadline for the destruction of chemical weapons; strengthen the international verification regime; work with experts to minimise the risk of misuse of commercial material; and seek to reduce the risk of CBRN material, including commercial material, falling into the hands of failed and failing states or terrorists, through strengthening codes of conduct and export control regimes, and improving the international monitoring architecture.”*⁹⁴

⁹¹ Correspondence with authors, Des Browne, Secretary of State, Ministry of Defence, 9th April 2008.

⁹² Following the Second CWC Review Conference, an unnamed Iranian official stated: *“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.”*Arms Control Today, CWC Avoids Difficult Issues, May 2008, http://www.armscontrol.org/act/2008_05/CWC

⁹³ Paragraph 3.13, The National Security Strategy of the United Kingdom: Security in an interdependent world, March 2008, CM 7291

⁹⁴ Paragraph 4.23, The National Security Strategy of the United Kingdom: Security in an interdependent world, March 2008, CM 7291

However, despite these important commitments there is no specific reference made to incapacitating biochemical weapons anywhere within the National Security Strategy in terms of threat assessment nor with regard to measures combating the dangers of proliferation and misuse of such weapons.

Although there does not appear to be an immediate direct threat of the use of such weapons against the UK or its armed forces in the short term, the ongoing research and development of such weapons by certain states is of concern and we believe does present a potential security challenge, particularly if such research and development were to proliferate. In this regard, BNLWRP notes that the National Security Strategy states that: *“Wherever possible we will tackle security challenges early. We are committed to improving our ability to scan the horizon for future security risks, and to developing our capabilities for preventative action. The most effective way to tackle all the major security challenges involves early engagement.”*⁹⁵

BNLWRP Recommendations:

Given the current levels of research into incapacitating biochemical weapons, the future trajectory of such research, the potential for proliferation and misuse of such weapons and the potential danger to the integrity of the Chemical Weapons Convention, BNLWRP recommends that the UK government should develop specific responses to meet this security challenge as a matter of urgency. These should include:

1. Informal inter-governmental mechanism:

Despite growing recognition of the need to regulate incapacitating biochemical agents, the Second CWC Review Conference did not agree a formal mechanism for CWC State Parties to collectively address this issue. BNLWRP therefore recommends that the UK together with interested CWC State Parties, such as Switzerland, should initiate an informal intergovernmental mechanism to address this issue. BNLWRP believes that this process could usefully:

- Develop proposals for a definition of incapacitating biochemical agents.
- Explore the status of incapacitating biochemical agents under the CWC.
- Reaffirm and define the CWC prohibition on the use of all toxic chemicals – including incapacitating biochemical agents – as a method of warfare.
- Explore the CWC limitations on the use of toxic chemicals - including incapacitating biochemical agents - for law enforcement.
- Explore the CWC limitations on the development, transfer and use of munitions and delivery devices for toxic chemicals including incapacitating biochemical agents.
- Propose options for CWC reporting and transparency measures for toxic chemicals - including incapacitating biochemical agents - used for law enforcement.
- Explore the limitations on the development, transfer and use of incapacitating biochemical agents arising from existing obligations under other relevant treaties specifically the Biological Weapons Convention, the Single Convention on Narcotic Drugs and the UN Convention on Psychotropic

⁹⁵ Paragraph 2.3, The National Security Strategy of the United Kingdom: Security in an interdependent world, March 2008, CM 7291

Substances, as well as relevant aspects of international humanitarian law and international human rights law.

Given the multifaceted and multidisciplinary nature of the issues surrounding incapacitating biochemical agents, 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 then be submitted to the relevant policy making organs of the Chemical Weapons Convention, with the aim that the issue of incapacitating biochemical weapons be formally addressed at a Conference of State Parties and subsequently 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.

Given the importance and complexities of the issue, BNLWRP believes that the UK should begin consultation with possible partners, including Switzerland, as soon as possible.

2. Utilising existing CWC consultation, investigation and fact-finding mechanisms:

The UK government should seek relevant information from those CWC State Parties reportedly undertaking research into incapacitating biochemical agents that will demonstrate that their activities are in conformity with the CWC and relevant international law. Given the Russian Federation's reported use of incapacitating biochemical agents on two occasions, the UK should seek clarification regarding its presumptive stockpile of incapacitating biochemical agents, 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 and other relevant states are not fruitful, the UK should consider a formal request under Article IX of the CWC.

3. Transparency and public accountability with regard to UK policy and practice on incapacitating biochemical agents:

Given the previous record of UK research into incapacitating biochemical agents, BNLWRP recommends that the UK government make a statement to Parliament describing current UK policy with regard to research, development, transfer and use of such agents by the UK for law enforcement, military or other purposes. This statement should highlight any relevant research regarding such agents currently taking place or planned in the UK.

In addition, the UK government should report to Parliament on its current strategy and activities for combating the proliferation and misuse of incapacitating biochemical weapons.

The Foreign Affairs Select Committee, possibly in conjunction with the Defence Select Committee and Home Affairs Select Committee, should consider undertaking a review of UK policy and practice with regard to incapacitating biochemical agents. Such a review would encompass the UK's activities in combating proliferation and

misuse of incapacitating biochemical agents as well as investigating any relevant research activities the UK has undertaken into such agents.

For further information on aspects of this report or with regard to non-lethal weapons please contact:

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