

## THE CHALLENGES TO THE CHEMICAL WEAPONS CONVENTION

by

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### Introduction

1. It is timely in 2007 to take stock of the challenges to the Chemical Weapons Convention as it is ten years since it entered into force on 29 April 1997. The drafters of the Convention quite rightly focussed both on the importance of destroying the chemical weapons declared by the States Parties and on ensuring that past, present and future chemical weapons were prohibited.

2. The key to ensuring that past, present and future chemical weapons are prohibited lies in the requirement set out in Article VI of the Convention:

*2. Each State Party shall adopt the necessary measures to ensure that toxic chemicals and their precursors are only developed, produced, otherwise acquired, retained, transferred, or used within its territory or in any other place under its jurisdiction or control for purposes not prohibited under this Convention.*

3. This requirement is known as the General Purpose Criterion as it is all-embracing in that it addresses **all** toxic chemicals and their precursors. Toxic chemicals are defined in the Convention as follows:

2. *"Toxic Chemical" means:*

*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.*

It therefore covers **any** chemical, **regardless of their origin** or of **their method of production**, that can cause **death, temporary incapacitation or permanent harm to humans or animals**.

4. Whilst the Convention sets out requirements for the verification regime to be applied to Scheduled chemicals, the obligation to implement the General Purpose Criterion is placed by Article VI on each State Party.

5. The past ten years has seen much progress made by the Organisation for the Prohibition of Chemical Weapons (OPCW) and the States Parties in the destruction of chemical weapons and in the implementation of the verification regime set out in the CWC for Scheduled Chemicals and, more recently, the provisions for the inspection of Other Chemical Production Facilities (OCPFs). The provisions for the inspection of OCPFs are set out in Part IX of the Verification Annex of the Convention.

6. In its Report on 2005 issued in December 2006 the OPCW stated that in regard to OCPFs that the situation as of 31 December 2005 was as follows:

Type of Facility	Number of States Parties That Had Made Declarations	Number of Facilities Declared	Number of Facilities Subject to Inspection	Number of States Parties Subject to Inspection
OCPF	76	4,887	4,702	73

The same report shows that 80 OCPFs had been inspected in 2005 taking 1,272 inspector days (which were defined as the number of days spent on an inspection multiplied by the number of inspectors assigned to it). As the regime for OCPF inspections detailed in Part IX of the Verification Annex states that in paragraph 20 that an OCPF inspection shall not exceed 24 hours although extensions can be agreed between the inspection team and the inspected State Party. Consequently, an average size of inspection team for carrying out an OCPF can be deduced as being around 16 assuming a duration of no longer than a day.

7. The onus is primarily upon the States Parties to implement the General Purpose Criterion. It is known that some National Authorities, such as that of the United Kingdom, have given consideration to this topic. This paper explores ways in which the General Purpose Criterion could be implemented by using other activities that are being carried out involving chemicals, whether in regard to health and safety considerations such as the REACH initiative that has recently been agreed by the European Union and will apply to all countries within the EU, or in actions being taken because of national concerns about the possible misuse of chemicals by terrorists.

### **The Importance of the General Purpose Criterion**

8. There have been two developments during the past five years that underline the central importance of the general purpose criterion and its effective implementation. The first relates to Iraq and the weapons of mass destruction sought by the regime of Saddam Hussein. Although there has been much debate about precisely what capability did Iraq have during the 1980s and 1990s, it is important to recognize that Iraq was seeking chemical weapons to use at a time of their choosing – they were **not**, as was historically the case with most other states which have sought chemical weapons, seeking a **retaliatory** capability.<sup>1</sup> Consequently, there was no requirement, as there is for a retaliatory capability, for agents with long storage lives and toxic chemicals that are more readily available could be used as

<sup>1</sup> Graham S. Pearson, *The Search for Iraq's Weapons of Mass Destruction*, Palgrave Macmillan, 2005.

required. The absence of a stockpile can also be seen as beneficial should an inspection be carried out at short notice.

9. The second development relates to the concerns that terrorists might choose to use chemicals as a weapon of terror. Again, such use is **not in retaliation**, but will be the use of toxic chemicals that are available when required.

10. Both of these developments reinforce the importance of the general purpose convention as it is this provision in the Chemical Weapons Convention that prohibits the use of toxic chemicals other than for purposes not prohibited under the Convention. It is also being recognized that Toxic Industrial Chemicals (TICs) can present a threat whether used by States or by sub-State actors such as terrorist groups. A United States Chemical and Biological Defense Primer<sup>2</sup> issued in October 2001 includes a tabulation of TICs identified by a UK, US & Canadian International Task Force-25 in 1998 as presenting a high hazard. ITF-25 considered that for a given chemical to present a hazard, the chemical must be present in sufficient quantity in the area of concern, must exhibit sufficient toxicity by inhalation, and must normally exist in a state that could give rise to an inhalation hazard.

Ammonia	Arsine	Boron trichloride	Boron trifluoride
Carbon disulfide	Chlorine	Diborane	Ethylene oxide
Fluorine	Formaldehyde	Hydrogen bromide	Hydrogen chloride
Hydrogen cyanide	Hydrogen fluoride	Hydrogen sulfide	Nitric acid, fuming
Phosgene	Phosphorus trichloride	Sulfur dioxide	Sulfuric acid
Tungsten hexafluoride			

A subsequent International Task Force-40 which reported in 2003 has reviewed, revised and validated the earlier report of ITF-25. ITF-40 agreed that a risk assessment was needed of all High Production Volume (HPV) chemicals on the OECD list and chemicals on the US EPA list – some 5,000 chemicals in all.

11. More recently, in early 2007, Australia has initiated<sup>3</sup> a review of hazardous materials – and in particular of ‘chemicals of security concern’ which is intended to assist counter-terrorism efforts by ‘limiting opportunities for, and enhancing detection of the illegal/unauthorised use of hazardous materials.’ In a discussion paper, some 95 chemicals are listed that may need tighter security. These include both toxic chemicals and other chemicals that may be hazardous. Included among the chemicals listed are:

Chlorine	CWC Schedule III chemicals	Hydrogen peroxide	Mercuric chloride
Methyl parathion	Nitromethane	Phosphides (Zn, Al, Mg)	Phosphine
Potassium chlorate	Potassium cyanide	Potassium perchlorate	Sodium chlorate
Sodium cyanide	Sodium fluoroacetate	Strychnine	

<sup>2</sup> US Department of Defense, *Chemical and Biological Defense Primer*, Prepared by: The Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense, October 2001.

<sup>3</sup> Australia, Department of the Prime Minister and Cabinet, *COAG Review of Hazardous Materials*. See [http://www.pmc.gov.au/protecting\\_australia/haz\\_materials/index.cfm](http://www.pmc.gov.au/protecting_australia/haz_materials/index.cfm)

12. It is also to be noted that an Emergency Response Guidebook (ERG 2004)<sup>4</sup> produced jointly by Transport Canada, the US Department of Transportation and the Mexican Secretariat of Communications and Transport provides a clear statement of what are “Toxic Inhalation Hazard’ materials together with listings of such chemicals together with guidance on initial isolation distances and protective action distances. A TIH is a gas or volatile liquid which is known to be so toxic to humans as to pose a hazard to health during transportation, or in the absence of adequate data on human toxicity, is presumed to be toxic to humans because when tested on laboratory animals it has an LC<sub>50</sub> value of not more than 5000 ppm.

13. Consequently, such developments provide useful lists of the chemicals which should be addressed by the States Parties when considering how best to implement the general purpose criterion of the Chemical Weapons Convention.

### **The First Review Conference**

14. The first Review Conference of the Chemical Weapons Convention was held in April/May 2003. In the report<sup>5</sup> prepared by the Scientific Advisory Board (SAB) for the Review Conference, the SAB said:

*The SAB is convinced, however, that the number and types of unscheduled chemicals that could cause considerable harm, if they were misused for CW purposes, have expanded significantly. This is the result of recent advances in science and technology.*

and went on to say that:

*The definition of CW contained in Article II, as well as the provisions of the Schedules of Chemicals, make it clear that the Schedules do not embrace the entire scope of the Convention. The Convention's prohibitions related to "chemical weapons" apply to all toxic chemicals and their precursors, except when intended for purposes not prohibited by the Convention, as long as the types and quantities are consistent with such purposes. Without that broad scope, chemical warfare agents of novel identity (including those which are as yet undisclosed or undiscovered) would remain outside the reach of the Convention.*

*3.6 The SAB is fully aware of the wisdom of the drafters of the Convention – that international verification procedures complement the obligation of States Parties to take the necessary measures to implement the Convention, including legislation in relation to toxic and precursor chemicals. The distinction between scheduled chemicals (i.e. chemicals that need to be declared and that become subject to verification measures) and unscheduled chemicals is a regulatory matter. Wherever this distinguishing line is drawn, there will always be unscheduled chemicals that, if misused, would pose a risk to the Convention. In relation to the verification regime, a*

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<sup>4</sup> 2004 Emergency Response Guidebook (ERG 2004) available at [http://www.tc.gc.ca/canutec/erggmu/whitepage.aspx?page=erg\\_userguide](http://www.tc.gc.ca/canutec/erggmu/whitepage.aspx?page=erg_userguide)

<sup>5</sup> Organisation for the Prohibition of Chemical Weapons, *Note by Director-General Report of the Scientific Advisory Board on Developments in Science and Technology*, RC-1/DG.2/23 April 2003.

*certain degree of risk is unavoidable in order to keep verification acceptable, feasible, and affordable. Scientific advances will, however, have an impact on that risk, and therefore they need to be reviewed.*

15. The Director-General in his covering note made the following recommendation to the Review Conference:

*the First Review Conference may wish to take note of developments in science and technology in relation to chemicals relevant to the Convention, and may wish to reaffirm that the definition of CW contained in paragraph 1 of Article II continues to ensure all unscheduled chemicals meeting its definitions of “toxic chemical” or “precursor” are covered by the prohibitions of Article I, if they were to be used for CW purposes. In this context, the First Review Conference may also wish to draw the attention of the States Parties to the provisions of paragraph 1 of Article VII, in relation to national implementation measures;*

16. The Review Conference in its Political Declaration<sup>6</sup> stated:

17. The States Parties reaffirm that national implementation measures must reflect all relevant provisions of the Convention and the comprehensive nature of its prohibitions, to ensure that they apply to all toxic chemicals and precursors except where intended for purposes not prohibited under the Convention, as long as their types and quantities are consistent with such purposes.

17. The Report<sup>7</sup> of the Review Conference included:

*7.23 The First Review Conference **considered** the impact of developments in science and technology on the Convention’s prohibitions. The definitions contained in Article II, in particular of the terms “chemical weapons” and “chemical weapons production facility”, were found to adequately cover these developments and to provide for the application of the Convention’s prohibitions to any toxic chemical, except where such a chemical is intended for purposes not prohibited by the Convention, and as long as the types and quantities involved are consistent with such purposes. The First Review Conference **noted**, however, that science is rapidly advancing.*

and also went on to include:

*7.57 The First Review Conference **reaffirmed** the obligation of the States Parties to adopt the necessary measures to ensure that toxic chemicals and their precursors are developed, produced, otherwise acquired, retained, transferred, or used within their territories or in any other places under their jurisdiction or control, only for purposes not prohibited by the Convention.*

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<sup>6</sup> Organisation for the Prohibition of Chemical Weapons, Political Declaration of the First Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (First Review Conference), RC-1/3, 9 May 2003.

<sup>7</sup> Organisation for the Prohibition of Chemical Weapons, *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)* 28 April-9 May 2003, RC-1/5, 9 May 2003.

## Sound Management of Chemicals

18. In addition, there have been international developments promoting the sound management of chemicals with the commitment by governments at the World Summit in Johannesburg in 2002 to the aim to achieve, by 2020, the use and production of chemicals in ways that lead to the minimization of significant adverse effects on human health and the environment. As part of that commitment, there is a call to adopt transparent science-based risk assessment procedures and science-based risk management procedures, taking into account the precautionary approach as well the provision of support to developing countries in strengthening their capacity for the sound management of chemicals and hazardous wastes by providing technical and financial assistance. Such an approach requires governments around the world to focus attention on the production and use of chemicals within their countries which may present a hazard to human health or the environment. The relevance of this commitment at the World Summit in 2002 to the international treaty prohibiting chemical weapons is demonstrated by the heading "*Worldwide Toxic Chemicals Ban Agreed*" of one of the articles written at the time.

19. Following the World Summit in 2002, the Strategic Approach to International Chemicals Management (SAICM) was agreed in Dubai in February 2006 and is now being taken forward by both UNDP and UNEP. The Strategic Approach supports the achievement of the World Summit goal to ensure that, by the year 2020, chemicals are produced and used in ways that minimize significant adverse impacts on the environment and human health. It promotes cross-sectoral governance for the sound management of chemicals at the national/local levels and identifies the need for the establishment of stronger links between chemicals management and development planning priorities, processes and plans of developing countries. The SAICM recognizes that there are benefits from taking an integrated approach towards the various Conventions (Basel Convention, PIC Convention, POPs Convention, etc) relating to hazardous chemicals rather than a set of individual approaches.

20. The Conference and the process to develop the Strategic Approach to International Chemicals Management were co-convened by the United Nations Environment Programme (UNEP), the Inter-Organization Programme for the Sound Management of Chemicals (IOMC) and the Intergovernmental Forum on Chemical Safety (IFCS). The participating organizations of IOMC are the Food and Agriculture Organization of the United Nations (FAO), the International Labour Organization (ILO), the Organisation for Economic Co-operation and Development (OECD), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR) and the World Health Organization (WHO). Three other organizations, the Global Environment Facility, the United Nations Development Programme (UNDP) and the World Bank, joined IOMC and IFCS in a steering committee established to oversee the Strategic Approach development process. In its resolution 1, the International Conference on Chemicals Management commended the Strategic Approach to the attention of the governing bodies of relevant organizations and encouraged them to endorse or otherwise appropriately acknowledge the Strategic Approach with a view to incorporating its objectives into their programmes of work within their mandates.

21. The most recent Governing Council meeting of UNEP in February 2007 included

decisions not only on Chemicals Management (24/2) which takes forward the Strategic Approach to International Chemicals Management (SAICM) but also a decision on the Prevention of Illegal International Trade (24/4). The latter decision is aimed at the prevention of illegal international traffic in toxic and dangerous chemicals and involves those engaged in the Basel Convention, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants as well as urging the SAICM programme to present common recommendations to the governing bodies of its participating organizations for consideration within their respective mandates on the prevention of illegal international traffic in hazardous chemicals. The World Customs Organisation is also invited to participate.

22. Another recent development is that of The Green Customs Initiative<sup>8</sup> aims at strengthening compliance and enforcement of multilateral environmental agreements (MEAs). This notes that illegal trade in 'environmentally-sensitive' commodities such as Ozone Depleting Substances (ODS), toxic chemicals, hazardous wastes and endangered species is an international problem with serious consequences. Several MEA Secretariats (of the Basel, Stockholm, and Rotterdam Conventions, CITES, the Montreal Protocol), UNEP Divisions and Regional Offices, Interpol and the World Customs Organization (WCO) are cooperating on this cross-cutting initiative. This again recognizes the benefit of an integrated approach rather than a series of individual approaches. Although the Green Customs organization website does not highlight the Chemical Weapons Convention or the OPCW, it is evident<sup>9</sup> that the OPCW is cooperating with UNEP in the Green Customs Initiative following UNEP participation in a Workshop for Customs Authorities on Technical Aspects of the Implementation of the Chemicals Transfer Regime, held at OPCW headquarters in The Hague from 4 to 5 October 2005.

23. In addition, to these approaches, a new chemical initiative, REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) has recently been agreed<sup>10</sup> in Europe and the legislation relating to REACH will come into force from June 2007 onwards. The aims of REACH are to improve protection of human health and the environment from the risks of chemicals while enhancing the competitiveness of the EU chemicals industry. It is evident that under REACH manufacturers and importers of chemicals will be required to submit:

- a technical dossier, for substances in quantities of 1 tonne or more, and
- a chemical safety report, for substances in quantities of 10 tonnes or more.

REACH includes provisions to ensure that, for substances of very high concern, an authorisation is required for their use and their placing on the market.

24. Further controls are imposed on a range of chemicals through the United Nations

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<sup>8</sup> See <http://www.greencustoms.org/about/background.htm>

<sup>9</sup> See <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=392&ArticleID=5002&l=en>

<sup>10</sup> European Union, *REACH in Brief*, February 2007. Available at [http://ec.europa.eu/environment/chemicals/reach/reach\\_in\\_brief04\\_09\\_15.pdf](http://ec.europa.eu/environment/chemicals/reach/reach_in_brief04_09_15.pdf)

Conventions on Narcotic Drugs<sup>11</sup> which establish international systems for managing the potential risks of diversion, abuse and the illicit use associated with access to pharmaceutical substances and medicines, while enabling legitimate use.

25. It is thus recognized globally as well as in the European Union and in several countries that there are significant advantages in seeking to establish a comprehensive strategic approach for the oversight and control of chemicals rather than a multiplicity of individual approaches each intended to address a particular requirement.

### **Implementation of the General Purpose Criterion**

26. Whilst National Authorities may initially have wondered how best they could discharge their obligations to implement the general purpose criterion of the Chemical Weapons Convention, it has become clear that there are several other reasons why toxic chemicals need to be controlled nation ally. These include:

- a. The management of chemicals to protect the environment and public health
- b. The security of chemicals of security concern that may be misused to cause harm
- c. Preparedness to deal with releases of chemicals, whether deliberate or accidental.

27. There is also a further reason why the general purpose criterion needs to be effectively implemented nationally. This is to address concerns about chemicals that may be intended to incapacitate and may therefore have legitimate purposes in respect of law enforcement and riot control. However, any such chemicals should not provide an opportunity for either a State or individuals to carry out activities prohibited by the Chemical Weapons Convention. As an excellent editorial<sup>12</sup> pointed out in the CBW Conventions Bulletin in September 2003 some six months after the First CWC Review Conference:

*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 the so-called 'non-lethal' chemical weapons. The First CWC Review Conference earlier this year was the opportunity to address the issue constructively. But, save in the national statements of New Zealand, Norway and Switzerland, the OPCW chose not to do so.*

28. The editorial points out the dangers to the Conventions posed by such weapons and rightly points out that “*Provided the 'general purpose criterion' is implemented properly, it protects the Conventions against obsolescence due to technological advance in biochemistry and biotechnology. When new toxic chemicals are discovered, they automatically come under its purview.*” The editorial concludes by emphasising that:

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<sup>11</sup> United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988 (1988 Convention) and the 1961 United Nations Single Convention on Narcotic Drugs (as amended by the 1972 Protocol).

<sup>12</sup> Editorial, ‘Non-Lethal’ Weapons, the CWC and the BWC, The CBW Conventions Bulletin, issue No. 61, September 2003, pp. 1-2.

*The importance of averting the hostile exploitation of biotechnology, with its tremendous potentials for both benefit and harm, is immeasurably more important than the marginal utility of “non-lethal” chemical weapons in military or paramilitary operations. Instead of logic-chopping arguments intended to relax the prohibitions of the CWC and the BWC, we must look to these international agreements as the basis of a clear and generally agreed firebreak against military use in war of all toxic weapons, existing and yet to be found.*

## **The Way Forward**

29. The Second CWC Review Conference will provide an opportunity – that should be seized – to examine the implementation of the General Purpose Criterion as this is a key indicator of the health of the Convention into the future. Such an examination will be especially timely in the light of the attention being given internationally for a variety of reasons to the control and oversight of chemicals whether for health and safety or to counter misuse. The Executive Council should recognise this and call upon the Director-General to call upon the Scientific Advisory Board to provide a report on the implementation of the General Purpose Criterion for consideration at the Second Review Conference. Furthermore, the States Parties should be encouraged to report to the Second Review Conference on how they have individually been implementing the General Purpose Criterion with the aim of sharing best practice and moving towards a harmonised approach as this will maximise the security benefits to all States Parties from the effective and proper implementation of the General Purpose Criterion.

26. The issue of the so-called ‘non-lethal’ weapons should also be addressed at the Second Review Conference. The States Parties should consider how best to build confidence amongst themselves that any materials held for riot control purposes are indeed solely for such purposes. This could be achieved by making declarations of not only the nature of any riot control agents but also of the quantity of such agents held by the State Party and the devices held for the dissemination of such riot control agents. In addition, the examination of the General Purpose Criterion at the Second Review Conference should lead to a clear reaffirmation that **all** toxic chemicals, except for the listed purposes that are not prohibited, are covered by the prohibitions of the Convention.