

**THE BIOLOGICAL WEAPONS CONVENTION
PROTOCOL: POLITICS, SCIENCE AND INDUSTRY
HENRIETTA WILSON**

verification**matters**

VERTIC RESEARCH REPORTS

number 2 december 2001

VERTIC is the Verification Research, Training and Information Centre, an independent, non-profit making, non-governmental organisation. Its mission is to promote effective and efficient verification as a means of ensuring confidence in the implementation of international agreements and intra-national agreements with international involvement. VERTIC aims to achieve its mission through research, training, dissemination of information, and interaction with the relevant political, diplomatic, technical, scientific and non-governmental communities.

International Verification Consultants Network

Richard Butler AO (arms control and disarmament verification); Dr Roger Clark (seismic verification); Dr Jozef Goldblat (arms control and disarmament agreements); Dr Patricia Lewis (arms control and disarmament agreements); Peter Marshall OBE (seismic verification); Robert Mathews (chemical and biological disarmament); Dr Colin McInnes (Northern Ireland decommissioning); Dr Graham Pearson (chemical and biological disarmament); Dr Arian Pregoner (co-operative monitoring); Dr Rosalind Reeve (environmental law).

Funders Ford Foundation, Joseph Rowntree Charitable Trust, Rockefeller Family Philanthropic Offices, W. Alton Jones Foundation and the John D. and Catherine T. MacArthur Foundation.

Board of Directors Dr Owen Greene (Chair); Gen. Sir Hugh Beach GBE KCB MC; Lee Chadwick MA; Joy Hyvarinen, LL.M., LL.M.; Dr Bhupendra Jasani; Susan Willett BA (HONS), MPHIL.

Series editor Trevor Findlay

Sub-editors Richard Jones and Eve Johansson

Design and production Richard Jones

The Verification Research, Training and Information Centre (VERTIC), Baird House, 15-17 St. Cross Street London EC1N 8UW, United Kingdom

Phone +44.(0)20.7440.6960

Fax +44.(0)20.7242.3266

E-mail info@vertic.org

Website www.vertic.org

Printed by Corporate and Commercial Printing (CCP) Limited, 5-8 Helmet Row, London EC1V 3QJ

ISSN 1474-8045 © VERTIC 2001

Acknowledgements	5
Introduction	7
The politics	8
The perceived need for verification	9
The political debate over verification	12
<i>Verification challenges</i>	12
<i>Verification sceptics</i>	13
<i>Advocates of verification</i>	14
Other political priorities	15
The science	19
The nature of the risk	19
<i>The changing nature of the risk</i>	19
Challenges for the Ad Hoc Group	21
The contribution of science to finding solutions to the BW problem	22
The industry	25
The relevance of the biotechnology industry	25
Profile of the global pharmaceutical industry	26
Government–industry relations	27
Conclusion	31
Endnotes	33

Acknowledgements

This report is an outcome of a project sponsored by the Acronym institute and VERTIC and funded by the W. Alton Jones Foundation. Much of the research was done at the Seventeenth Session of the Ad Hoc Group (22 November–10 December 1999), where I interviewed Ad Hoc Group participants from many delegations. I collected and confirmed data from these interviews on the basis that the information obtained was non-attributable; I am very grateful for the time and patience of those who spoke to me.

I would also like to thank warmly the following people for their ongoing support and for their careful reading of drafts of the report: Seth Bullock, Marie Chevrier, Malcolm Dando, Daniel Feakes, Trevor Findlay, John Hart, Melissa Hersh, Patricia Lewis, Oliver Meier, Graham Pearson, Julian Perry Robinson, Nicholas Sims, Simon Whitby and Jean Pascal Zanders.

Introduction

Biological warfare, the hostile use of disease against humans, animals and plants, has long been recognised as a particularly abhorrent means of waging war. The Biological and Toxin Weapons Convention (BWC), which was opened for signature in 1972 and entered into force in 1975, prohibits the development, production, stockpiling and acquisition of biological and toxin weapons and reinforces the existing taboo against their use. The BWC was heralded as groundbreaking—the first international agreement to outlaw an entire class of weapon of mass destruction. But the treaty, only four pages long, lacks detail on how some of its commitments should be implemented and contains no verification measures.¹

A Special Conference of the States Parties to the BWC in 1994 set up an Ad Hoc Group (AHG) to develop a ‘legally binding instrument’ to strengthen the effectiveness of the convention and to improve its implementation.² On 30 March a Chairman’s text was presented to delegations to the Ad Hoc Group.³ It was expected that this draft would serve as the basis for the final agreement, but the negotiations were brought to an abrupt conclusion in July 2001 when the US rejected both the draft and the approach that it represented. Following the US rejection, and the events of 11 September and subsequent anthrax attacks, the future of the AHG is unclear. Accordingly, this report describes the work of the Ad Hoc Group before July 2001.

A number of factors motivated states to participate in the Ad Hoc Group, including the wish to enhance national, regional and international security. Participants assessed the risk posed by biological

weapons (BW) proliferation and the extent to which a protocol could minimise the danger. At the same time, however, states were anxious to anticipate and minimise any harm that might result from a protocol. Key concerns pertained to the preservation of national sovereignty, the protection of military and commercial secrets, and the cost–benefit ratio of particular measures, especially different verification mechanisms. States were also keen to create treaty provisions that would promote participation and build confidence in the regime, such as mechanisms that facilitate international scientific and technical co-operation. While all these objectives are legitimate, some states used them to slow down the talks in the hope of preventing the emergence of a strong protocol or, indeed, any protocol at all.

The AHG negotiations involved a complex interplay between politics, science and industry. It is a platitude to observe that, since the Group was concerned with drafting an international legal instrument, the resulting protocol would be shaped principally by the political processes central to any international negotiation. But to be effective, a BWC protocol had to be based on a sound scientific understanding of the nature of the risk of biological warfare and of the measures available to minimise the danger. In addition, a protocol was required to take into account industrial capabilities and concerns. It was necessary, therefore, for the AHG also to understand the shape, nature and needs of the affected industry.

The politics

The Ad Hoc Group's work essentially involved political processes, both at the national level, at which states parties devise their positions, and in the international political interactions in the negotiating chamber and other fora. Both levels set constraints on the Group. Domestic processes were primary, setting the goals that different countries wanted to achieve in a protocol and ultimately establishing the limits of what they would accept. Difficulties or delays at the national level impeded the Group's work.

The US, for example, with its particularly cumbersome policy-making process, hindered the Group's work at various times.

At the international level, constraints were imposed by the resources and capabilities of the different delegations, including the skills of their members and the flexibility of their instructions. In addition, the practicalities of the negotiations, including the time scheduled for meetings, as well as the effectiveness of the chair, the Friends of the Chair and the regional caucuses,⁴ affected the functioning of the Group and hence the possibilities for achieving an effective BWC protocol.

The perceived need for verification

One of the principal forces that influenced the creation of the Ad Hoc Group was a widely perceived need to establish measures to verify compliance with the BWC. The aim of verification in international agreements is to build confidence that all states parties are complying with their obligations. Ideally, verification measures do this by ensuring that violations can be detected in time to take action to minimise their effects, thus deterring potential violators. Verification also provides an opportunity for states actively to demonstrate their compliance.

The absence of verification provisions in the BWC reflects the lack of political acceptability of multilateral verification measures in the early 1970s.⁵ However, since the entry into force of the treaty, and in particular in the 1980s, there has been a significant shift in international understanding and acceptance of verification of arms control and disarmament, particularly in regard to the degree of intrusiveness necessary. For instance, international on-site inspectors have been accepted in a variety of agreements, including the 1986 Stockholm Document,⁶ the 1987 Intermediate-Range Nuclear Forces Treaty and the 1990 Treaty on Conventional Armed Forces in Europe (the CFE treaty). Most recently, the achievement of the 1993

Chemical Weapons Convention (CWC) encouraged the international community to attempt to devise means of verifying the BWC. The CWC has the most intrusive verification regime of any multilateral disarmament treaty to date, and there are many similarities and links between the challenges of outlawing CW and those of outlawing BW.

Since the entry into force of the BWC, there have been several attempts to improve its implementation. These were devised during the quinquennial Review Conferences of the states parties. Several confidence-building measures were introduced at the Second and Third Review Conferences, in 1986 and 1991 respectively, where it was agreed that states should annually submit information on particular activities. These initiatives had limited success. Only a small number of states parties made annual declarations and some notable ones never did so.⁷ At the Third Review Conference, the states parties set up an Ad Hoc Group of Government Experts (subsequently known as VEREX) to investigate the possibilities of strengthening the convention from a scientific and technical standpoint, including identifying and examining possible verification measures. VEREX met four times from 1992 to 1993 and concluded with a report evaluating 21 potential verification measures. The final report was considered by the 1994 Special Conference of the States Parties which established the AHG.

Support for giving the BWC more 'teeth' was strengthened by growing worries about the dangers of BW proliferation. Increasing understanding of the possibilities of biological warfare belied the earlier widely held perception that biological weapons were militarily useless. This recognition was underscored by assessments of the global proliferation of offensive BW programmes. US estimates named at least eight states suspected of having such programmes—China, Iran, Iraq, Israel, Libya, North Korea, Syria and Taiwan, as well as Russia and other countries that were formerly part of the Soviet Union.⁸ Furthermore, there is widespread and growing concern, as well as speculation, about the potential dangers of terrorists acquiring BW.

Efforts to strengthen the BWC were given particular impetus by the disclosure of two illicit BW programmes. The first was a violation of the BWC by the Soviet Union (one of the treaty's three depositary states, the others being the UK and the US). The second was a violation of the spirit of the BWC by a non-party but signatory state, Iraq. With regard to the former, the Soviet Union was suspected of having a large illicit programme long before Russian President Boris Yeltsin admitted this in 1992. The violation was subsequently acknowledged in Russia's 1992 declaration under the BWC's confidence-building measures. The extent of the illicit programme was later partly explored in an unfinished series of reciprocal inspections under a trilateral arrangement between Russia, the UK and the US. The scale of Iraq's programme was gradually uncovered during systematic inspections by the UN Special Commission on Iraq (UNSCOM) after the 1990–91 Gulf War.⁹ These two cases, both of which violated the norm against biological armament, made many states parties more determined to strengthen the BWC.

As one of the key elements in strengthening the BWC, verification was a central issue in the AHG negotiations. Discussions concerning such measures were allocated more time than any other issue.¹⁰ Verification aspects occupy large sections of the Chairman's draft text of April 2001, mostly in:

- Article 4, 'Declarations';
- Article 5, 'Measures to Ensure the Submission of Declarations';
- Article 6, 'Follow-up after Submission of Declarations';
- Article 8, 'Consultation, Clarification and Cooperation';
- Article 9, 'Investigations'; and
- Article 10, 'Additional Provisions on Declarations, Visits and Investigations'.

These articles outline the basics of the proposed verification regime, while associated annexes and appendices provide more detail.¹¹

The political debate over verification

States parties naturally have different views on the verification of a BWC protocol, and particularly on the question of its *verifiability*. These differences are inevitably based on differing judgements about what constitutes effective verification and on what level of confidence in compliance a verification regime can be expected to generate. It is widely accepted that devising verification measures for a BWC protocol presents unique challenges. Some nations have used these challenges to argue that verification of the BWC is ‘impossible’ or that the achievable level of confidence in compliance would be lower than that deemed acceptable in other verification regimes. Many other states believe that a combination of verification measures could generate sufficient confidence that illicit biological weapons activities could be detected in time for steps to be taken to ensure that both national and international security is not compromised.¹²

Verification challenges

A factor that significantly complicates verification of the BWC is the dual-use nature of the components of an offensive BW programme. Biological agents, and the knowledge and equipment needed to grow and weaponise them,¹³ have many uses in a large array of civilian activities. Biological agents are identical to naturally occurring micro-organisms which cause disease and are present in great numbers in different locations. In addition, such micro-organisms have legitimate uses in enterprises such as universities, hospitals and the medical and pharmaceutical industries that seek to prevent or cure disease in humans, plants or animals. Moreover, the equipment needed to grow and handle micro-organisms is commonplace in many biotechnology industries and activities.¹⁴ The tools, materials and facilities essential for many peaceful activities have the potential to be misused in an illicit BW programme. This dual-use aspect complicates the task of verifying states parties’ compliance with the BWC, since it means that an illicit BW programme could theoretically be hidden in a wide range of legitimate facilities.

Verifying compliance with the BWC is further complicated by the fact that an outbreak of disease can be natural, or the result of an accidental release of micro-organisms used for a peaceful purpose. One verification challenge is thus to distinguish between unnaturally and naturally occurring outbreaks of disease.

Alongside these complications is a host of logistical difficulties. For example, biological warfare facilities can, in theory, be small and quickly cleaned up. Empirical evidence suggests that there is a tendency to overstate this problem, given that programmes based at small facilities will not produce militarily significant quantities. Nevertheless, such small facilities could be part of a much bigger enterprise. In addition, they might be the only parts of the enterprise subject to on-site visits under a verification regime like that envisaged for the BWC protocol.

Verification sceptics

A small minority of states parties and external commentators consider the BWC to be inherently unverifiable. In their opinion, the level of confidence in compliance achievable in a verification regime is unacceptably low. Here the view of the US as the most prominent of these states parties carried particular weight.¹⁵ Indeed, the US was so dogmatic in its view that the word ‘verification’ was not used in the draft protocol. The phrase ‘measures to promote compliance’ was used instead.

Verification sceptics argue that, given the dual-use problem, a verification regime would have to monitor an unmanageably large array of legitimate facilities and activities in order to be effective. Furthermore, they contend that it would be impossible to negotiate an international BW regime that would be extensive or intrusive enough to guarantee that no illicit activities were taking place.

Finally, they see some verification measures as potentially damaging to national interests. Some observers believe that a BWC protocol could generate a false sense of security, thereby lessening states’ commitment to other means of addressing the dangers. Moreover, some argue that there is an unacceptable risk that

international mechanisms to promote compliance could be abused for espionage, and thus jeopardise national bio-defence programmes or other defence research and development (R&D), including counter-terrorism programmes, as well as the profits of industries that would be subject to international verification measures.

Advocates of verification

By contrast, the majority of countries in the AHG (including all the members of the European Union (EU), Australia, New Zealand and South Africa) argue that, despite the complications raised by the nature of biological warfare, a verification regime providing an adequate degree of confidence in compliance is attainable. These states argue that a verification regime based on meticulous analysis of relevant data can be devised that would reveal militarily significant violations. They also conclude that, despite the dual-use factor, experts can distinguish between licit and illicit activities without compromising state or commercial secrets. Some of the strongest advocates of intrusive verification measures reached this conclusion after carrying out practice on-site visits to a range of industrial and defence establishments. Verification advocates believe that without such strong mechanisms a future protocol would not fulfil their security requirements and might not be worth adhering to.

The advocates of verification suggest that the basic elements of a BWC verification regime should include: mandatory declarations of activities and/or facilities; declaration follow-up procedures, including mandatory visits to randomly-selected sites, to ensure that declarations are consistent; and short-notice investigations, invoked by a challenge from a state party, to address concerns about possible non-compliance. As it stands, the draft protocol includes all these options. The Chairman's text also contains provisions for voluntary clarification visits (one possible measure for clarifying a state's declarations in response to queries from other states parties or the international technical secretariat) and voluntary assistance visits

(which states can request to obtain relevant technical advice and information). Participants in the Ad Hoc Group largely agreed on many aspects of the verification regime, but differences remained over the degree of intrusiveness of the overall package and the acceptability of particular components.

Other political priorities

Although many states parties view verification as the single most important component of a BWC protocol, and some commentators often refer to the work of the Ad Hoc Group as being to devise a ‘verification protocol’, verification was not the only objective of the AHG. Another task was to devise provisions for implementing Article X of the BWC, which commits states parties to facilitating scientific and technical co-operation. Alongside verification, the desire to develop mechanisms to promote scientific co-operation was a major theme in the AHG. Both priorities are apparent in the Group’s mandate.

The AHG’s work on developing measures to promote scientific and technical co-operation is incorporated in Article 14 in the Chairman’s text, ‘Scientific and Technological Exchange for Peaceful Purposes and Technical Co-operation’.¹⁶ States parties differed about what is appropriate for inclusion in this article. A majority of the Western Group believed that Article 14 could enhance the effectiveness of the protocol by promoting transparency, building trust and encouraging universal participation. A range of countries at least implicitly supported the inclusion of measures that would promote health and environmental security. The majority of countries of the Non-Aligned Movement (NAM) and Others Group attached greater priority to this article in light of the needs of their industries, which are inevitably different from those in the developed world. Not only are they, like the developed countries, anxious to protect commercial secrets and ensure that a BWC protocol would not adversely affect their industry; they also want access to equipment, materials and mechanisms to promote the industry’s development.

Draft Article 14 provided for the establishment of a Co-operation Committee. While all AHG participants accepted this idea, there remained differences on the exact role and functioning of such a body.

More contentious was the debate on the future role of the export controls co-ordinated by the Australia Group, an informal arrangement set up in 1985 to develop measures to prevent international transfers of dual-use goods or technologies to countries with suspected CW or BW programmes. It was established in response to the realisation that such transfers had enabled Iraq to manufacture and use blister and nerve gases against Iran and, later, against its own population.¹⁷ Some countries argue that, if and when a BWC protocol enters into force, states parties should be able to trust each other sufficiently to make multilateral arrangements like the Australia Group redundant. Some countries from the NAM and Others Group regard the Australia Group as discriminating against developing countries and antithetical to the aims of the protocol. Members of the Australia Group are adamant that the arrangement should continue after a protocol has been achieved, arguing that some states will probably not sign or ratify the protocol or will not do so for many years. Moreover, they contend that if and when a protocol entered into force the Australia Group would still be a key component of the anti-BW-proliferation regime, since ratification by any particular state would not necessarily be guarantee of its compliance.¹⁸

Elements of this debate were evident in the negotiations on 'Scientific and Technological Exchange for Peaceful Purposes and Technical Cooperation' (Article 14 in the Chairman's text), although Western Group delegates in particular emphasised that export control issues were not appropriate for inclusion in an article primarily concerned with promoting technical co-operation. It is notable that Article 14 (paragraph 6) in the Chairman's text does not refer to the 'restriction of trade' *per se*, but commits parties to:

. . . not establish, maintain or take either individually or collectively any discriminatory measures, including those in any international agreements incompatible with the obligations undertaken

in the Convention, which would *hamper the economic and technological development* of States Parties to the Convention [emphasis added].¹⁹

Export controls are dealt with in Article 7, section B, of the Chairman's text on 'Transfer Guidelines', which would oblige states parties to maintain national export control arrangements in order to promote the anti-proliferation purposes of the convention. Article III of the BWC already commits each state party:

. . . not to transfer to any recipient whatsoever, directly or indirectly, and not in any way to assist, encourage, or induce any State, group of States or international organizations to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment or means of delivery specified in article I of this Convention.

The Chairman's text offers guidelines for transferring dual-use items in Article 7 on 'Measures to Strengthen the Implementation of Article III of the Convention'.²⁰ In committing states parties to maintain national export controls, the Chairman's text acknowledged that effective export controls can complement the aims of a BWC protocol, including the proposed verification measures. This is consistent with the recognition that 100 percent verification of compliance is impossible. Given the possible synergy between rigorous verification and effective export controls, it is ironic that some of the countries most adamant about the continuation of the Australia Group are the ones that have argued against intrusive verification.

The fact that states parties had different priorities in the Ad Hoc Group means that the draft protocol contains a complicated set of suggested mechanisms which may be complementary or contradictory. For example, although there may be no intrinsic link between the draft protocol's articles on compliance measures and Article 14 on scientific and technical co-operation, effective and acceptable measures in

each article would be mutually reinforcing. However, when they are perceived as linked, it is frequently in the context of trade-offs.

While many members of the NAM wanted to maximise the co-operative aspects of a protocol, a majority of Western Group members favoured strong compliance measures. Some NAM countries felt that, if they were to accept particular compliance measures, the Western Group should compromise on the co-operative aspects of the protocol. Simultaneously, some in the Western Group believed that the support of NAM countries for certain compliance measures could be obtained by accepting some of their demands for co-operative measures.