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PREVENTING THE HOSTILE USE OF BIOTECHNOLOGY: THE WAY FORWARD NOW

Two months before the scheduled resumption of the Fifth BWC Review Conference, the United States let it be known that it favours “a very short Rev Con, if any...with the sole purpose and outcome of agreeing to hold a Rev Con in 2006”. Should that view prevail when the states parties assemble in Geneva in November, there could be little serious attempt to strengthen the BWC regime for a further four years. At the same time, the International Committee of the Red Cross (ICRC) launched an appeal titled *Biotechnology, Weapons and Humanity*, in which it warned of the growing dangers to humanity from the possible hostile use of biotechnology and urged that strenuous efforts be made to prevent such a menace.

It is important to understand the basis of the ICRC's concerns. As has been noted previously in this *Bulletin*, all major technologies have in the past been applied for both peaceful and hostile purposes. If effective action is not taken, the same thing will surely happen to biotechnology. Should this be allowed to occur, the very nature of human conflict could begin to change, as biotechnology comes to be exploited not only to produce weapons that are lethal but also ones designed to affect cognition, behaviour, development and perhaps even inheritance — for hostile purposes. That would indeed be a ‘brave new world’ to bequeath to future generations.

In deciding where to place our priorities in order to prevent any drift toward such an inimical outcome we have to be realistic about where the principal long-term hazards of biotechnology lie and where they do not. Much concern has been expressed recently over the possible hazards of peaceful research (for example, in regard to the mousepox experiment in Australia), but it is most unlikely that a monster plague could accidentally result from such activities. The further development and application of workable guidelines and peer review of certain sorts of peaceful research are prudent measures but must not distract us from the necessity of dealing with the far greater menace of deliberate use of pathogens, existing or yet to be developed.

More effective surveillance and cooperation between national law enforcement authorities, for example, can help to foil those who may seek to acquire pathogens as weapons of terror. But history shows that it was in the major state-level offensive biological weapons programmes of the Twentieth Century — especially in the UK, the USA and the USSR — that there was the most technologically advanced and most massive preparation for the use of biological

weapons. Preventing such state-level offensive programmes in the future should be a primary concern.

A second major cause of concern should be the proliferation of secret, offensively oriented, biological defence programmes such as have recently come into being in the United States. Elements of this programme clearly go well beyond the limits for defensive research set by President Ford and promulgated within the government by the Scowcroft Memorandum of 23 December 1975 (reproduced over the page), after President Nixon closed down the US offensive programme. There is a grave danger that secret, offensively oriented, defence programmes will acquire a momentum of their own, proliferating and eventually becoming offensive programmes.

A third principal cause of concern must be the ongoing development, within military establishments in the developed countries, most notably the US, of new weapons based on biochemical incapacitants, for example, those acting on the central nervous system. Although such agents are prohibited by the BWC and the CWC for any but peaceful purposes, some persons have advanced specious claims to the contrary, arguing that the use of such agents might be permissible in certain paramilitary operations. This view flouts international treaty commitments and fails to appreciate the hazard that any hostile use of biological or chemical agents, especially by a major state, by breaching the prevailing norm risks eroding that norm altogether.

The international community has numerous means of discouraging the hostile use of biotechnology in the Twenty-first Century. But we must not let pursuit of useful but less effective measures distract us from the need to take more effective ones. Better disease surveillance, for example, if backed up with appropriate medical and public health measures, is greatly needed for its own sake, and it may also assist in distinguishing a natural from an unnatural outbreak of disease. Yet it must be remembered that only at

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Sverdlovsk was there a detected unnatural outbreak during the whole of the Soviet and Western offensive programmes. Similarly, better articulated codes of professional conduct are to be welcomed as supportive instruments, but even if 99 per cent of the world's biologists conform to stringent new codes, one per cent employed in major state-level offensive biological weapons programmes could still produce the havoc we wish to avoid. Moreover, excessive regulation piled onto the scientific community could stifle the very beneficial advances we all wish to see.

The fact of the matter is that multilateral international agreements designed to implement the BWC regime effectively will be needed to deal with the main problem of precluding major state-level offensive biological weapons programmes. In order to be effective, these agreements must include a system of declarations, visits to declared sites and challenge inspections. This will not, in itself, prevent every potential violation, but it will make prohibited activities more difficult and more risky to any who undertake them. And it will give the international community the unity and political will needed to suppress violations, should they occur. In addition, the BWC regime should be strengthened by the addition of agreed sanctions. A promising approach here, one that could be adopted by like-minded states even before a verification regime for BWC can be established,

would be the elaboration and implementation of a treaty to criminalize biological and chemical armament in international law. Modelled on treaties applicable to aircraft hijacking, for example, and torture, this one would provide the courts of its member states with criminal jurisdiction over anyone on their territory, regardless of their nationality or official position, who orders or knowingly gives substantial support to the development, production, transfer or use of chemical or biological weapons anywhere. A draft of such a treaty, prepared by the Harvard Sussex Program with advice from international legal authorities is available on the HSP web site at www.fas.harvard.edu/~hsp/crim01.pdf

So whilst we pursue other necessary avenues, such as the development of better professional standards to avoid inadvertently dangerous research, we must not become distracted from the main goal. The BWC regime has to be strengthened and effectively implemented as soon as possible, whatever the prevailing winds in Washington. The world was a better place for the 1925 Geneva Protocol despite Washington taking 50 years to ratify it. Indeed, the pursuit of other goals to the detriment of the strengthening of the BWC would be counter-productive rather than just a distraction from what is really required to prevent the hostile use of biology.

The Scowcroft Memorandum

23 December 1975 The White House issues a Memorandum for the Heads of Executive Departments and Agencies, subject: *U.S. Compliance with the Biological Weapons Convention*. Signed by the President's Assistant for National Security Affairs Brent Scowcroft, the Memorandum reads as follows:

"In accordance with Article II of the Biological Weapons Convention, the deadline for the destruction or conversion to peaceful purposes of biological agents, toxins, and weapons is December 26, 1975.

"Under the terms of the Convention, the United States undertook never in any circumstances to develop, produce, stockpile, or otherwise acquire or retain (1) biological agents or toxins whatever their origin or method of production, of types, and in quantities which have no justification for prophylactic, protective, or other peaceful purposes, or (2) weapons or means for delivering such agents for hostile purposes or in armed conflict.

"Therefore the President has directed that biological agents or toxins may be retained only for the following activities, which he has determined to be for 'prophylactic, protective, and other peaceful purposes':

"1. Prevention, diagnosis, or treatment of diseases of human beings, animals or plants, or research and development activities for the purpose of developing means and methods for the prevention, diagnosis, or treatment of disease;

"2. Activities concerned with the protection of human beings, animals, plants, and materiel from the effects of exposure to microbial or other biological agents or toxins, including vulnerability studies and research, development and testing of equipment and devices such as protective masks and clothing, air and water filtration systems, detection, warning and identification devices, and decontamination systems;

"3. Research, development, testing and use of equipment, devices and techniques for detecting the development, production, stockpiling, acquisition or retention of microbial or other biological agents or toxins;

"4. Biomedical or other research for the purpose of increasing human knowledge and not intended for weapons development;

"5. Research, development, production, or use for the enhancement or protection of agriculture and the environment;

"6. Use of biological processing techniques for non-weapons purposes, including use in the chemical, pharmaceutical, food, mineral extraction and other industries, or in research and development of such techniques; and

"7. Educational and instructional activities related to the above.

"This list may be modified or amended with the President's approval.

"In order to ensure that the U.S. Government has implemented the Convention, you are requested to certify to the President that as of December 26, 1975, (1) all your department's activities which retain any biological agents or toxins are being conducted only for the justifiable peaceful purposes listed above, (2) the total quantities of such materials held are committed or reserved solely to these activities, and (3) any weapons, equipment, or means of delivery designed to use biological agents or toxins for hostile purposes or in armed conflict have been destroyed or diverted to peaceful purposes, in compliance with the Convention. This certification should be forwarded to the President by January 15, 1976.

"Guidance to assist your determination that the future activities of your department are in compliance with the Convention will be issued in an Executive Order."

FURTHER CHEMICAL CONTROL REGIMES: ANTI-DOPING

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HSP Advisory Board

In previous articles for the *CBW Conventions Bulletin*, the regimes for the control of transfers of ‘banned and severely restricted chemicals’ — the Rotterdam Convention for Prior Informed Consent [*Chemical Weapons Convention Bulletin* no 34, December 1996], for the control of High Production Volume (HPV) chemicals [*CBW Conventions Bulletin* no 49, September 2000], and for narcotic drugs and psychotropic substances [*CBW Conventions Bulletin* no 51, March 2001] have been considered and their potential relevance to the Chemical Weapons Convention regime explored. This article continues this process by considering further control regimes for chemicals — those for anti-doping. These chemicals are also dual purpose chemicals as some have permitted medical uses as well as prohibited uses. They are subject to international anti-doping conventions and codes which address the definition of prohibited substances as well as sampling and analysis.

While it may seem at first sight that there is little in common between issues of doping in sport and control of chemical weapons, there are a number of shared factors beyond the dual-use nature of the controlled substances. In both cases there is a need for high levels of confidence in testing systems. There are issues of who decides when a sample should be taken, how it should be taken, what analytical methods are used and the preservation of a second sample in case other validation of results is required. Just as the OPCW runs a system of proficiency tests to ensure high standards in designated laboratories, there is an external quality assurance system for laboratories involved in doping testing.

Aside from the similarities, there are lessons that may be learned for arms control from the sporting field. Testing for minute traces of substances in bodily fluids has always been a difficult task. As the sums of money involved in professional sports has increased, so too has the research into reliable analytical techniques for detecting traces of controlled substances. It is not impossible that techniques used in future to analyse for human exposure to chemicals in

investigations of alleged use under arms control agreements may be based on methods derived from testing in sport as both rely on analysing for degradation products and metabolites in biomedical samples — an area where analytical methods are poorly developed in regard to chemical agents.

There are now a number of organizations which are involved in anti-doping activities which broadly fall into two categories — those involving governments and public authorities and those involving the sporting community. The principal organizations involved can be broadly grouped into international, regional and national bodies as illustrated in Table 1.

In addition to these there are programmes and activities which bring together some of these organizations:

Programme/Activity	Organizations within Programme/Grouping
Anti-Doping Convention	Council of Europe, other governments
World Anti-Doping Agency	IICGAD, Governments, IOC, IFs, NOCs

The anti-doping codes initially fell into two categories — those of the sport community and those of the state and the community of states. Recent developments — notably the creation in 1999 of the World Anti-Doping Agency — have brought these two categories together in the current efforts to develop a World Anti-Doping Code prior to the Olympic Games in Athens in 2004.

Introduction

Whilst doping attracts much attention today, this was not always the case. In the mid 1960s and early 1970s the issue of doping was seen by Olympic Movement, international federations and many governments as being a problem for other sports and countries. It also appears that the International Olympic Committee was sensitive to the danger of

Category	Sport Organization	Government Organization
International	International Olympic Movement (IOC) International Federations (IFs) such as the IAAF (International Association of Athletics Federations)	International Anti-Doping Arrangement (IADA) International Intergovernmental Consultative Group on Anti-Doping (IICGAD) International Standard for Doping Control (ISDC) Anti-Doping Convention
Regional	European Athletics Association (EAA) North America, Central America and Caribbean Athletic Association (NACAC)	Council of Europe European Commission Inter-American Working Group on Anti-Doping in Sport
National	National Olympic Committees (NOCs) British Olympic Association UK Athletics USA Track and Field Athletics Canada	UK Department of Culture, Media and Sport

inquiring too deeply and running the risk of uncovering a problem which would damage the public image of sport and would require resources that were not available to address the problem. Insofar as governments were concerned, they could from the late 1960s to late 1980s be divided into three categories: the subversive, the inactive and the active. The former were countries that established state-funded doping programmes for their athletes, the inactive group included countries with a low level of participation in international sport as well as some countries who were significantly involved in international sport but chose to ignore the issue of doping. Finally, there were a small number of active countries — notably France and Belgium — which legislated against doping in the late 1960s and Italy and Turkey who did likewise in the early 1970s.

The role of the Council of Europe has been significant as during the late 1960s and the 1970s the Council became the primary international non-sports arena for policy debate which led in 1967 to the adoption by the Committee of Ministers of Resolution (67)12 which was the first international text of this kind. This recommended to the governments of the member states:

to persuade the sports associations and federations which organise competitions in their territory to take action if necessary with their international federations, and, if they have not already done so, to issue regulations: a. condemning the use, or procedures to facilitate the use, in preparation for or during a sports competition, of the substances or processes employed for doping as defined in the Preamble to this Recommendation.

The definition in the Preamble was in the following words:

Considering that doping is the administration to or the use by a healthy person, in any manner whatsoever, of agents foreign to the organism, or of physiological substances in excessive quantities or introduced by an abnormal channel, with the sole purpose of affecting artificially and by unfair means the performance of such a person when taking part in a competition.

This definition of doping was accepted for several years as it covered both chemical or physiological manipulation and was sufficiently broad to include types of doping which had not even been thought of in 1967 such as blood-doping. The Resolution (67)12 recommended that governments of the member states should take action themselves if the sports organizations have not, within three years, issued and effectively implemented the required regulations.

Although action was taken by several national sports organization, it became evident that doping techniques were becoming more sophisticated. For the 1978 Conference of European Ministers responsible for Sport, a study was commissioned from the President of the International Olympic Committee which revealed wide differences in the status and effectiveness of national and international regulations, inadequate testing, a lack of laboratories, and that almost no preventative work was being undertaken. This led to the next recommendation for the Council of Europe on doping in sport (79)8 which encouraged the development of reliable detection tests, the creation of an adequate number of approved laboratories and the international standardization of regulations.

In the following years, it was clear that governments were opposed to doping and laboratories were confident that they

could detect most abuses with many new laboratories being set up and/or accredited by the IOC. Although a request was made in 1981 to prepare a convention on doping in sport, this was then not a political feasibility. Consequently, efforts were directed into consolidating all the past work and the work of the various parties concerned — government, sport, medicine and science — into a new revised comprehensive strategy.

European Anti-Doping Charter for Sport

This was the origin of the European Anti-Doping Charter for Sport — adopted in 1984 — which would not have the status of a legally binding convention but that of a recommendation. It was, however, intended that it would have a moral, political and practical impact rather higher than that of an ordinary recommendation. This Charter called upon the governments of member states “to ensure that effective anti-doping regulations are implemented” and “to cooperate at the international level ... in measures designed to reduce the availability of doping agents”. Furthermore “the governments of member States should offer their cooperation to the sports organisations so that the latter take all measures falling within their competence to eradicate doping” and the sports organizations should be encouraged “to harmonise their anti-doping regulations and procedures, based on those of the International Olympic Committee (IOC) and the International Amateur Athletic Federation (IAAF)” and “to harmonise their lists of banned substances, based on those of the IOC, and making appropriate provision for the specific anti-doping requirements of each sport”

Also in 1984, the General Association of International Sport Foundations and the International Olympic Committee both adopted resolutions in support of the Charter.

The European Ministers responsible for Sport at their meeting in October 1986 adopted a resolution (86/4) which called for:

enlarging the circle of countries or regions which could accept and begin to apply the principles laid down in the European Anti-Doping Charter for Sport.

Steps were made towards acceptance by states outside Europe with Canada being admitted in December 1986 as an observer in the work on doping followed by the United States in March 1988. The international developments led in 1988 to the adoption of an International Anti-Doping Charter which was largely based on the European Anti-Doping Charter and was later endorsed by the IOC and became the International Olympic Anti-Doping Charter.

Anti-Doping Convention

In 1989, the European Ministers responsible for Sport welcomed the work that had been done to prepare an Anti-Doping Convention as this was a measure to help achieve world-wide agreements on effective anti-doping measures. They recommended (89/1) that the Council of Europe: “adopt the text of this draft Convention and to decide to open it for signature at an early date” and “invite other States not members of the Council of Europe to accede to the Convention”. Furthermore, they invited the Council to:

instruct the Secretary General to transmit this resolution to the governments of States invited to accede to the European

Cultural Convention and to the international sports organisations.

The “Anti-Doping Convention” (available at <http://conventions.coe.int>) — which deliberately excluded the word ‘European’ from its title as an indication of the Council’s intention that the Convention should be a global standard open for signature by non-Council of Europe member States — was opened for signature on 16 November 1989 and entered into force on 1 March 1990 when there had been the necessary five ratifications including four member States. As of March 2002, 35 of the 43 member states of the Council of Europe have ratified the Convention as have 4 non-member states (Australia, Bosnia and Herzegovina, Canada and Yugoslavia).

Article 1 entitled ‘Aim of the Convention’ sets this out as being ‘with a view to the reduction and eventual elimination of doping in sport’. Article 2 ‘Definition and scope of the Convention’ states that:

1. For the purposes of this Convention
 - a. ‘doping in sport’ means the administration to sportsmen or sportswomen, or the use by them, of pharmacological classes of doping agents or doping methods;
 - b. ‘pharmacological classes of doping agents or doping methods’ means, subject to paragraph 2 below, those classes of doping agents or doping methods banned by the relevant international sports organization and appearing in lists that have been approved by the monitoring group under the terms of Article 11.1.b;
 - c. ‘sportsmen and sportswomen’ means those persons who participate regularly in organised sports activities.
2. Until such time as a list of banned pharmacological classes of doping agents or doping methods is approved by the monitoring group under the terms of Article 11.1.b, the reference list in the appendix to this Convention shall apply.

Article 10 ‘Monitoring group’ sets up a monitoring group which is required under ‘Article 11’ to, *inter alia*:

1. The monitoring group shall monitor the application of this Convention. It may, in particular:
 - a. keep under review the provisions of this Convention and examine any modifications necessary;
 - b. approve the list, and any revisions thereto, of pharmacological classes of doping agents or doping methods banned by the relevant international sports organizations ... and the criteria for the accreditation of laboratories, and any revision thereto and fix the date for the relevant decisions to enter into force.

Article 4 “Measures to restrict the availability and use of banned doping agents and methods” includes the provision that:

1. The Parties shall adopt where appropriate legislation, regulations or administrative measures to restrict the availability (including provisions to control movement, possession, importation, distribution and sale) as well as the use in sport of banned doping agents and doping methods and in particular anabolic steroids.

An explanatory memorandum about the Convention (also available at <http://conventions.coe.int>) provides insight into the individual Articles and clauses. Thus on Article 2 Definition and scope this states that:

45. The definition of doping adopted in Resolution (67)12 is now considered by experts to be unsatisfactory in some

respects. The international sports organisations have not yet provided a universal definition, preferring to specify practices or the use of certain substances which are forbidden. The two criteria used by such organisations are:

practices (that is, all methods) or substances (that is, all doping agents) which have an effect on performances (which includes using such practices or substances to improve training or recuperation from training) to obtain an unfair advantage;

practices or substances which have adverse effects on the health of those who take them or which normally health persons (which competitors should be) would not need.

This is summarised in Article 2.1.a.

It goes on to say that:

46. The International Olympic Committee (IOC) is to be regarded as the relevant international organisation to be used for reference, as its list of banned classes and methods is now recognised by virtually all international sports federations, including non-Olympic sports, and stems from sport itself. It is the current IOC list (April 1989) which is reproduced in the appendix to the Convention as the reference list, and it is future revisions of it which the Monitoring Group will examine and approve. The word ‘approve’ was chosen as it implies a formal decision and endorsement. As indicated in Article 11.1.b, the drafters have provided for a mechanism allowing speedy approval by the Monitoring group of new lists, so that they may become legally applicable for the Parties’ own purposes. ...

It also states that

47. For the IOC list of banned pharmacological classes of agents and related compounds to be used practically in each country, it is highly desirable to draw up national lists, for doctors and others who look after the health of sportsmen and women, which show indicatively — but as fully as possible — pharmaceutical preparations which are available in each country and which contain (and do not contain) compounds of these banned classes. These lists have to be national as it is at the national level that authorisations are given to put pharmaceutical preparations on the market, and some preparations have different trade names in different countries. ...

In regard to Article IV Availability and use the explanatory memorandum points out that:

in the IOC list of banned pharmacological classes of agents, there are six main classes: stimulants, narcotics, anabolic steroids, betablockers, diuretics and peptide hormones and analogues.

It notes that:

many of the drugs in the stimulant class — such as amphetamines and related compounds — are protected by strict pharmacists’ regulations whilst others — such as the ephedrines — are often present in preparations for colds and hay fever which can be bought, quite correctly, directly over the counter. Narcotics are already protected in all phases of their production, distribution and supply by the rigorous provisions of the 1971 Vienna Convention on psychotropic substances.

Insofar as the Appendix to the Convention is concerned, the explanatory memorandum states that:

The list is based on the banning of pharmacological classes of agents.

This definition has the advantage that new drugs, some of which may be especially designed for doping purposes, are also banned.

The following list represents examples of the different classes of doping agents to illustrate the doping definition. Unless indicated, all substance belonging to the banned classes may not be used for medical treatment, even if they are not listed as examples. Action will be taken if substances of the banned classes are detected in the laboratory. It should be noted that the presence of the drug in urine constitutes an offence, irrespective of the route of administration.

European Commission

Concern about doping in sport led the European Commission in 1998 to fund a project known as HARDOP — “Harmonization of Methods and Measurements in the Fight against Doping” — carried out under the aegis of both the IOC and the European Union. The HARDOP project concluded that the cooperation deficit between the various agencies and bodies involved and the lack of harmonization (legislation, attitude of the sporting authorities, laboratory checking techniques, etc) represent a major challenge to those who wish to eradicate doping in sport. It considered that that cooperation and harmonization could not succeed unless a central body — together with an associated reference laboratory — is created and made responsible at an international level for the fight against doping. The HARDOP report also recognized the importance of the synergies between the anti-doping fight and those authorities such as the UNDCP and INTERPOL dealing with hard drugs, narcotics or medicines from illegal sources.

The European Commission on its website provides a summary table regarding the member states’ legislation on doping. Nine EU member states have specific anti-doping legislation (Austria, Belgium, Denmark, Spain, France, Greece, Italy, Portugal and Sweden), five member states have general legislation (Germany, Finland, Luxembourg, the Netherlands and the United Kingdom) and one member state (Ireland) is shown as being without legislation although it is noted that draft rules are under discussion.

The European Commission has also been active in promoting improvements in the sampling and analysis of samples. A particular project, known as ALADIN 2002 (Analytical Laboratories for Anti-Doping control — International Network), aims to establish an external quality assurance system for Doping Control Laboratories, which adhere to the International Standards Organization (ISO) quality guidelines ISO 17025, so as to increase the legal weight behind drugs tests and thus to reduce the number of positive drugs tests being challenged in the courts. Although currently about 60 per cent of doping control laboratories are based in Europe, the aim is to achieve an international quality assurance scheme and ALADIN 2002 has already obtained the support of WADA which will collaborate in the project. It is also clear that for a laboratory to gain accreditation by the IOC it will first need to obtain ISO 17025 approval.

The Lausanne Declaration 1999

In the mid to late 1990s the position was that policy was being debated in four separate forums — the IOC, the international

federations, individual governments and the Council of Europe. Although there was some overlap this was largely unstructured and inadvertent resulting from overlapping membership reflecting the tension between sports and governmental bodies which stemmed in part from the perception that governments were treating international sport as a political resource. The events of 1998 and particularly the near collapse of the 1998 Tour de France with the intervention of the public authorities in Belgium, Italy and France led the IOC and the major federations to recognise that they were no longer able to deal with the problem and that if they did not act promptly and with determination they were likely to become sidelined in anti-doping policy making. It was against this background that the IOC convened the World Conference on Doping in Sport in Lausanne in February 1999.

The Lausanne Declaration on Doping in Sport declared:

The Olympic Movement Anti-Doping Code is accepted as the basis for the fight against doping, which is defined as the use of an artifice, whether substance or method, potentially dangerous to the athlete’s health and/or capable of enhancing their performances, or the presence in the athlete’s body of substance, or the ascertainment from the use of a method on the list annexed to the Olympic Movement Anti-Doping Code. ... An independent International Anti-Doping Agency shall be established so as to be fully operational for the Games of the XXVII Olympiad in Sydney in 2000.

The declaration also stated that consideration should be given in particular to programmes “harmonizing scientific and technical standard and procedures for analyses and equipment.”

Olympic Anti-Doping Code

On 2 August 1999, the President of the International Olympic Committee forwarded the Olympic Movement Anti-Doping Code to all interested parties. The Code reflected the agreement of the Olympic Movement reached on 27 November 1998 and the conclusions of the World Conference on Doping in Sport as contained in the Lausanne Declaration of 4 February 1999 that the Code should form the basis for the fight against doping in sport.

The Olympic Movement Anti-Doping Code came into effect on 1 January 2000 and is obligatory for all members of the Olympic Family. The Code consists of a Preamble, seven chapters and four appendices. The chapters, which each contain a number of Articles, address General Provisions; The Offense of Doping; Appeals; the International Anti-Doping Agency; Accredited Laboratories; Testing Procedures; and Entry into Force and Modification of the Olympic Anti-Doping Code. The appendices address Prohibited Classes of Substances and Prohibited Methods; Procedure for Accreditation of Laboratories; Sampling Procedures in Doping Controls; and Laboratory Analysis Procedures.

Chapter I General Provisions in Article 1 includes a number of definitions including the following:

BLOOD DOPING means the administration of blood, red blood cells and related blood products to an athlete, which may be preceded by withdrawal of blood from the athlete who continues to train in such a blood-depleted state.

INTENTIONAL DOPING means doping in circumstances where it is established, or may reasonably be presumed, that any Participant acted knowingly or in circumstances amounting to gross negligence.

MASKING AGENT means any substance or procedure used for the purpose of or having the effect of altering or suppressing the integrity of urine or other samples used in doping controls.

PHARMACEUTICAL, CHEMICAL AND PHYSICAL MANIPULATION means the use of substances and methods, including masking agents which alter, attempt to alter or may reasonably be expected to alter the integrity and validity of urine samples used in doping controls, including, without limitation, catheterisation, urine substitution and/or tampering, inhibition of renal excretion such as by probenicid and Related Substances and alterations of testosterone and epitestosterone measurements such as epitestosterone application or bromantan administration.

PROHIBITED METHOD means any method so described in this Code.

PROHIBITED SUBSTANCE means any substance so described in this Code.

RELATED SUBSTANCE means any substance having pharmacological action and/or chemical structure similar to a Prohibited Substance or any other substance referred to in this Code.

In addition, the term 'use' is defined:

USE means the application, ingestion, injection, consumption by any means whatsoever of any Prohibited Substance or Prohibited Method. Use includes counselling the use of, permitting the use of or condoning the use of any Prohibited Substance or Prohibited Method.

Article 4 addresses changes to the list of Prohibited Substances (Appendix A) and states that:

The list of Prohibited Substances and Prohibited Methods contained in this Code may be changed by the IOC Executive Board upon recommendation by the Council of the International Anti-Doping Agency (IADA) and will come into effect three months, or such shorter delay as shall be specified in cases of medical necessity, after the International Federations and the National Olympic Committees have been notified, in such manner as shall be determined by the IADA.

The key to the code is in Article 2 of Chapter II The Offence of Doping and its Punishment which states that:

Doping is:

1. the use of an expedient (substance or method) which is potentially harmful to athletes' health and/or capable of enhancing their performance, or
2. the presence in the athlete's body of a Prohibited Substance or evidence of the use thereof or evidence of the use of a Prohibited Method.

Article 2 also sets out the penalties for doping. These are tiered with penalties for a first offence if the prohibited substance used is ephedrine, phenylpropanolamine, pseudoephedrine, caffeine, strychnine or a related substance including suspension from any competition for a period of one to six months; if the prohibited substance is other than one of those above then suspension from any competition for a minimum period of two years; and in the case of deliberate doping then a life ban on participation in any sports event in

any capacity whatsoever. Article 4 states that international doping can be proved by any means whatsoever, including presumption. In addition, it is explicitly stated that the success or failure of a Prohibited Substance or Prohibited Method is not material and that it is sufficient that the Prohibited Substance or Prohibited Method was used or attempted for the offence of doping to be considered as consummated. The provisions for appeals to the Court of Arbitration for Sport (CAS) are also set out in the Code in Chapter III.

In Article 3 of Chapter II it is made clear that the responsibility lies with the individual athlete as:

Notwithstanding the obligations of other Participants to comply with the provisions of this Code, it is the personal responsibility of any athlete subject to the provisions of this Code to ensure that he/she does not use or allow the use of any Prohibited Substance or any Prohibited Method.

Appendix A with its List of Prohibited Substances and Prohibited Methods has four sections:

- I. Prohibited Classes of Substances
- II. Prohibited Methods
- III. Classes of Prohibited Substances in Certain Circumstances
- IV. Out-of-Competition Testing

The central elements of Appendix A, **less** footnotes and other text, as of 1 September 2001 are shown in Table 2.

Section I Prohibited Classes of Substances has five classes:

- A. Stimulants
- B. Narcotics
- C. Anabolic agents
- D. Diuretics
- E. Peptide hormones, mimetics and analogues

Each of parts A to D commences with the words 'Prohibited substances in class (...) include the following examples ... **and related substances.**' The key phrase is the catch all 'and related substances.' Insofar as part E is concerned the language is slightly different commencing with the words 'Prohibited substances in class (E) include the following examples and their analogues and mimetics ... and all the respective releasing factors and their analogues' Part E also contains the statement that 'the presence of an abnormal concentration of an endogenous hormone in class (E) or its diagnostic marker(s) in the urine of a competitor constitutes an offence unless it has been proven to be due to a physiological or pathological condition.'

The importance of the phrase 'and related substances' is underlined in the List of Examples of Prohibited Substances and Prohibited Methods attached to Annex A which includes immediately under the heading the words:

CAUTION: This is not an exhaustive list of prohibited substances. Many substances that do not appear on this list are considered prohibited under the term 'and related substances'. Athletes must ensure that any medicine supplement, over-the-counter preparation or any other substance they use does not contain any Prohibited Substances.

An Explanatory Memorandum to the Code sets out how it is intended that the Code be applied pending any formal changes that may be implemented in the future. This includes in respect of Chapter I Definitions information such as that diuretics, although not mentioned in the list, are

regarded as diuretics and that use of a prohibited substance includes inhalation thereof. On the definition of doping (Chapter II, Article 2) the memorandum states that:

The provisions in Article 2(1) refers to new substances that have been discovered but which have not yet been added to the list as specifically identified substances. It is to be noted that Article 2 (1) and 2 (2) are not linked and that a prohibited substance or method may be qualified as doping without necessarily meeting the criteria provided in Article 2 (1).

Obviously, where substances produced naturally by the body are concerned, they are prohibited only under the conditions established by the annexes to the present Code.

Appendix B Procedure for the Accreditation of Laboratories sets out the procedures for accreditation which includes a pre-accreditation requirement to analyse three sets of samples during the preceding six to twelve months as well

as the accreditation requirement to analyse ten control samples in the presence of a delegate of the IOC Medical Commission. The laboratory must correctly identify the doping agents and their respective metabolites within three days from the beginning of the analysis, when the seals on the control samples are broken. Re-accreditation is required annually including annual proficiency testing and downgrading of accredited laboratories is specified in the event of false negative or false positive analyses.

Appendix C Sampling Procedures in Doping Controls specifies how samples shall be collected, divided into Sample A and Sample B and transported in sealed containers to the accredited laboratory.

Appendix D Laboratory Analysis Procedures outlines the procedures such as chain of custody, screening procedures, and specimen processing.

Table 2:

APPENDIX A: PROHIBITED CLASSES OF SUBSTANCES AND PROHIBITED METHODS 2001-2002

I. PROHIBITED CLASSES OF SUBSTANCES

A. STIMULANTS

Prohibited Substances in class (A) include the following examples:
amineptine, amiphenazole, amphetamines, bromantan, caffeine, carphedon, cocaine, ephedrines, fencamfamin, formoterol, mesocarb, pentetrazol, pipradrol, salbutamol, salmeterol, terbutaline, ... and related substances

B. NARCOTICS

Prohibited Substances in class (B) include the following examples:
buprenorphine, dextromoramide, diamorphine (heroin), methadone, morphine, pentazocine, pethidine, ... and related substances

C. ANABOLIC AGENTS

Prohibited Substances in class (C) include the following examples:

1. Anabolic androgenic steroids

a/ clostebol, fluoxymesterone, metandienone, metenolone, nandrolone, 19-norandrostenediol, 19-norandrostenedione, oxandrolone, stanozolol, ... and related substances

b/ androstenediol, androstenedione, dehydroepiandrosterone (DHEA), dihydrotestosterone, testosterone, ... and related substances

2. Beta-2 agonists

bambuterol, clenbuterol, fenoterol, formoterol, reproterol, salbutamol, salmeterol, terbutaline, ... and related substances

D. DIURETICS

Prohibited substances in class (D) include the following examples:
acetazolamide, bumetanide, chlorthalidone, etacrynic acid, furosemide, hydrochlorothiazide, mannitol, mersalyl, spironolactone, triamterene, ... and related substances

E. PEPTIDE HORMONES, MIMETICS AND ANALOGUES

Prohibited Substances in class (E) include the following examples and their analogues and mimetics:

1. Chorionic Gonadotrophin (hCG) prohibited in males only;
 2. Pituitary and synthetic gonadotrophins (LH) prohibited in males only;
 3. Corticotrophins (ACTH, tetracosactide);
 4. Growth hormone (hGH);
 5. Insulin-like Growth Factor (IGF-1);
 6. Erythropoietin (EPO);
 7. Insulin;
- permitted only to treat athletes with certified insulin-dependent diabetes.

II. PROHIBITED METHODS

The following procedures are prohibited:

1. Blood doping
2. Administering artificial oxygen carriers or plasma expanders
3. Pharmacological, chemical and physical manipulation

III. CLASSES OF PROHIBITED SUBSTANCES IN CERTAIN CIRCUMSTANCES

A. ALCOHOL

B. CANNABINOIDS

C. LOCAL ANAESTHETICS

D. CORTICOSTEROIDS

E. BETA-BLOCKERS

IV. OUT-OF-COMPETITION TESTING

LIST OF EXAMPLES OF PROHIBITED SUBSTANCES AND PROHIBITED METHODS
CAUTION: This is not an exhaustive list of prohibited substances. Many substances that do not appear on this list are prohibited under the term 'and related substances'.

World Anti-Doping Agency

Following the Lausanne Declaration in February 1999, the World Anti-Doping Agency was created in November 1999 to promote and coordinate the fight against doping. The instrument of foundation sets out that the object of the World Anti-Doping Agency is

to promote and coordinate at international level the fight against doping in sport ...; to this end, the Foundation [the WADA] will cooperate with intergovernmental organizations, governments, public authorities and other public and private bodies fighting against doping in sport, *inter alia* the International Olympic Committee (IOC), International Sports Federations (IF), National Olympic Committees (NOC) and athletes ...

Another objective is:

to establish, adapt, modify and update for all the public and private bodies concerned, *inter alia* the IOC, IFs, and NOCs, the list of substances and methods prohibited in the practice of sport; the Foundation [the WADA] will publish such list at least once a year, to come into force on 1st January each year, or at any other date fixed by the Foundation if the list is modified during the course of the year;

The Foundation Board of the WADA is made up of equal numbers of representatives from the public authorities (intergovernmental organizations, governments, public authorities or other public bodies) and those representing the Olympic Movement (IOC, IFs, and NOCs).

A key priority of WADA is the development and implementation of a universal Anti-Doping Code for sport to ensure a greater harmonization and standardization of anti-doping activities. This is being developed on the basis of the existing Olympic Movement Anti-Doping Code and is due to be completed by the end of 2003. Its development is being carried forward by the various Working Committees of the WADA — notably the Standards & Harmonization Committee and the Legal Committee. Two draft documents were circulated by WADA on 11 December 2001 — an explanatory document on the World Anti-Doping Framework and a Draft Outline for the World Anti-Doping Code.

The explanatory document makes it clear that the overall framework comprises the principal documents needed to ensure optimal harmonization and best practice in international anti-doping work. There will be three main elements in the framework:

Level 1 The 'Code': The World Anti-Doping Code — where the purpose is universal harmonisation among all stakeholders on the crucial parts of anti-doping.

Level 2 'Standards': International Standards — for different technical and operational areas within anti-doping where the purpose is harmonization among organizations and specific bodies responsible for specific technical and operational parts of the anti-doping work e.g. laboratories and sample analysis and NADOs and sample collection, etc. These standards will be referenced in the Code but not directly part of it.

Level 3 'Models': Model rules and regulations including examples of best practices, where the purpose is improvements based on benchmarks and state of the art solutions in different anti-doping areas.

It is also interesting given the discussion in the CWC context as to what represents a nil concentration to note that

Appendix A also includes a 'Summary of urinary concentrations above which IOC Accredited Laboratories must report findings for specific substances' which include, for example, caffeine > 12 micrograms/millilitre and 19-norandosterone > 2 nanograms/millilitre in males and > 25 nanograms/millilitre in females.

The World Anti-Doping Code is intended to be the fundamental document of principles and policies upon which the world anti-doping work in sport is based. It should be specific enough to achieve complete harmonization on issues where uniformity is required whilst it should be general enough in other areas to permit flexibility in the implementation of agreed upon anti-doping principles. The objective in drafting the Code is to make the Code universal enough in its applicability that all stakeholders will accept it without compromising harmonization on important points.

Unlike the Olympic Movement Anti-Doping Code, the World Anti-Doping Code is not intended to be a comprehensive set of anti-doping rules which provides all of the detailed specifications for sample collection, sample analysis and results management. At Level 2 the International Standards will typically be prepared by WADA and other experts and will address in detail a particular technical and operational aspect of the anti-doping process. Examples of such documents might include: the list of banned substances and methods; standards for sample collection; laboratory accreditation standards; and required criteria for the analysis of particular prohibited substances. The international standards may also be used as reference standards for the accreditation and certification of organizations responsible for specific parts of the anti-doping work.

The draft outline for the World Anti-Doping Code in November 2001 includes the following in respect of Article II: Definition of Doping:

The definition of doping should be short and easy to understand for both sports participants and the public. It must also be consistent with the fundamental rationale described in Article I. Finally, it must be effective as a doping control tool by not being either too narrow or too broad. A lengthier doping control oriented list of the acts and circumstances which constitute doping violations is described in Article 9.1. Ideally, all stakeholders in the world anti-doping effort will agree on the common definition of doping found in the Code.

Article IX: Doping Control addresses the various structures which must be in place for an effective doping control system. This includes an element 9.3 Identification of Prohibited Substances and Methods which states:

[this] establishes WADA's authority to publish a list of prohibited substances and methods. The decision whether or not a substance or method is on this list should be consistent with the fundamental rationale set forth in Article 1.

Examples of issues to be addressed:

- identification of the principles upon which the list is based
- identification of prohibited substances and methods in multiple ways (including by general category, by reference to specific substances and by reference to a broader concept such as 'related substances.')
- periodic changes in the list as more doping substances and methods are discovered and approval of the list....

- determine whether: the list of prohibited substances and methods should be the same for all sports; or whether individual sports or countries should be permitted to add or subtract substances from the list based on established principles; ... or whether there should be a single list established by WADA which identifies different prohibited substances and methods for different sports.
- differentiation between the full list of all prohibited substances which are tested for in-competition and a shorter list of substances which are prohibited and tested for out-of-competition
- identification of substances which may be used if declared and appropriate documentation is on file (e.g. Beta-2-agonists) and substances which may be used only by certain methods of application
- the opportunity for the athlete to obtain an exemption to use a prohibited substance or method where such use is medically justified and such use would not unfairly affect competition. In the interest of harmonization, the Code could either set forth the principles upon which exemption should be granted or perhaps the responsibility for granting medical exemptions should be centralized
- establish the principle that the inclusion of a prohibited substance or method on the list is not subject to challenge. For example: ‘The success or failure of the use of a prohibited substance or method is not material. It is sufficient that the prohibited substance or prohibited method was used or attempted for the offense of doping to be consummated.’
- the possibility of establishing a second list of illicit drugs which do not meet the criteria for ‘doping’ but which stakeholders otherwise wish to prohibit and test for under their respective Codes of Conduct. This second list could include, for example, the so called ‘street drugs.’
- the relationship between ‘medical controls’ (e.g. hematocrit testing) and doping controls

The concrete list of prohibited substances and methods could be part of level 2 in the overall framework but would be referred to in both the Code and the Model Rules and Regulations.

In March 2002, WADA said that the goal is to have the first version of the Code available by the end of June 2002. The first version was circulated on 10 June 2002 with all stakeholders (Governments, International Federations, National Olympic Committees) being asked to provide comments within three months — by 10 September 2002. A second version will be prepared by October 2002 and again circulated for comment. The Approved World Anti-Doping Code will then be presented at the World Conference on Anti-Doping scheduled for February 2003. The final Code would then be presented to the WADA Foundation Board in March 2003 for approval. The intention is that committed acceptance should be obtained from the different stakeholders during the period March to December 2003 so that the Code would be in place prior to the Olympic Games in Athens in 2004.

The first version includes in Article 2 the following definition of doping:

Doping is the presence of a substance in an *athlete’s* bodily *specimen*, or the *use* or evidence of the *use* of any substance or method, that has the potential to enhance sport performance and which either poses an unnecessary risk of harm to *athletes* or is otherwise contrary to the spirit of sport.

Article 8 Doping Control makes it clear that “The presence of a *prohibited substance* or its *metabolites* or *markers* in an *athlete’s* bodily *specimen*” shall constitute an anti-doping rule violation. This Article also sets out specific criteria for the addition of prohibited substances to the List of Prohibited Substances and Prohibited Methods. In addition, the Code establishes a Monitoring List to enable WADA and the sporting organizations to gather information which identifies trends in the use of substances which are not currently prohibited but could potentially be abused.

International Anti-Doping Arrangement (IADA)

In December 1990, the governments of Australia, Canada and the United Kingdom signed a memorandum of understanding concerning the Reciprocal Development and Enforcement of Measures against Doping in Sport which was extended to Norway in 1992 and France in 1995. It then became known as the International Anti-Doping Arrangement (IADA) with membership extended to include Denmark, Finland, the Netherlands, New Zealand and Norway. The IADA countries developed the IADA Standard for Doping Control (ISDC) to implement a quality system for consistent, secure and reliable doping controls. This was approved in March 1998 and submitted to the International Standards Organisation for consideration as an ISO standard. This was published in 1999 as an ISO Publicly Available Specification (ISO/PAS 18873) which is designed to encourage harmonization of the divergent doping control procedures practiced in different countries and by different sports organizations. The PAS includes the following:

- Policies and Standards for the Doping Control Process
- Frame Conditions for Anti-Doping Organizations
- Policies and Standards for Applying ISO 9002 to Doping Control

As of December 2001, ISO/PAS 18873 has been implemented by Australia, Canada, Denmark, Norway and the United States while another seven countries are engaged in implementing the standard within their national systems: Austria, Finland, the Netherlands, New Zealand, Portugal, South Africa and Sweden. A further six countries will begin implementation in the next six months.

The Monitoring Group of the Anti-Doping Convention in March 2000 noted that the adoption of the ISO/PAS 18873 meant that the International Standard for Doping Control (ISDC) is recognised as an operational quality protocol. They consequently recommended ISO/PAS 18873 to the Parties to the Convention as the reference protocol for quality assurance in national doping control process and systems. In addition, it was recommended that WADA recognises the ISO/PAS 18873 norm as the reference protocol in anti-doping controls and encourages international sports organisations to base their anti-doping programmes on this norm.

International Project Teams are currently being set up under an IADA/WADA partnership initiative for effective, consistent and transparent anti-doping procedures worldwide. As of December 2001, twelve countries (Australia, Austria, Canada, Denmark, Finland, New Zealand, the Netherlands, Norway, Portugal, South Africa, Sweden and the United Kingdom) have completed the IPT process for their domestic doping control programmes. An

IPT is currently underway for the domestic doping control programmes in five more countries: Greece, Iran, Ireland, Poland and Switzerland.

IADA and WADA are now working together to advance the ISDC (or ISO/PAS 18873) to a full ISO standard with drafts expected to be available by the second half of 2002.

International Intergovernmental Consultative Group on Anti-Doping (IICGAD)

In November 1999, an international drugs in sport summit was organised in Sydney by the Government of Australia with participation by Government ministers and other authorised government officials responsible for anti-doping within their national jurisdictions. Participants came from 25 countries (Argentina, Australia, Canada, China, Finland, France, Germany, Greece, India, Italy, Japan, Korea, Malaysia, the Netherlands, New Zealand, Norway, Pakistan, Poland, Portugal, South Africa, Spain, Sweden, Thailand, the United Kingdom and the USA) and the European Commission and in the Sydney Communiqué “affirmed their commitment to the World Anti-Doping Agency (WADA) and its development towards an independent, transparent and accountable agency that has broad support and respect among governments, intergovernmental organisations, as well as international and national sporting organisations, in particular athletes,...” On the subject of drug testing, participants agreed that “Drug testing should be conducted in accordance with internationally accepted procedural standards, specifically the International Standard for Doping Control (ISO PAS 18873).” In regard to International Collaboration, participants agreed that:

International collaboration can be built by the use of existing or the establishment of bilateral and multilateral anti-doping agreements between and among countries through which they can harmonise anti-doping policies and promote cooperation on research, drug testing, education, sanctions and adjudication. To this end, they would encourage states from all regions to accede to the Anti-Doping Convention and use the Convention as a tool for coordinating their national anti-doping policies.

In addition, following a Canadian proposal, it was agreed to establish an International Intergovernmental Consultative Group on Anti-Doping in Sport (IICGADS) as a mechanism for ensuring that countries which did not participate in the Sydney Summit can have their views fully reflected in the development of the World Anti-Doping Agency (WADA) and whose terms of reference include the following:

to resolve, as soon as possible, the process(es) for coordinated world-wide governmental participation in WADA, recognising that certain governments have already developed a process for participation in WADA based on their membership in other pre-existing intergovernmental arrangements. A longer term objective may be to encourage and facilitate on a regional basis, on-going governmental participation in the activities of WADA.

The terms of reference also include:

to encourage nations to develop high-quality national anti-doping policies and programs through the adoption of the IADA International Standard for Doping Control.

The IICGADS has subsequently met in Montreal in February 2000, in Oslo in November 2000, and in Cape

Town in May 2001 when participation had increased to 33 countries when compared to the inaugural meeting in Sydney (Australia, **Austria, Barbados, Belgium**, Canada, China, **Czech Republic, Denmark**, Finland, France, **Hungary**, Italy, Japan, Korea, **Latvia, Lithuania**, Malaysia, **Mauritius, Morocco**, the Netherlands, New Zealand, **Nigeria**, Norway, Pakistan, Poland, Portugal, **Russia, Slovakia**, South Africa, Spain, Sweden, the United Kingdom and the USA — those countries which did not participate in the inaugural IICGADS meeting are shown in bold) and the European Commission. The Cape Town Declaration addressed the representation of governments on WADA and agreed to recommend to WADA that 21 seats should be allocated to governments and public authorities and that these should be allotted as follows: 5 each to Europe, the Americas and Asia, 4 each to Africa and 2 to Oceania. Participants also agreed to study the concept of an international treaty to facilitate government cooperation and harmonisation in support of the role of WADA. A further meeting was held in Kuala Lumpur in April 2002 when participation had further extended to 42 countries (additional countries being Bangladesh, Cambodia, Egypt, India, Indonesia, Kyrgyzstan, Oman, Senegal, Singapore, Tanzania, United Arab Emirates, Uzbekistan, Vietnam and Zimbabwe).

Analysis

It is evident that until only a few years ago there was little harmonisation between the various agencies concerned with anti-doping in sport. There was also a tension between the desire to leave sport free to regulate itself and the recognition that governments needed to take action. This tension was reflected into a multiplicity of standards adopted internationally and nationally. Increasing attention has been paid to anti-doping controls particularly over the past decade which has seen the various authorities working together to an increasing extent. The decision to create the World Anti-Doping Agency in November 1999 is successfully bringing together both governments and sporting organizations such as the Olympic Movement and International Federations as well as national sporting agencies.

The International Olympic Committee and the international sport federations have to conform to the Olympic Movement Anti-Doping Code and consequently, the national organizations for Olympic sports, as they are members of the international federations, also need to conform to the IOC's rules and regulations. Insofar as the List of Prohibited Substances and Methods is concerned, the majority of the international federations use the IOC list. In a number of national federations and in the Anti-Doping Convention of the Council of Europe, the IOC list is taken as the point of reference although a few national federations use a list of their own. The IOC list is a non-exhaustive list as it includes ‘and related substances’ although some organized sport uses an exhaustive list. It is evident that internationally the non-exhaustive list of the IOC — and now WADA — is being widely adopted. There is consequently increased consistency in regard to the list of prohibited substances and methods with the lists of the Olympic Movement Anti-Doping Code, the World Anti-Doping Agency and the Anti-Doping Convention being essentially the same.

The actions of governments to improve the quality standards applied to doping control through ISO/PAS 18837 and the standards of the testing laboratories through ISO 17025, and the ALADIN 2002 initiative in Europe, are welcomed as these increase the legal weight behind drugs tests and thus reduce the number of positive drugs tests being challenged in the courts.

In considering the relevance to the Chemical Weapons Convention, it is evident that the materials prohibited under the anti-doping codes and conventions are closely related to the mid-spectrum agents — the bioregulators — as well as to the narcotic drug and psychotropic substances as all involve materials that affect humans either temporarily or permanently. The fact that the prohibitions under the anti-doping codes and conventions are increasingly non-exhaustive — through the term ‘and related substances’ — is to be welcomed as this is, in essence, a parallel to the general purpose criterion of both the CWC and the Biological and Toxin Weapons Convention.

It is also noteworthy — and understandable given that the presence of a prohibited substance in a sample is evidence of an offence — that the anti-doping codes and conventions pay particular attention to sampling and analysis and the associated quality standards.

As the anti-doping analysis is of biomedical samples — urine — the focus is on traces of the prohibited substances, their degradation products and metabolites. Standards have to be high as the finding of a prohibited substance in an athlete’s urine automatically invalidates the athlete’s result

in the competition and often leads to that athlete being banned from competition for some time. These accredited laboratories would appear to have capabilities — and appropriate standards — that could be valuable in the analysis of biomedical samples collected in investigations of alleged use for which the OPCW accredited laboratories are not well equipped. When the international standards for sampling and analysis in support of the World Code are available in autumn 2002, there would be benefit in a comparative analysis with the OPCW sampling and analysis standards.

Furthermore, the anti-doping conventions and codes are also concerned about exports and imports of prohibited substances and are seeking to an increasing extent to involve customs authorities in preventing illicit transfers. Finally, the penalties and sanctions for the use of prohibited substances and methods in sport are tiered with both national and international provisions — further parallels to the CWC with the penalties and sanctions for breaches of the Convention both nationally and internationally.

Both doping in sport and the use of chemical or biological weapons are morally repugnant and shameful. Indeed, it is interesting that if sport is viewed as a form of war and war as a form of sport, then cheating in both has been widely considered as unethical since ancient times.

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Developments in the Organization for the Prohibition of Chemical Weapons

The most significant event occurring during the period under review, from early June 2002 through mid-September 2002, was the recommendation and appointment of a new Director-General of the Technical Secretariat of the OPCW. With advice having been received toward the end of May from the Latin American and Caribbean regional group (GRULAC) that the region would not present a candidate for the position of Director-General, the field for candidates had been opened to all states parties at the close of the eighteenth meeting of the Executive Council on 31 May. The matter of recommending a candidate therefore appeared again on the agenda for the Council’s twenty-ninth session, held during 25–28 June. In total, five nominations were received, but only four of those met the 24 June deadline set by the Council. Accordingly, the candidates eligible for the position of Director-General were from Ethiopia, Pakistan, Slovakia and, contrary to previous expectations, Argentina. In order to have more time to review the candidates, the Council decided to convene a meeting on 16 July with the sole agenda item of making a recommendation to the Special Session of the Conference, which, it was decided, would reconvene on 25 July.

However, either at or just prior to the nineteenth meeting of the Council on 16 July, the three non-GRULAC candidates were all withdrawn. The statement of Ethiopia to

the Council in withdrawing its candidate was representative of the sentiments expressed by the three candidates’ states; they had presented candidates due to the previous apparent inability of GRULAC to field a candidate. Stressing the need for consensual decision-making within the Council and the need to move on from what had been a divisive period in the OPCW’s history, once a candidate from a GRULAC country emerged, the other states withdrew their candidates. The Argentine candidate, Rogelio Pfirter, was accordingly recommended by acclamation of the Executive Council to the Conference of the States Parties for appointment as the new Director-General.

Special Session of the Conference of the States Parties (resumed)

The first special session of the Conference of the States Parties, which first met during 21–24 April, resumed for one day on 25 July. Owing to the time it had taken to put forward candidates, this was almost six weeks after the date on which the Conference had originally planned to reconvene. However, at the resumed session on 25 July, the Conference appointed by acclamation the Argentine candidate, Rogelio Pfirter, as the Director-General of the Technical Secretariat.

Following the decision, Mr Pfirter addressed the Conference. Key themes of this address included the need for: transparency and confidence; ensuring that the wills of the states parties and Secretariat converge and move decisively in the same direction; ensuring adequate and proper use of financial resources; destruction of Chemical Weapons Production Facilities (CWPFs) and chemical weapons; universality; international cooperation; support of national abilities to comply with the Chemical Weapons Convention; and keeping pace with science. The special session, which had seen the participation of 113 states parties at its various meetings, closed shortly after noon.

Prior to his appointment, Mr Pfirter, a lawyer and career diplomat, was the Under-Secretary for Foreign Policy in the Ministry of External Relations in Argentina. He has been appointed as Director-General for a term of four years, beginning on 25 July 2002 and ending on 24 July 2006. Salary and benefits have been fixed at a level equivalent to those of other executive heads within the United Nations system who are ungraded officials.

Mr Pfirter spent the early part of the week of 29 July at the OPCW meeting with Directors and key staff members and, as planned, then returned to Argentina. He took up the reins in earnest at the OPCW on 19 August, his schedule including rounds of courtesy calls and working lunches with key delegations and members of the Executive Council and Conference. In the first two weeks since his return to The Hague, the Director-General met with representatives of 40 countries, some of which were not member states of the OPCW. The Director-General visited Washington, DC during the week beginning 16 September and met with officials from the Departments of State, Commerce and Defense, as well as Congressional staffers and representatives of NGOs and the media. Plans for the Director-General's attendance at UN meetings in New York in October and November and some bilateral visits are currently being finalised.

Executive Council

The Executive Council met for its twenty-ninth formal session during 25–28 June, its nineteenth meeting on 16 July and its thirtieth formal session during 10–13 September. The twenty-ninth session of the Council was the first regular session of the Council chaired by Ambassador Lionel Fernando of Sri Lanka; the thirtieth session was the first attended by the new Director-General of the Secretariat.

At its twenty-ninth session, the Council decided to consider further during the intersessional period the draft Report of the Organization in 2001, with a view to approving it at the thirtieth session for submission to the seventh session of the Conference of the States Parties in October. This deferral reflected the tone of much of the twenty-ninth session, with some 25 decisions to either return to the item in question at the Council's next meeting or session or to consider it further during the intersessional period.

As noted above, the nineteenth meeting of the Council on 16 July dealt solely with the issue of recommending a candidate for appointment as Director-General. A further meeting, planned to take place on the same day and address items remaining from the twenty-ninth session of the Council (such

as chemical weapons destruction, combined plans, requests for conversion and facility agreements) was cancelled.

Accordingly, the agenda for the thirtieth session of the Council contained many items carried over from the twenty-ninth session, leaving the Council facing a substantial workload, as this was to have been the last session of the Executive Council prior to the Conference of the States Parties in October. However, given the continuing absence of consensus at the thirtieth session of the Council on important documents such as the draft *OPCW Programme and Budget* for 2003, it was decided that a further Council meeting would need to be held on 3 October, before the seventh session of the Conference.

The Director-General's statement to the thirtieth Council session echoed his first address to the resumed special session of the Conference of the States Parties by stressing themes of openness and transparency. He also called for restoration of the authority of the Director-General to classify posts. His speech focused on the financial imperatives facing the OPCW, describing the revised draft budget as a 'bare bones' budget containing no buffer for the OPCW and which operated on the assumption of changes to the Financial Regulations.

In the intersessional period prior to the twenty-ninth session, the Council held informal meetings or consultations on: the progress in destruction of chemical weapons and destruction or conversion of CWPFs; assistance and protection against chemical weapons; the OPCW programme and budget for 2003; amendments to Financial Regulations; the implementation of the recommendations of the External Auditor and Office of Internal Oversight (OIO); and costs related to Articles IV and V.

During the second intersessional period, between the twenty-ninth and thirtieth sessions of the Council, the Council held informal meetings or consultations on: the progress in destruction of chemical weapons and destruction or conversion of CWPFs; the OPCW programme and budget for 2003; the draft report of the OPCW; the report of the external auditor; US presentation of electronic transmission; aggregate national data (AND); archiving of Article VI declarations; boundaries of production and captive use; implementation of the OIO recommendations and report; sampling procedures; costs of verification under Articles IV and V; issues related to article XI; and the fostering of international cooperation for peaceful purposes in the field of chemical activities.

Status of Implementation of the Convention At its thirtieth session, the Council received and decided to consider intersessionally the 2001 *Verification Implementation Report*. It also noted the *Report on National Implementation Measures*, updating the results achieved, and efforts undertaken by the Secretariat, since the report to the Council at its twenty-fourth session in March 2001. In particular, the report incorporated details of the second legislation questionnaire on penal enforcement, responses to which were due at the end of August. The Council urged all states parties which have yet to fulfil their Article VII, paragraph 5 obligations to do so and requested the Secretariat to continue contacting them, within existing resources, as a matter of urgency. Details of the national implementation report can be found below in the section on legal issues.

Given the preoccupation with the draft programme and budget at the thirtieth session, it was decided to consider the *Draft Report of the Organization for 2001* at the next meeting of the Executive Council to be held prior to the Conference of the States Parties. Consultations on amendments to the report continued. The draft report under consideration reflected that four new states parties had joined the OPCW in 2001, a somewhat slower pace of ratification than in previous years. The report also stated that, during 2001, the OPCW verified the destruction at 11 chemical weapons destruction facilities (CWDFs) of 957 metric tons of chemical weapons agent contained in 219,592 munitions items and bulk containers and 289,580 unfilled munitions and devices in three of the four possessor states. By the end of the year, more than 40 per cent of the total declared chemical weapons production capacity had been destroyed, with the destruction of 27 CWPFs and the conversion of 8 others completed out of a total of 61 declared facilities. As in previous years, the majority of inspection activities were carried out at chemical weapons-related facilities. However, due to financial difficulties, only 200 of the 293 inspections planned for 2001 took place, with only 29 per cent and 53 per cent of the inspections originally planned for carried out at Schedule 3 and DOC plant sites respectively. More positively, the Voluntary Fund for Assistance increased by over 25 per cent during 2001. However, the cash deficit of EUR 4.3 million in 2001 was reported to have taken its toll on the ability of the Secretariat to carry out its full programme of work.

Adoption of the related report, that of the Executive Council on the performance of its activities during the period 24 February 2001–16 July 2002, was also deferred until the next meeting of the Executive Council. The report contained a list of 38 matters still under consideration by the Council as at 16 July. Headings with the most items still under consideration included industry declaration issues, challenge inspections and old and abandoned chemical weapons. The report also contained details of the sessions since which the Council has been considering draft decisions in relation to: plans for verification of destruction of Schedule 2 and 3 chemical weapons; combined plans for destruction and verification of CWPFs; the request by Russia for the extension of destruction deadlines; and requests for conversion of CWPFs, thus highlighting the length of time some of these matters had been before the Council.

Destruction issues Information provided to the Council at its twenty-ninth session by Russia outlined amended plans for the construction of CWDFs in light of the suspension in 2000 of US financial assistance for the construction of the CWDF at Shchuch'ye. The proposals include accelerated construction of the CWDF near Kambarka and completion of the Shchuch'ye CWDF in 2006. On 21 August, representatives of the OPCW attended the unveiling of the CWDF at Gorny in Russia, which is scheduled to come into operation in December 2002.

Under agenda items dealing with destruction, the Council at its twenty-ninth and thirtieth sessions decided to return at its next session to the detailed plans for the verification of destruction of chemical weapons at Anniston in the United States and the combined plans for the destruction and verification of the CWPF at Rocky Mountain Arsenal in the

United States. The Council also decided at its thirtieth session to defer a decision in respect of the combined plan for destruction and verification of the CWPF relating to storage of chemical weapons production equipment in the Federal Republic of Yugoslavia.

However, at the thirtieth session of the Council two decisions on Russian Federation combined plans were adopted, one in respect of destruction and verification of the CWPF (filling of mustard gas and lewisite mixture into munitions) in Dzerzhinsk and one in respect of Phase 1 of destruction and verification of the CWPF (lewisite production), also in Dzerzhinsk.

At its thirtieth session, the Council also considered and approved the amendments to the agreed detailed plan for verification of destruction of the Category 1 chemical weapons at the CWDF at Gorny (unit 1 — lewisite). Having visited the CWDF at Gorny during 5–11 August, the Secretariat had recommended amendments to the agreed plan such that Russia would begin destruction of mustard gas and its mixtures at Gorny in unit 2, rather than the destruction of lewisite in unit 1. Because of the greater capacity of unit 2, this should permit Russia to complete destruction of one per cent of its chemical weapons by 29 April 2003.

At its thirtieth session, the Council considered the request by Russia for an extension of both its intermediate deadlines and a five-year extension of its final destruction deadline for Category 1 chemical weapons, which had been considered previously at its twenty-eighth and twenty-ninth sessions. The Russian proposal involved extensions of deadlines as follows: one per cent destruction of Category 1 stockpiles by 29 April 2003; 20 per cent destruction by 29 April 2007; 45 per cent destruction by 29 April 2009 and 100 per cent destruction by 29 April 2012. The Council stated that in consultations, adaptations of this proposal were also discussed, that is to recommend to the Conference of the States Parties that it decide in principle to extend either the one per cent deadline or to extend both the one per cent and 20 per cent deadlines. The Council recommended that a decision as to specific dates be delegated by the Conference to the Council, with a view to a decision being taken at the thirty-first session of the Council. The Council also requested reports from the Chairman on the status of the Gorny CWDF. The Russian request will be considered further at the Council's next meeting on 3 October.

Conversion As contemplated at the twenty-eighth session of the Council, six conversion requests by Russia were under consideration by the Council at its twenty-ninth session — three at Novocheboksarsk and three at Volgograd. Despite the Acting Director-General's opening statement to the Council reminding it of the length of time the conversion requests had been under consideration, the Council decided to return to all six of the requests at its next meeting or session. Similarly, the Council decided to return to the United Kingdom's combined plans for the conversion and verification of the CWPF at ICI Valley in North Wales.

When these items appeared again on the agenda of the thirtieth session of the Council, decisions in respect of five of the six Russian Federation conversion requests were approved by the Council and recommended for approval at the seventh session of the Conference of the States Parties. The Russian conversion request regarding the soman

production facility at Khimprom, Volgograd and the United Kingdom's combined plans for the CWPF at ICI Valley were once again deferred. Views were expressed that decisions with regard to the sixth Russian facility should be finalised before the Conference convenes in October.

Facility Agreements Nine facility agreements were considered by the Council at its twenty-ninth session. The Council adopted decisions approving two: one for a Schedule 1 protective purposes facility in Iran; and one for a CWPF in Yugoslavia. Decisions on the other facility agreements were deferred until the next meeting or session.

Progress at the thirtieth session of the Council was marked, with the adoption of draft decisions in respect of the seven facility agreements before it. Those adopted related to a US chemical transfer facility at Aberdeen Proving Ground, Maryland; a US prototype detonation test and destruction facility agreement also at Aberdeen Proving Ground; a US chemical agent munitions disposal system at Deseret Chemical Depot, Utah; a Schedule 1 protective purposes facility in Yugoslavia; and a Schedule 1 single small-scale facility in South Africa. The Council also considered and approved draft facility agreements in respect of the Tooele chemical agent disposal facility at Deseret Chemical Depot and the Anniston chemical agent disposal facility in Alabama.

Assistance and Protection Having decided at its twenty-eighth session to discuss intersessionally the concept paper on Article X assistance and protection, at its twenty-ninth session the Council noted the intention to establish in 2002 an assistance co-ordination and assessment team (ACAT). It was noted that the establishment of ACAT would not have additional financial implications for the OPCW, as related costs would be covered by the Assistance and Protection Branch's allocated budget, voluntary contributions and/or the Voluntary Fund. In relation to the mandate of ACAT, there was agreement that the team could be dispatched, if an assistance request was received by the Organization, to help in the assessment of assistance needs. Discussions continue about what role ACAT would have beyond its assistance function and whether it would assume a coordination function for the delivery of assistance. The Council again decided to continue its consideration of this matter intersessionally, in particular with respect to the assistance co-ordination function of ACAT.

An agenda item dealing with progress on assistance and protection against chemical weapons was deleted by the Council at its thirtieth session, because no intersessional consultations had been held between late June and early September.

Old/Abandoned Chemical Weapons Discussions continued at the thirtieth session of the Council regarding the issue of old chemical weapons declared as abandoned by Panama. No additional documentation on this issue has been produced yet.

Chemical Industry An oral report on intersessional progress relating to chemical industry and other Article VI issues was received by the Council at its thirtieth session. Consultations on these issues had been held in July and

September, as a result of which two draft decisions had been prepared. The first draft decision on guidelines regarding declarations of Aggregate National Data for Schedule 2 chemical production, processing, consumption, import and export and Schedule 3 import and export was endorsed by the Council at its thirtieth session and will be submitted to the Conference for adoption at its seventh session. The second, on understandings regarding declarations under Article VI and Parts VII and VIII of the Verification Annex, was deferred to the next meeting of the Council. Consultations on chemical industry cluster issues will continue in the period leading up to the seventh session of the Conference of the States Parties.

Technical Matters At its twenty-eighth session, the Council had previously considered, but not reached a decision on, one list of new validated data for inclusion in the OPCW Central Analytical Database. At its twenty-ninth session the Council reached a decision adopting both that list and a second list of new validated data, amounting to a set of over 800 data. The Council also requested the Secretariat to identify and submit a report at the next session on a cost-effective procedure to ensure the inclusion of Chemical Abstracts Service (CAS) registry numbers, if already allocated. No such report was, however, presented at the thirtieth session of the Council.

A decision was unable to be reached at the Council's thirtieth session on the proposal by the Secretariat that designated laboratories assist the Secretariat in preparing the samples for, and evaluating the results of, official OPCW proficiency tests on a rotational basis. Part of the proposal was that budgeted funding for proficiency testing would be allocated to assisting laboratories on an equal basis (after Secretariat travel costs are deducted). The proposal will be taken up again in intersessional consultations with a view to referring it to the Conference of the States Parties.

While debate acknowledged the need for a speedy resolution, at its thirtieth session the Council also failed to reach a decision on procedures for revising technical specifications for on-site inspection equipment and on procedures for revising the approved list of inspection equipment. It was decided that intersessional consultations would be held, with a view to referring these matters to the Conference at its seventh session.

Financial Issues Financial issues continued to play a prominent role during the period under review. This was particularly so at the thirtieth session of the Council, given the proximity of the seventh session of the Conference of the States Parties, to which a number of documents were supposed to be forwarded with recommendations.

At its twenty-ninth session, the Council had under its consideration a number of important documents, including the draft Report of the Organization on the Implementation of the Convention in 2001, the Office of Internal Oversight report on 2001, the Reports of the External Auditor on the financial statements of the OPCW and the Provident Fund in 2001, the draft *OPCW Programme and Budget for 2003* and the draft *OPCW Medium Term Plan for 2004–2006*. However, the Council decided to consider all of these reports further during the intersessional period and to revisit them at its next session.

A major issue raised by the Acting Director-General at the twenty-ninth session was the financial impact of the four new CWDFs expected to come on-line in the United States and Russia either in 2002 or 2003. It was indicated that unless progress was made in considering advanced verification measures (intended to reduce inspection costs), budgetary issues would arise. The costs of verification of destruction of chemical weapons in 2003 are expected to be in the order of EUR 20 million, of which EUR 6 million is subject to reimbursement. If no changes to the verification methodology are introduced, the total costs of verifying destruction of chemical weapons in 2006 will be EUR 52 million, with EUR 14 million to be reimbursed.

In respect of the OIO report, the Council at its twenty-ninth session had received a note from the Acting Director-General. In it, he accepted in principle almost all of the observations and recommendations made by the OIO. In particular, it was acknowledged that shortcomings existed in relation to, amongst other things, the management of financial and human resources, the work of the International Co-operation Branch, the operation of the OPCW Provident Fund and implementation of the confidentiality regime. At the thirtieth session of the Council, having received an oral report on informal consultations regarding the OIO report, the Council noted the situation of the Provident Fund as discussed in the OIO report. The Council stated that it remained concerned and requested to be informed promptly and in detail about further developments in relation to the Fund. An item in respect of the Provident Fund will be included in the agenda for the Council's thirty-first session and intersessional work will be carried out.

The document which took up the majority of the Council's time at the thirtieth session was the draft *OPCW Programme and Budget for 2003*. A revised draft, incorporating additional reductions and totalling EUR 69.2 million, was presented for consideration at the Council's thirtieth session. Consultations on, and revisions to, the budget were conducted during the period of the thirtieth session. At the close of the session, however, it was agreed that further intersessional consultations would be required and that the budget would be reconsidered at the next meeting of the Council.

Another document still requiring consideration was the draft *OPCW Medium Term Plan for 2004–2006*. The draft, in its current version, operates on the assumption that the destruction of chemical weapons will continue beyond 2007 in two possessor states parties and that the scope of the main resource-consuming activities, such as the destruction of chemical weapons, will increase significantly during 2004–06. The conclusion reached is that the maintenance of a static budget is therefore not feasible in respect of at least the next several years. While it is envisaged that resources for policy-making organs, executive management and external relations should remain relatively stable, significant additional resources will be required for International Co-operation and Assistance, Verification and the Inspectorate. In respect of Verification, for example, the need for additional staff and both new inspection equipment and the replacement of old analytical equipment is outlined, as is the necessity of hiring new inspectors for the Inspectorate to be able to deal with the staged increase in inspections required to deal with the additional CWDFs

scheduled to become operational during 2004–06. The draft plan also states that timely payment of Article IV and V costs alone will not resolve the financial problems of the OPCW — in addition to such payment, urgent consideration needs to be given to measures which will result in a significant reduction of the cost of verification at CWDFs. The draft plan also draws attention to the problems that could arise depending on the date from which the Council might decide to apply the OPCW's seven-year tenure policy (decided upon by the Conference of the States Parties in 1999) and states that the functional abilities of the OPCW would be significantly impeded if any substantial proportion of the staff were required to leave between 2003 and 2006.

Further consultations on the payment of the costs of verification under Articles IV and V took place on 15 and 24 July. However, while it has been recognised that payments under Articles IV and V have had an increasing impact on the financing of the Organization, no consensus has yet been reached. At its thirtieth session, the Council noted that invoices issued late in 2001 in respect of costs of verification were paid in 2002 and that the same was likely to arise this year. Under the current accounting practice, the payments would be added to any cash surplus in the year the invoices were issued and so would be subject to reimbursement to states parties. The Council decided to consider urgently what measures might be possible for 2003 in order to maximise the efficient use of cash resources, with a view to making a recommendation to the Conference at its seventh session.

Consensus has also not yet been reached on amendments to the OPCW Financial Regulations. It was decided at the thirtieth session of the Council that this item would be considered further during the intersessional period, with a view to referring it to the Conference in October.

One item which did get referred to the Conference from the thirtieth session of the Council was the Report of the External Auditor on the financial statements of the Organisation for 2001. The External Auditor had placed an unqualified opinion on the OPCW's financial statements for the year ending 31 December 2001.

At its twenty-ninth and thirtieth sessions respectively, the Council noted the reports of the twelfth and thirteenth sessions of the Advisory Board on Administrative and Financial Matters (ABAF), held in April and August. At its twenty-ninth session, the Council noted the resignation of Arnoud Cals (the Netherlands) from ABAF, which he had chaired for the entire period since entry into force of the Convention. At its thirtieth session, the Council approved the appointment of Mr R. Poornalingam (India) retroactively to 17 July (the date of his nomination), noted the resignation of Rolf Herden (Germany) and appointed Bernhard Brasack (Germany) to the ABAF.

At its thirteenth session, the ABAF had expressed concern over insufficient monitoring of investments in the Provident Fund and recommended a thorough examination of the Fund. In respect of the proposed amendments to the Charter and Administrative Rules of the Fund, it recommended that the OPCW's liabilities should not be increased. In respect of the current status of the 2002 budget, concern was expressed again at the limited delivery of the programme of work in 2002 and it was noted that voluntary contributions would assist in financing this. It was reiterated

that the Secretariat should “avoid optimistic income forecasts”. The ABAF recommended full implementation of the OIO report recommendations. The ABAF also considered the External Auditor’s reports for 2001, but stated that one member was unable to agree with the consensus on this issue. A request was made that the External Auditor be present at the ABAF meetings when his reports are considered. Information requested of the Secretariat for the next session of the ABAF included details of collection performance under the new partial invoicing system under Articles IV and V and reasons for the lack of budgeting for the 15 per cent staff turnover for 2003, as well as other staff-turnover related information.

The fourteenth session of the ABAF will be held in 2003, when the OPCW draft budget and programme for 2004 will be available. Items on the provisional agenda for the fourteenth session of the ABAF include a budget status report for 2003, draft programme and budget for 2004, strategic plans on external relations and information technology and election of the Chairman and Vice-Chairman of the ABAF.

Monthly reports by the Director-General (and Acting Director-General, prior to July 2002) on the income and expenditure situation of the OPCW were noted at the twenty-ninth and thirtieth sessions of the Council. The August 2002 report reflected that, as of 31 August, 83 of the 145 member states had paid their assessed contributions to the 2002 budget in full. That amounted to 96 per cent of the total amount assessed to the Member States in 2002. To date, 11 member states have partially paid their assessed contributions, and 51 member states have not paid. Thirty states parties continued to be in arrears for more than two years’ worth of assessments, and therefore have lost their vote in OPCW bodies. As at 31 August, EUR 357,693 had been collected in respect of invoiced Article IV or V verification costs for 2002, leaving the total invoiced outstanding at EUR 705,566. The US Congress has approved a voluntary contribution to the OPCW of US\$2 million.

Review Conference The Council at its twenty-ninth and thirtieth sessions noted the second and third reports respectively presented by the Chairman of the open-ended working group on preparations for the First Review Conference.

At the thirtieth session of the Council, the Chairman of the working group indicated that preliminary consultations on the substantive, rather than merely procedural, issues to be considered at the Review Conference would soon begin. In addition to the background papers already under consideration by the working group, the working group has now received from the Secretariat advance unedited copies of background papers on implementation support and inspection conduct and related issues under the Convention. However, the Chairman noted the need for the Secretariat (and states parties) to provide further background documents and stated that the deadline for publication of the documents would need to be extended. To date, the Chairman has sent letters to 38 non-governmental organisations (NGOs), inviting them to submit written contributions to the preparations for the First Review Conference. So far six NGOs have responded indicating their willingness to contribute.

Other issues The Secretariat reported at the twenty-ninth Council session that it continued to work with states parties to resolve 11 outstanding uncertainties (as of 1 January 2002) recorded in relation to initial Schedule 2 inspections. As a result of five subsequent inspections between March and June, a total of nine uncertainties were resolved, and it was hoped that the final uncertainties would be resolved during the sixth inspection which took place in late June 2002.

At the thirtieth session of the Council, progress in intersessional consultations was reported in relation to co-operation under Article XI. However, it was noted in respect of the legal and organizational cluster of issues that one of the impediments to progress was the lack of co-ordinators to facilitate consultations.

Dates for Executive Council sessions in 2003 The Council at its thirtieth session approved the following dates for its regular sessions in 2003: EC-32: 18-21 March; EC-33: 24-27 June; EC-34: 23-26 September; and EC-35: 2-5 December.

Actions by Member States

Saint Vincent and the Grenadines deposited its instrument of ratification of the Convention on 18 September, with entry into force due to occur for it on 18 October. This was the first substantive development in terms of universality of the Convention this year; there are now 145 states parties to the Convention, one signatory state for whom entry into force is pending, 28 signatory states which have not yet deposited their instrument of ratification and the depositary has calculated that there are 20 states which have neither signed nor acceded to the Convention.

At its twenty-ninth session, the Council took note of the paper by the Secretariat on compliance with paragraph 16 of Part II of the Verification Annex regarding designation of points of entry and notification of this to the Secretariat. The note reflected that, as of 30 April, 93 of 145 states parties, (64 per cent) had provided the required information. Since 30 April, it was reported that Colombia had increased the number of states parties which had complied with the requirement to 94. The Council urged all member states to supply the required information.

Having noted the Secretariat paper on the status of implementation of the requirement for states parties to provide two-year multiple entry/exit visas, the Council at its twenty-ninth session urgently appealed to all states parties which had not yet done so to provide the required visas. The note by the Secretariat stated that, as of 1 May, a total of 101 states parties had taken the measures required by paragraph 10 of Part II(B) of the Verification Annex. That left 44 states parties still not in full compliance, including 24 who had not responded to the Secretariat’s enquiries concerning their visa requirements.

The Council decided to consider further during the intersessional period prior to the thirtieth session the report by the Secretariat on the project to assist states parties to meet their declaration-related obligations under Article VI of the Convention. Amongst other things, the report noted the probability that 43 of the 44 states parties identified in the project could be producing DOC/PSF chemicals and that 6 could be producing Schedule 3 chemicals. The report

concluded that the National Authorities in these states parties had few, if any, resources with which to address this issue. According to the report, the progress achieved to date was considered 'modest', with fourteen of the states parties contacted having responded: three confirmed that none of the facilities identified by the Secretariat were declarable; three provided incomplete declarations requiring further clarification; five provided new DOC/PSF plant site declarations; and three indicated that they would submit declarations in the future. As a result, as of 31 May, the number of declaring states had risen from 52 to 55 states.

Technical Secretariat

Declaration Processing As at 31 August, 142 states parties had submitted their initial declarations, with Mozambique, Nauru and Uganda still yet to do so. Also as at that date, nine states parties had yet to submit initial industry declarations under Article VI, while one state party had not made an initial declaration under Article III.

As of 1 September, 61 states parties had submitted annual declarations on past activities for 2001 (these were due 31 March). The declarations covered Schedule 1, 2 and 3 activities and updates on other chemical production facilities. By early September, 40 states parties had submitted their annual declarations on anticipated activities.

Inspections and Verification As of 20 September, 1,251 inspections were ongoing, or had been completed, at 541 sites in 51 states parties and one non-state party since entry into force of the Convention. The breakdown of inspections was as follows: 298 to CWDFs, 248 to CWPfFs, 175 to CWSFs, 20 to ACW sites, 39 to OCW sites, 4 to destruction of hazardous chemicals sites, 1 to an emergency destruction of chemical weapons site, 102 to Schedule 1 facilities, 196 to Schedule 2 facilities, 86 to Schedule 3 facilities, 81 to DOC sites and 1 other. OPCW inspectors had spent a total of 72,561 days on mission. To date, 133 inspections at 100 sites have been completed or are ongoing in 2002.

During the period between the twenty-eighth and twenty-ninth sessions of the Council, three CWDFs were under systematic verification by the Secretariat, two of which were in the United States and one of which was in another state party. During the intersessional period prior to the twenty-ninth session, the Secretariat conducted an initial visit to a CWDF at Aberdeen in the United States and a final engineering review at the Gorny CWDF in Russia. An initial visit also took place at the Umatilla Chemical Agent Disposal Facility in the United States.

In respect of industry inspections, the Council had earlier in the year been informed that, due to financial constraints, a reduced number of inspections would take place in 2002. At the thirtieth session of the Council, the Director-General announced that the OPCW would now be able to carry out the programme of inspections as originally planned until the end of the year. This will allow an additional 38 inspections, meaning that by the end of 2002, 78 Article VI inspections, or 60 per cent of those budgeted for 2002, will have taken place. By 30 June, 33 industry inspections had been carried out.

On other inspection related matters, Article VI inspection allocations are currently being considered and discussed by delegations in the light of Secretariat proposals.

Destruction/Conversion As noted in the Acting-Director General's opening statement to the twenty-ninth Council session, by the deadline of 29 April 2002, two states parties had complied with the requirement to destroy 20 per cent of their Category 1 chemical weapons, while two other state parties had requested extensions. All four chemical weapons possessor states had completed the destruction of category 3 chemical weapons by the 29 April deadline, and Russia had completed the destruction of its category 2 chemical weapons. As at 10 September, India stated that it had destroyed 34.79 per cent of its category 1 chemical weapons, while it had already destroyed 100 per cent of its category 2 and 3 chemical weapons, the United States had destroyed almost 24 per cent of its declared category 1 chemical weapons and a state party had destroyed 12.4 per cent of its declared stockpile and was resuming operations after a break for maintenance.

As of 1 September, the OPCW had overseen the destruction of 6,872 metric tons of chemical agents and 2,096,932 munitions or containers, out of a declared total of 69,869 metric tons of chemical agents and 8,624,584 munitions or containers. Of the declared CWPfFs, 28 had been certified destroyed and 9 converted for peaceful purposes. Thirteen facilities were awaiting destruction and the remaining 12 were to be converted.

Implementation of Article X An assistance and protection training course, organised jointly by the government of Sweden and the OPCW, was held during 5–23 August in Revinge, Sweden. Eighteen participants from sixteen states obtained training in the fields of civilian chemical weapons protection and rescue operations in contaminated areas, as well as responses and countermeasures in the event of a chemical terrorist attack.

At the time of writing, the first OPCW exercise on the delivery of assistance, ASSISTEX I, had just been completed in Zadar, Croatia. The concept scenario for the exercise was a possible terrorist chemical attack in an airport, followed by dispatch of the Assistance Coordination and Assessment Team (ACAT) to assess the situation. Held during 10–14 September, the exercise was intended to provide a framework for evaluating the level of preparedness of the Organization to provide assistance on request. Approximately 15 member states, 300 personnel and 100 tonnes of equipment were involved in the exercise.

Nomination forms have been issued in respect of the Sixth Annual Assistance Co-ordination Workshop to be held in Geneva during 4–7 November. The workshop is intended to provide a forum for participants to both review the practical implementation of Article X and the concept of assistance developed by the Secretariat under Article X.

Additional assistance and protection activities planned for the remainder of the year include a course in Lithuania for the Baltic states from 21–25 October, a medical course in Tehran in October, the third meeting of the Protection Network on 18–21 November and the first Swiss Emergency Field Training Advanced Course (SEF-TRAD 1) during 1–6 December.

During 2002 the Secretariat has received a number of requests from states parties seeking expert advice under Article X, paragraph 5 — however, the Secretariat has stated that these requests could only be met if additional funding were forthcoming.

The Voluntary Fund for Assistance stood at just over EUR one million, including interest, as at the end of August. As at that date, 31 states parties had opted to make contributions to the Voluntary Fund in fulfilment of their Article X obligations, while 32 states parties had made unilateral offers of assistance to the OPCW under Article X (some in addition to a contribution to the Voluntary Fund). One state party had signed a bilateral agreement with the OPCW on the provision of assistance, with a further ten intending to sign such an agreement. However, eight offers under Article X required clarification and, to date, only 65 states parties had elected a mechanism for the provision of assistance and protection as required under Article X.

Implementation Support A basic course for personnel of National Authorities was held at OPCW headquarters during 26 August–3 September. Intended to bolster the capacity of member states to implement the Convention, the course was attended by participants who had little or no previous experience in the implementation of the Convention.

Preparations are currently underway for the Fourth Annual Meeting of National Authorities, due to take place during 4–6 October (directly preceding the seventh session of the Conference of the States Parties). Over 120 individuals from 84 National Authorities have applied to take part in the meeting which will have three substantive elements: a one-day thematic workshop on the implementation of Article X related to Assistance and Protection; an information update and exchange of experiences among National Authorities; and consultations between individual National Authorities and Secretariat officials.

Implementation of Article XI The third course of the OPCW Associate Programme commenced on 29 July. The ten-week course was intended to provide training for 12 participants from developing countries and countries with economies in transition. The curriculum included implementation of the Convention, modern operations of chemical industry, chemical safety and simulations of modern chemical plant operations. The participants also prepared small research projects on issues of interest to the OPCW. This year, out of 120 applications, the participants selected to take part in the course came from Burundi, Croatia, Eritrea, Fiji, Georgia, Jordan, Moldova, Mozambique, Nepal, Philippines, Sri Lanka and Sudan.

During the period under review, the Secretariat has also requested states parties to propose potential suppliers (or donate) certain inspection equipment to provide treatment for nerve agent exposure.

Proficiency testing In August, the Director-General released a note on the status of laboratories designated for the analysis of authentic samples, reiterating that as a result of the Tenth Official OPCW Proficiency Test in November 2001 [see CBWCB 56], thirteen laboratories retained their designated status, of which three were temporarily suspended (the Chinese, Czech and Russian laboratories).

The Eleventh Proficiency Test took place during the period 18 April–19 July 2002. The Defence Science and Technology Laboratory (DSTL) in the United Kingdom and the Finnish Institute for the Verification of the Chemical Weapons Convention (VERIFIN) provided assistance to the OPCW at no cost by preparing test samples and evaluating the test results respectively. Thirteen laboratories have retained their designated status following the Eleventh Proficiency Test, of which three (in China, the Czech Republic and Russia) remain temporarily suspended.

In August the Secretariat released revised standard operating procedures for OPCW proficiency tests. Three quality documents, resulting from the recommendations of the evaluators of the Ninth and Tenth Proficiency tests, now form the basis for the conduct of official OPCW proficiency tests, starting with the twelfth test which will take place in October. The documents are designed to provide participants in proficiency testing with a clear description of the process and a complete listing of all criteria.

Legal issues As of 9 September, 69 states parties had informed the Secretariat of their implementing legislation, leaving the Organization without formal notification of the legislative situation in respect of the Convention in 54 per cent of states parties.

The Director-General submitted a report on National Implementation measures at the Council's thirtieth session, updating the report submitted at the Council's twenty-eighth session. Amongst other things, the report summarised action undertaken by the Secretariat to urge states parties to make Article VII, paragraph 5 submissions. As a result of Secretariat activity, since the end of March the Secretariat has received ten additional Article VII, paragraph 5 submissions, four states parties indicated that legislation was pending in their parliaments, six sent draft legislation to the OPCW Legal Adviser for comment, nine reported that legislation was being drafted, three requested Secretariat assistance and 49 reported that they were awaiting a reply from their capital. Beginning in autumn 2002, the Office of the Legal Adviser intends to meet with Permanent Representatives of states parties which have yet to make Article VII, paragraph 5 submissions to work out with the states parties a way forward.

The Secretariat is also continuing to pursue responses to the first legislation questionnaire, sent out to states parties in July 2000. As at 9 September, 11 additional responses had been received, one state party was seeking bilateral assistance from another and four were seeking assistance from the Secretariat. However, the remaining states parties, which constituted 90 per cent of the non-respondents to the questionnaire, stated that consideration of the questionnaire was pending in their capitals.

A second legislation questionnaire on penal enforcement under the Convention was issued by the Secretariat on 6 June. In contrast to the first legislation questionnaire, which covers only Article VI activities, the penal enforcement questionnaire covers enforcement of the Convention as a whole and includes questions regarding the general purpose criterion. As at 9 September, responses had been received from 29 states parties. To increase this number, the Secretariat intends to issue the questionnaire in the other official UN languages and will extend the deadline from 31 August to 15

November. Of the 29 responses to date, 1 state party reported that it did not have any penal legislation. Of the remaining 28, 4 stated that their legislation did not have extraterritorial application to natural persons possessing the state's nationality, 2 did not have general purpose criterion penalties, and 4 appeared to have neither penalties relating to export/import controls under Schedules 1, 2 and 3 nor penalties for failure to report declarable activities. Additionally, 2 states parties declared that there were legal obstacles within their system which might prevent the requesting or provision of cooperation and legal assistance and one reported legal obstacles to responding to such requests. States parties were also asked to indicate whether the penalties in respect of any violations are criminal or administrative.

In terms of legal technical assistance, the Office of the Legal Adviser reported that since the twenty-fourth session of the Executive Council, eight states parties had submitted draft legislation for comment. Information on states parties' legal obligations has also been disseminated through the inclusion of segments on legislation in both the Associate Programme and Basic Course in August, and through the expansion and availability of the "Legislation Package".

The conclusions reached in the Director-General's report were that, from this point forward, the most effective provision of assistance will not be via explanatory documents or group lectures. With the object of increasing compliance with Article VII in mind, the Secretariat's first proposal is for visits to states parties by experts from the Secretariat or by experts from a state party sharing either a common legal system or language with the requesting state party. A second proposal is for the development of regional initiatives to draft model legislation. For both of these proposals, additional funding will be required.

Finally, the Secretariat's report emphasised that the effective implementation of obligations under Article VII, paragraphs 1, 2 and 5 is fundamentally linked to support under Article XI, and that the focus of attention must be on whether each state party has the capacity to identify, apprehend, prosecute and punish individual violators of the Cwc.

In early September, the Office of the Legal Adviser published a book, *Treaty Enforcement and International Co-operation in Criminal Matters*, with specific reference to the Chemical Weapons Convention. The book is based on the proceedings of a seminar held in February 2001 and is published by T.M.C. Asser Press.

Official visits The Minister for Foreign Affairs of the Republic of El Salvador, Maria Eugenea de Avela, visited the OPCW on 10 September and made an address to the thirtieth session of the Executive Council.

Outreach Activities During 28 June–10 July, various meetings, including the 38th Ordinary Session of the Assembly of Heads of State and Government of the Organisation of African Unity (OAU) and Inaugural Session of the African Union (AU), took place in Durban, South Africa. Two OPCW representatives attended the events, at which a decision proposed by Sudan on the implementation and universality of the Chemical Weapons Convention was adopted by the AU. Amongst other things, the Assembly's decision acknowledged the conclusions and recommendations of the workshop on the Convention held in Khartoum,

Sudan in March this year and welcomed the recommendation for effective implementation of the Convention in Africa through sustained technical assistance from the Secretariat. The Assembly encouraged the call to achieve universality of the Convention in Africa and requested the Secretary-General of the AU to inform the Council at its regular sessions of developments regarding implementation of the Convention and progress on the issue of universality.

On 21 June, over 30 students from The Hague International Law and Diplomacy Course attended a lecture at the OPCW on the legal aspects of implementation of the Convention. On 4 July, a group of Iranian diplomats attending a course at the Clingendael Institute received a briefing at the OPCW on the Convention. On 15 August, 18 fellows and three observers with the UN/UNITAR Fellowship in International Law visited the OPCW. During their visit, they received a general overview on disarmament history, CW negotiations and the status of implementation of the Convention, amongst other things. Additionally, the UN Disarmament Fellowship Programme visited the OPCW for a day of briefings on 23 September.

In terms of upcoming events, the third induction workshop for diplomatic personnel involved in the work of the OPCW's policy-making organs and subsidiary bodies will be held on 1 October.

Staffing At the first special session of the Conference of the States Parties, the Conference decided that the contracts of the Deputy Director-General and certain D-2 grade members of staff whose contracts were likely to expire before a Director-General could be appointed, would continue in force for one month after the newly-appointed Director-General assumed his duties. While that period expired on 25 August, the contracts have been temporarily extended by the Director-General to 25 November.

One of the first acts of the new Director-General was to appoint a Chief of Cabinet, Rafael Grossi of Argentina, a former Argentine representative to NATO and Special Adviser (on conventional-arms-related matters) to the Undersecretary General for Disarmament Affairs of the United Nations. The former Special Adviser to the Director-General, Mikhail Berdennikov of the Russian Federation, in August was appointed the Special Adviser to the Director for External Affairs.

In summary, as of 13 September, 447 of the 507 allocated fixed-term posts at the OPCW were occupied. Of these, 313 out of 360 were in the professional and higher category, while 134 out of 147 were in the general service category. The total personnel strength of the Organization, including short-term and temporary-assistance contract staff, was 498.

Subsidiary bodies

Confidentiality Commission The Confidentiality Commission has not met since January 2001. At the thirtieth session of the Executive Council, it was decided that the Confidentiality Commission would convene to discuss procedural matters shortly after 19 May 2003. New members of the Commission will be appointed at the seventh session of the Conference of the States Parties in October.

Scientific Advisory Board The Scientific Advisory Board is next due to meet on 26–27 September.

Future work

The Council has approved the provisional agenda for the seventh session of the Conference, to be held during 7–11 October. The provisional agenda includes, amongst other things, the programme and budget for 2003, the scale of assessment for member states, the consideration of recommendations made by the Council to the Conference regarding requests for the extension of the destruction

deadlines for Category 1 chemical weapons and requests for the conversion of CWPFs.

Prior to the Conference of the States Parties, however, the Executive Council will meet once more on 3 October. At that meeting, and during intersessional consultations leading up to it, the Council will attempt to reach decisions in relation to matters still outstanding at the end of the thirtieth session of the Council and which need to be referred to the Conference. By far the most pressing of those matters is the draft OPCW budget for 2003.

This review was written by Fiona Tregonning, the HSP researcher in The Hague.

News Chronology

May through July 2002

What follows is taken from issue 57 of the Harvard Sussex Program CBW Chronicle, which provides a fuller coverage of events during the period under report here and also identifies the sources of information used for each record. All such sources are held in hard copy in the Sussex Harvard Information Bank, which is open to visitors by prior arrangement. For access to the Chronicle, or to the electronic CBW Events Database compiled from it, please apply to Julian Perry Robinson.

1 May On Vozrozhdeniye Island in the Aral Sea, a team of US experts [see 6 Mar] has begun destroying and decontaminating the former Soviet biological warfare testing site on the island, according to an Uzbek expert. The so-called Vozorzhdenniye Pathogen Destruction Operation is being carried out under the Cooperative Threat Reduction (CTR) programme and is expected to take 30 days. Anthrax spores are reportedly buried in 11 pits on the island which are to be soaked in a chlorine bleach solution, then excavated. Samples from each pit will be analyzed at a specially-constructed on-site laboratory. When it is clear that no contamination remains, the pits will be refilled and capped. The remaining equipment and buildings on the island will also be demolished. Under the CTR programme, the US has provided \$10 million to decontaminate Vozrozhdeniye Island; \$6 million to Uzbekistan and \$4 million to Kazakhstan.

1 May In the UK House of Lords, Minister of State for Foreign and Commonwealth Affairs Baroness Symons of Vernham Dean describes the recently launched [see 29 Apr] Green Paper on *Strengthening the Biological and Toxin Weapons Convention: Countering the Threat from Biological Weapons* to peers as follows: "The Green Paper sets out the work that has been undertaken over many years to develop measures to make the 1972 Biological and Toxin Weapons Convention more effective. The Foreign Affairs Committee, and Parliament in general, have supported these efforts, for which the Government are grateful. The paper expresses our disappointment at the failure of the states parties to agree on the text of a protocol to the convention last year, despite all our efforts. It also explains why, despite this disappointment, it is still essential that efforts continue to find ways in which the convention can be strengthened and to counter the threat from biological weapons. The Green Paper identifies possible measures that states parties might now consider to strengthen the convention. It discusses UK priorities and the next steps ahead of the reconvened BTWC Fifth Review Conference in Geneva on 11 November. It also invites comments on these proposals and seeks views from honourable Members, NGOs and other organisations and individuals with an interest in this subject."

1 May In Brussels, the Directorate-General for Health and Consumer Protection of the European Commission establishes a 'Task Force on Bio-terrorism' consisting of both Commission officials and national experts from different EU member states. The task-force's responsibilities are described as follows: "Develop a comprehensive job breakdown for the actions of the programme; Draw-up options and back-up plans for implementing the actions of the programme; Conduct the necessary research, surveys and desk-top work for the information needed to implement the actions of the programme; Design, oversee and implement project work to implement actions of the programme; Evaluate progress of work and undertake remedial action when necessary so that implementation of the programme stays on course; Assist Member States and Commission services in the implementation of the actions of the programme; Co-ordinate actions with the authorities of the Member States and test networks, procedures, protocols and arrangements; Draw up reports, proposals, briefings, manuals and documentation necessary for the programme."

1 May In the UK, Biotrace International announces that it has agreed a collaboration deal with Graseby to market biological weapons detection systems to the defence industry. Under the deal, Biotrace will supply Graseby with its patented ATP bioluminescence biological detection system which Graseby will incorporate into integrated detection and identification systems for civilian and defence customers.

1 May In the US House of Representatives, the Subcommittee on Labor, Health and Human Services and Education of the Appropriations Committee conducts a hearing to review the Administration's FY03 request for bioterrorism preparedness.

1 May In the US, the *Washington Post* reports that a Muslim charity in Illinois has had contacts with people trying to acquire chemical weapons for al-Qaeda. The FBI has submitted a 35-page affidavit in which Agent Robert Walker says: "Various persons involved in terrorist activities, specifically including

persons trying to obtain chemical and nuclear weapons on behalf of al Qaeda, have had contacts with [Benevolence] offices and personnel.”

1 May The *Journal of the American Medical Association* publishes updated recommendations for management of anthrax as a biological weapon. The article updates the original article by the Working Group on Civilian Biodefense published in 1999 [see 12 May 99] to include revisions in the light of the anthrax incidents of 2001.

1–3 May At UN headquarters, an Iraqi delegation meets for the second time [see 7 Mar] with UN officials to discuss the resumption of weapons inspections. On the first and third day of the talks, UN Secretary-General Kofi Annan meets with Iraqi Foreign Minister Naji Sabri. The second day of talks are chaired by Hans Blix, Executive Chairman of UNMOVIC, and focus on inspections. Blix replies in some detail to questions touching on UNMOVIC and its work that Iraq had submitted during the March round of talks. The Iraqi expert delegation, led by General Amir Al-Sa’adi, consists of a number of officials familiar with Iraq’s weapons of mass destruction programmes and the inspections in Iraq by UNSCOM. The talks end without any breakthrough, despite rumours that Iraq might invite Blix to Baghdad. Blix briefs the UN Security Council on the outcome of the talks the following day.

2 May In the UK House of Commons, answering a written parliamentary question, the Minister of State for Health, John Hutton, says that between 34 and 11,800 UK citizens could contract smallpox, depending on the transmission rate [see 12 Feb], following “one initial case, with prompt and vigorous public health intervention.”

2 May In the UK House of Commons, the Secretary of State for Foreign and Commonwealth Affairs revises his earlier [see 12 Mar] assessment of Iraq’s stocks of precursor chemicals, chemical agent and special munitions as follows: “This information was the best available at the time, and was based on Iraqi declarations to UNSCOM inspectors between 1991–98 and data contained in an UNSCOM report published in 1999. Since I gave this answer, Her Majesty’s Government has carried out a more detailed study. This latest assessment of the quantities of material unaccounted for by UNSCOM inspectors which has potential applications in Iraq’s chemical and biological weapons programmes is as follows: Up to 3,000 tonnes of precursor chemicals, approximately 300 tonnes of which, in the Iraqi CW programme, were unique to the production of VX nerve agent; Up to 360 tonnes of bulk CW agent including 1.5 tonnes of VX; and over 30,000 special munitions for delivery of chemical and biological agents; Large quantities of growth media acquired for use in the production of biological weapons — enough to produce over three times the amount of anthrax Iraq admits to having manufactured. These figures represent our latest assessment. This assessment is subject to continual review in the light of any updates from UNMOVIC or incoming intelligence reports. Some of the estimates are unchanged. The changes we have made do not alter our view on the scale of the Iraqi WMD threat. Indeed, they reinforce our judgment that Iraq’s chemical and biological capabilities are substantial and a very real danger to the region and the wider world. We shall be releasing further material about this threat in due course.”

2 May In the UK House of Commons, Minister of State for the Armed Forces Adam Ingram, makes a statement on the enhanced arms control programme set up as a result of the Strategic Defence Review [see 8 Jul 98]. On the BWC, he says: “The MOD has provided expert technical and policy advice as

part of the delegation to the ad hoc group in Geneva negotiating a protocol to strengthen the biological and toxin weapons convention (BTWC), as well as the delegation to the BTWC Review Conference, including drafting a number of important technical papers. In particular, DSTL Porton Down made a leading contribution to the technical aspects of the draft protocol and drafted a thorough and well received review of scientific and technological developments to inform the Review Conference. This input has been a key factor enabling the UK to play a leading role in these negotiations. The MOD has also contributed substantially to the Green Paper on Biological Arms Control [see 29 Apr]”.

On the CWC, he says: “The MOD has also provided expert technical and policy advice as part of the delegation to the Organisation for the Prohibition of Chemical Weapons (OPCW) in The Hague, including drafting a number of important technical papers. This input has played a key part in enabling the UK to play a leading role in the OPCW. We have provided a programme of training to enhance the capabilities of OPCW inspectors. This year we have contributed £50,000 to the OPCW voluntary fund to provide assistance to states in the event that they are attacked with chemical weapons. We have continued to conduct annual practice challenge inspection exercises to test our own responses and to help provide training to the OPCW inspectors. DSTL Porton Down is one of some 12 laboratories world wide that has achieved and retains the status of designation by the Director-General of the OPCW for the analysis of chemical samples. With the FCO, we have worked bilaterally with a number of states to clarify issues arising from their declaration of relevant facilities and activities under the Chemical Weapons Convention.”

2 May In Washington, there is an EU–US summit following which the White House issues a fact sheet on counterterrorism cooperation which states “to work together to deter the spread of weapons of mass destruction, the United States and the EU have undertaken to launch, in June, new consultations on non-proliferation export control assistance to third countries.”

2 May In the US Senate, the Appropriations Committee conducts a hearing to review funding for homeland security.

2 May At Fort Detrick in the US, an internal Army investigation is underway at the US Army Medical Research Institute of Infectious Diseases (USAMRIID) to ascertain why an unidentified scientist conducted unauthorized tests which detected anthrax spores in rooms adjacent to a laboratory. The spores found are from a vaccine strain and therefore not a risk to health. USAMRIID commander Colonel Edward Eitzen says at a press conference that it is unusual for a scientist to independently test areas outside the laboratory. “I would not want to speculate on his motives for doing that”, says Eitzen.

3 May In London, the International Institute for Strategic Studies hosts a meeting on *Beyond the BWC Protocol*. Attending are a number of UK, US, French and German officials and non-governmental individuals.

3 May In the US, the Department of Veterans Affairs releases a mortality study of veterans who had been deployed near the Iraqi arms dump at Khamisiyah [see 25 Apr] when bunkers containing chemical weapons were demolished after the Gulf War. The study finds that there has been no substantial increase in deaths nor any unusual causes of death among the veterans. These findings are in contrast to an earlier VA report which had suggested a dramatic increase in deaths among the veterans. Secretary of Veterans Affairs Anthony Principi says: “I regret if that earlier report caused alarm. We’re in the business of

providing information to veterans as soon as we can. In this instance, some information was release before being properly scrutinized and scientifically validated.” The mortality study concludes: “The data from this study do not support the existence of a large excess of overall mortality among any group of potentially exposed Gulf War veterans.”

3 May In the US, Secretary of Health and Human Services Tommy Thompson announces the appointment of Jerome Hauer as director of the Office of Public Health Preparedness, taking over from DA Henderson [see 1 Nov 01] who had agreed to only serve in the position for six months. Henderson will remain as principal science advisor to the secretary for public health preparedness and chairman of the secretary’s Council on Public Health Preparedness. Hauer is later named as Assistant Secretary for Public Health Emergency Preparedness, a new post created by the *Public Health Security and Bioterrorism Preparedness and Response Act*.

3 May In the US, researchers at Kansas State University release a report which finds a “significant association” between vaccinations and medication given to Gulf War veterans and subsequent declines in their health since the Gulf War. Principal investigator Walter Schumm is quoted as saying: “Without actual medical records, it is very difficult to prove causality. It would be pretty easy to discount any one study by itself as an anomaly since each of the studies have their own unique limitations, but obtaining the same results across different nationalities and research teams would seem to indicate that something went wrong with the process at that time for at least some of the veterans. Personally, I think the best guess is that the mix of pyridostigmine bromide pills, multiple vaccinations in a brief period of time, and high levels of stress combined to adversely affect the health of individuals with genetic susceptibility to such combinations.”

3 May The US journal *Pharmacoepidemiology and Drug Safety* publishes a review of adverse reactions to the anthrax vaccine undertaken by the Anthrax Vaccine Expert Committee (AVEC), a civilian panel of physicians and scientists. The Committee reviewed and medically evaluated 602 reports of adverse events which had been submitted to the Vaccine Adverse Event Reporting System. According to AVEC chairman John Sever: “A question of paramount interest was whether a review of this initial set of 602 VAERS reports would find an excessive number of medically important adverse events attributable to [Anthrax Vaccine Adsorbed]. That was not the case. There were no deaths among those reports and only 7 of 34 reported serious adverse events were judged by the committee to fit the WHO causality categories of probable or very likely/certain to be caused by the vaccine.”

4 May In Libya, Bulgarian Foreign Minister Solomon Pasi visits a children’s hospital in Benghazi at which Bulgarian medics are accused by Libyan parents of infecting children with HIV. One parent tells Pasi that the children were used for experiments at biological weapons laboratories.

4 May In Namibia, an official of the ruling SWAPO party says that HIV/AIDS is a “man-made biological nightmare to reduce human population” [see 8 Apr 01]. Eunice Iipinge also says: “The human immunodeficiency virus was created in a laboratory. The seeding of HIV/AIDS is not an accident it was a systematic evaluation of the effects of viruses on the immune functions to be undertaken.” A few days later in the Namibian National Assembly, the Deputy Minister of Environment, Peter Ilonga, tells MPs that HIV/AIDS was man-made and not natural.

6 May In Moscow, a member of the State Commission for Chemical Disarmament, Sergei Baranovskiy, says that environmental monitoring of chemical weapons has been undertaken at the storage facility at Leonidovka. He adds that the stored munitions pose no threat to the local environment. The monitoring has been conducted in cooperation with Green Cross Russia and will next be undertaken at the storage facility at Pochep.

6 May In the UK, scientists are planning to exhume the body of a female victim of the 1918 influenza pandemic. The team from St Bartholomew’s Hospital in London hopes to extract a sample of the virus from the body, which was buried in a lead-lined coffin, in order to study its genetic structure so as to be better prepared for a future pandemic.

6 May In Washington, US Undersecretary of State for Arms Control and International Security John Bolton gives a lecture at the Heritage Foundation in which he names Cuba [see 19 Mar], Libya and Syria as “state sponsors of terrorism that are pursuing or that have the potential to pursue weapons of mass destruction or have the capability to do so in violation of their treaty obligations.” Bolton continues: “While we will continue to use diplomatic efforts and multilateral regimes with these countries, it is important to review the challenges we face and to underline the issues that these states must address.”

Libya, Bolton says, “continues its goal of reestablishing its offensive chemical weapons ability, as well as pursuing an indigenous chemical warfare production capability. Libya has produced at least 100 tons of different kinds of chemical weapons, using its Rabta facility.” However, Bolton adds: “Conversely, Libya has publicly indicated [see 19 Nov 01] its intent to join the CWC. While our perceptions of Libya would not change overnight, such a move could be positive.” In addition, Bolton states that “Libya may be capable of producing small quantities of biological agent.” According to Bolton, “Syria has long had a chemical warfare program” and he also states that Syria “is pursuing the development of biological weapons and is able to produce at least small amounts of biological warfare agents.”

On Cuba Bolton says: “For four decades, Cuba has maintained a well developed and sophisticated biomedical industry, supported until 1990 by the Soviet Union. This industry is one of the most advanced in Latin America and leads in the production of pharmaceuticals and vaccines that are sold worldwide. Analysts and Cuban defectors have long cast suspicion on the activities conducted in these biomedical facilities.” Bolton continues: “Here is what we now know: The United States believes that Cuba has at least a limited offensive biological warfare research and development effort. Cuba has provided dual-use biotechnology to other rogue states. We are concerned that such technology could support BW programs in those states. We call on Cuba to cease all BW-applicable cooperation with rogue states and to fully comply with all of its obligations under the Biological Weapons Convention.” A week later, the *Washington Post* quotes an unidentified Bush Administration official as saying that Cuba has “a number of projects that are what could be dual-use things, but they’re probably not. ... It’s a question more of them exciting suspicions by not being open. I don’t know of any tangible stuff that shows yes, they are making anthrax [or anything else]. There is stuff we don’t know about.”

Two days later, Libya’s foreign affairs spokesman, Hassouna Shaoush, denies Bolton’s allegations: “Everybody knows that Libya does not seek to acquire weapons of mass destruction. Libya has signed all [sic] accords and international treaties to ban such weapons. ... We defy this American official to show any document to back his allegations on Libya’s

possession of such weapons or its intent to acquire them." The following day, President Fidel Castro of Cuba appears on national television to denounce Bolton's accusations: "We demand proof. Let them produce even the tiniest piece of evidence. They do not have any, and they cannot have them because they simply do not exist." Castro continues: "As for weapons of mass destruction, Cuba's policy has been irreproachable. No one has ever produced a single piece of evidence that any program for developing nuclear, chemical or biological weapons has been set up in our country." The next day, Cuban scientists convene a press conference at which the deputy director of the Institute of Genetic Engineering and Biotechnology, Carlos Borroto, says: "Bolton knows he is lying. We, I stress, receive thousands of US scientists each year and we have thousands of friends from that country with high moral values who are indignant. Attempting to link us to biological warfare is disgraceful. Nobody could convince Cuban scientists to do that."

Two weeks later, Iran's ambassador to Cuba uses a previously-scheduled press conference to deny that Cuban biotechnology transfers to Iran have been used for biological weapons purposes. Ambassador Seyed Salehi says: "I fully reject the allegations made by State Undersecretary John Bolton. ... Cooperation between Iran and Cuba is humanitarian and scientific. It is only used for producing vaccines and medications for the Iranian people, and the children in particular."

6 May US Undersecretary of State for Arms Control and International Security John Bolton writes to UN Secretary-General Kofi Annan informing him of the US decision to "unsign" [see 31 Dec 00] the statute of the International Criminal Court. The letter states: "This is to inform you, in connection with the Rome Statute of the International Criminal Court adopted on July 17, 1998, that the United States does not intend to become a party to the treaty. Accordingly, the United States has no legal obligations arising from its signature on December 31, 2000. The United States requests that its intention not to become a party, as expressed in this letter, be reflected in the depositary's status lists relating to this treaty."

6–8 May In Kuwait City, the National Environmental Services Company organizes a *Chemical, Biological Threat and Crisis Management Solutions Seminar*. The seminar is attended by 85 people from Kuwait, Bahrain, Bangladesh, Russia, Egypt, UAE, India, Sweden, the UK and US.

7 May From Bulgaria, the *Sofia Monitor* reports that US experts have uncovered a toxic agent at the former Military Technological Institute. The following day, the Bulgarian Foreign Ministry issues a press release stating Bulgaria's commitment to international non-proliferation agreements and denying the possession of chemical weapons. The press release goes on to explain that, during a US–Bulgaria dialogue in the context of Bulgaria's acceptance into the Australia Group [see 1–4 Oct 01], US experts detected traces of BZ at the Institute. The release states that the quantity of BZ discovered was much below the CWC-reporting threshold of 1 kg and was anyway produced for developing means of protection, a use permitted under the CWC.

7 May In the US Senate, Senator Joseph Lieberman introduces the *National Homeland Security and Combating Terrorism Act of 2002* (S 2452). The act would create a new Department of National Homeland Security.

7 May In the US Senate, the Appropriations Committee conducts a hearing on homeland security and to review the

President's FY02 supplemental request. Testifying are Secretary of Defense Donald Rumsfeld and president of the Nuclear Threat Initiative Sam Nunn. Answering questions from the Committee, Rumsfeld says: "We know there are six or seven terrorist states that exist. We know that there are — they have active weapons of mass destruction programs. We know they test them. We know they weaponize these things. We know they trade among themselves. And one's comparative advantage is given to another in exchange for their comparative advantage, and — we — the reality is, we are arriving at a time in our world's history where more of these things are available than have been previously. And more of them are in the hands of people who are perfectly willing to use them against their neighbors. And more of them are in the hands of people who have relationship with terrorist networks. Now what that means and when it might mean it is something that's not knowable. What it does mean is that the task we're embarked on to try to put pressure on these terrorist states and the terrorist organizations is terribly important, because our margin for error is much more modest today. Each of those countries has fewer years before they achieve those, and it seems to me that we have an obligation to ourselves to do everything humanly possible to try to prevent that from happening. If September 11th involved the death of thousands of people, the use of weapons of mass destruction could involve the deaths of tens of thousands or hundreds of thousands of people."

In his testimony, Nunn criticises the Administration's record on funding for cooperative threat reduction efforts: "Even as the Administration seeks increases of tens of billions for fighting terrorism, for homeland security and for developing a missile defense system, it seeks no increase for efforts to keep weapons of mass destruction out of the hands of terrorists." Among his recommendations are the following: "Both President Bush and President Putin should commit each nation to the highest international standards of weapons of mass destruction security — to ensure that nuclear, chemical and biological weapons and materials are safe, secure, and accounted for — with reciprocal monitoring sufficient to assure each other and the rest of the world that this is the case. ... The United States and Russia must lead the rest of the world, encouraging and assisting all countries to adopt these high standards. ... The two Presidents should combine our biodefense knowledge and scientific expertise and apply these joint resources to defensive and peaceful biological purposes. When the same investment can improve international security, advance public health, and promote global partnership, it's an investment that ought to be made."

8 May In Moscow, President Vladimir Putin approves amendments to the Russian criminal code which lay down the punishment for theft of weapons of mass destruction and related materials. The theft of such weapons or equipment can be punished by a prison sentence of between five and ten years. Putin also approves a federal law stipulating the punishment for the illegal export of materials, equipment, information or technical assistance which can be used to develop weapons of mass destruction.

8 May In the UK House of Lords, Department of Health Parliamentary Under Secretary of State Lord Hunt of Kings Heath explains the Government's decision [see 12 Apr] to purchase the Lister strain of smallpox vaccine as follows: "The choice of smallpox vaccine strain took into account expert advice under the auspices of a specially convened sub-group of the Joint Committee on Vaccination and Immunisation (JCVI). The advice of the JCVI sub-group was that there was no difference between the two strains on scientific grounds. Vaccines based on both strains were considered to have been

effective in the past. However the JCVI sub-group concluded that there was a greater body of evidence to demonstrate the efficacy of the Lister strain rather than for the New York City Board of Health strain and that the smallpox vaccine has been challenged in the field more often by the more severe form of smallpox [*variola major*] with the strain chosen by the United Kingdom Government. The JCVI sub-group also recommended that using a different strain of vaccine from that used in the United States offered the greatest safeguard if difficulties arose with the production of either strain ensuring that the alternative strain could act as a fall-back.”

8 May In the UK House of Commons, the Secretary of State for Defence is asked to release details of biological defence trials with simulant organisms conducted subsequent to 1979, information on pre-1979 tests having been contained in a recently-released report [see 13 Mar]. Replying on the Secretary of State’s behalf, Under Secretary of State for Defence and Minister for Veterans Lewis Moonie refuses to release the information on defence, security and international relations grounds. He does state that the tests were undertaken to assess the performance of developmental and in-service protective equipment and detection systems.

8 May In the UK House of Commons, Parliamentary Under-Secretary for Foreign and Commonwealth Affairs Ben Bradshaw responds as follows to written questions on the Government’s decision to vote to remove the OPCW Director-General Jose Bustani [see 21–24 Apr]: “Our policy throughout this matter has been guided by our judgment of what is in the best interests of the Chemical Weapons Convention (CWC) and the Organisation for the Prohibition of Chemical Weapons (OPCW). Mr. Bustani had lost the confidence of a significant number of the OPCW’s Executive Council. At a Special Conference of the OPCW on 21 April, 48 states parties voted for the resolution to terminate Mr. Bustani’s appointment, 43 abstained and only seven voted against. Every European Union country voted for the resolution (except France, which abstained), as did other key countries like India, Australia, Canada and Japan. Mr. Bustani’s appointment was accordingly terminated with immediate effect. The Special Conference also called for states parties to nominate candidates for the vacancy of Director General as soon as possible, and for the Executive Council to meet before 31 May to consider the nominations and decide on a recommendation to put to the conference before 10 June.”

8 May In the UK House of Commons, Minister of State for Health John Hutton responds as follows to a written question on production of the anthrax vaccine [see 17 Jul 01] in the UK: “Anthrax vaccine in the United Kingdom is produced at the Centre for Applied Microbiology and Research at Porton Down. It is produced from the vaccine strain of *Bacillus anthracis* (known as the Sterne strain) using biotechnological methods, but is not a recombinant product.”

8 May In Toledo, Spain, leaders from the EU and Canada gather for another summit meeting. A joint statement issued after the meeting, includes the following: “We have continued our work in dealing with the terrorist threat to our security and for laying the basis for consultation and cooperation between the EU and Canada in crisis management. ... Protecting our populations from the threat of international biological, chemical, and radio-nuclear incidents is a shared goal. To this end, we agree to further strengthen cooperation, including through the Global Health Security Initiative and in direct contacts to improve laboratory capacity, public health surveillance, crisis response capabilities and collaborate on research initiatives.”

8 May The American Medical Association, in today’s issue of its Journal, publishes detailed recommendations for measures to be taken by medical and public health professionals in the event of hemorrhagic fever viruses being used as a biological weapon against a civilian population. This is the sixth in a series of articles on possible biological weapons [see 12 May 99, 9 Jun 99, 3 May 00, 28 Feb 01 and 6 Jun 01]. Like the earlier articles (dealing with anthrax, smallpox, plague, botulinum toxin and tularemia) the publication is a consensus statement by specialists from the Working Group on Civilian Biodefense, organised out of the Johns Hopkins Center for Civilian Biodefense Strategies.

8 May The US–German Sunshine Project publishes information released by the US National Academies of Science (NAS) on the apparent development of anti-materiel biological weapons by US Navy and US Air Force laboratories. The information, in the form of research proposals from the Naval Research Laboratory in Washington and the Armstrong Laboratory at Brooks Air Force Base, has recently been submitted by the US Marine Corps for assessment by an NAS panel. Two days later, the NAS releases another proposal, this time from the Idaho National Engineering Laboratory. The NAS panel, *An Assessment of Non-lethal Weapons Science and Technology* (project NSBX-L-00-05-A), started on 15 November 2000 and is due to report later this year. Many of the reports submitted to the NAS panel are not being released to the Sunshine Project, despite having been deposited in the NAS Public Access Records File. In addition, the publication of the final report by the NAS panel is being delayed, apparently by the US Marine Corps.

The Naval Research Laboratory report states: “It is the purpose of the proposed research to capitalize on the degradative potential of ... naturally occurring microorganisms, and to engineer additional, focused degradative capabilities into [genetically modified organisms], to produce systems that will degrade the warfighting capabilities of potential adversaries.” Armstrong Laboratory proposes “genetically engineering catalysts made by bacteria that destroy Catalysts can be engineered to destroy whatever war material is desired.” In a news release, the Sunshine Project argues that not only do such proposals violate the BWC, they also violate the US BWC implementing legislation, the *Biological Weapons Anti-Terrorism Act of 1989* [see 22 May 90], which prohibits the development of anti-materiel biological weapons.

Many days later, the director of the US Marine Corps Joint Non-Lethal Weapons Directorate, Col George Fenton, denies the development of biological weapons: “We have no work going on in either area. ... The directorate has and will continue to decline considering these proposals as they do not represent the types of nonlethal technology deemed appropriate to the directorate’s mission. It is now unusual however for the directorate to receive unsolicited proposals based on biological research.” Asked for its views on whether the research violates national or international law, the directorate responds: “The tenets of the Biological Weapons Anti-Terrorism Act of 1989 are clear. Neither the United States Marine Corps nor the Joint Nonlethal Weapons Directorate believe that any research that deviates from strict adherence to the guidelines set forth in the act is appropriate.”

9 May In Changwon, South Korea, Daewoo Heavy Industries and Machinery Ltd unveils its new biological detection vehicle equipped with an integrated biological detection system and a DNA analyzer. A total of 30 of the vehicles, operated by the country’s recently-created Chemical, Biological and Radiological Defence Command [see 1 Feb], are to be deployed in ten major cities during the forthcoming World Cup.

9 May In Warsaw, the Polish National Security Bureau organizes a conference on bioterrorism. The head of the bureau, Marak Siwiec is reported as saying that a Bureau report in 1999 had already concluded that Poland would be incapable of handling a bioterrorist attack, a message which was echoed at the conference.

9 May The US Government imposes sanctions under section 3 of the *Iran Nonproliferation Act of 2000* [see 18 Jun 01] on eight Chinese, two Armenian and two Moldovan entities for the transfer to Iran of equipment and technology controlled under multilateral export control lists. Three of the Chinese entities had been sanctioned earlier in the year [see 11 Jan] for what are described by a State Department spokesman as “separate violations”: Liyang Chemical Equipment Company, China National Machinery and Electric Equipment Import and Export Company and QC Chen. The other five Chinese entities are: Zibo Chemical Equipment Plant; Wha Cheong Tai Company; China Shipbuilding Trading Company; The China Precision Machinery Import/Export Corporation; and The China National Aero-Technology Import and Export Corporation. The Armenian entities are identified as Lizen Open Joint Stock Company and Armen Sargsian while those in Moldova are Cuanta SA and Mikhail Pavlovich Vladov. Unidentified US officials are cited as saying that OC Chen and the Chinese entities have been sanctioned for their involvement in a project to weaponize Iran’s Shihab-3 intermediate range ballistic missile with chemical and biological warheads. The sanctions are announced on 16 May in the *Federal Register*. The Chinese government responds by denying any violations of its international obligations and by rejecting the US sanctions. The Foreign Ministry is quoted thus: “China expresses its opposition and dissatisfaction with the United States’ unreasonable sanctions. ... China has strictly carried out its international commitments, drawn up a series of relevant laws and regulations and strictly controlled exports of relevant materials” While not denying the US allegations, the Armenian government has begun an “active dialogue” with the US to “find solutions to the resulting problems,” according to the Armenian Foreign Ministry. If the US charges prove true, Armenian authorities “should figure out why that happened,” says Armenian President Robert Kocharian. He also points out that the Lizen Open Joint Stock Company is not state property. An Armenian news agency cites a “reliable source” as claiming that two years ago the company sold equipment, including fermentation tanks, to a neighbouring country.

9 May In the US Senate, Joseph Biden introduces the *Global Pathogen Surveillance Act of 2002* (S 2487). The bill authorizes \$150 million in FY03 and FY04 to provide assistance to developing countries to improve global disease surveillance to help prevent and contain both biological weapons attacks and naturally occurring infectious disease outbreaks. Introducing the bill, Biden says: “Any effective response to the challenge of biological weapons must also have an international component. Limiting our response to US territory would be shortsighted and doomed to failure. A dangerous pathogen released on another continent can quickly spread to the United States in a matter of days, if not hours. This is the dark side of globalization. International trade, travel, and migration patterns offer unlimited opportunities for pathogens to spread across national borders and to move from one continent to another. Moreover, an overseas epidemic could give us our first warning of a new disease strain that was developed by a country or by terrorists for use as a biological weapon, or that could be used by others for that purpose. We should make no mistake: in today’s world, all infectious disease epidemics, wherever they occur and whether they are deliberately engineered or are naturally occurring, are a potential threat to all nations, including the United States.”

9 May The US Federal Reserve reports that routine testing over the past two days at an external mail processing facility has detected anthrax spores in small batches of mail totalling about 20 pieces. The swabs that produced the positive readings have been sent for additional testing. The announcement sparks alarm and sends the stock market tumbling but the White House immediately stresses that preliminary test results could be wrong or the result of cross-contamination.

9 May In the US, *Science* magazine publishes the results of comparative genome sequencing undertaken by scientists at The Institute of Genomics Research (TIGR) and Northern Arizona University on the anthrax spores mailed last year [see 31 Oct 01]. By comparing the genome of the Florida isolate with an Ames isolate which the scientists had already sequenced, they were able to identify areas of genetic variability between the two bacteria. By screening other anthrax isolates for differences in the same regions, the researchers are able to confirm that the Florida isolate was derived from the Ames strain and narrow down its origins to a defined Ames lineage. Although the other isolates are identified only as A, B, C and D in the *Science* article, *New Scientist* reports that the two which appear closest to the Florida isolate likely originated at the US Army Institute for Infectious Diseases (USAMRIID). Although the research does not provide a “smoking gun” for the criminal investigation into the attacks, it will provide a powerful new tool for investigations of unexpected outbreaks of infectious diseases.

10 May In the US, the National Institute for Occupational Safety and Health publishes guidelines for safeguarding ventilation systems in buildings against chemical, biological or radiological attack. The guidelines had also been reviewed by the Office of Homeland Security’s Interagency Workgroup on Building Air Protection. The guidelines are intended as a first step with the professional community, government agencies and others towards developing more comprehensive guidance for protecting building ventilation systems. The guidelines recommend that security measures be adopted for air intakes and return-air grilles and that access to building operations systems and building design information should be restricted. The information also recommends that the emergency capabilities of systems’ operational controls should be assessed, filter efficiency should be closely evaluated, buildings’ emergency plans should be updated and preventive maintenance procedures should be adopted.

10 May In Hidalgo state, Mexico, a truck carrying 7.6 tons of sodium cyanide in 76 drums is hijacked. The US FBI and border officials are put on alert in case the chemical is heading north to be used in a terrorist attack. Two weeks later the truck is recovered and on 28 May all but six of the drums are also recovered.

12 May In Geneva, there is a meeting of Commonwealth health ministers in advance of the forthcoming fifty-fifth session of the World Health Assembly. One of the documents for consideration at the meeting is a joint paper by Health Canada and the UK Department of Health on *The Deliberate Use of Biological and Chemical Agents to Cause Harm: Public Health Response*. After detailing steps already taken, principally by the G8 [see 13–14 Mar], the paper recommends that Commonwealth countries should endorse a WHO resolution [see 14–21 Jan] on the global public health response to the deliberate use of biological and chemical agents and that the Commonwealth Secretariat should support countries in identifying key components of their response plans. The paper concludes: “International collaboration and cooperation are essential to effective preparedness and response to CBRN terrorist

incidents. The fear and threat generated by such terrorism can be minimized by reassuring the public and improving their confidence in Government measures to protect their public health security. Being well prepared, being ready for real or potential risks as part of emergency preparedness and response plans is one of the best ways to give citizens confidence in their government's ability to protect them."

12 May In Havana, former US President Jimmy Carter is met by President Fidel Castro as he arrives leading a delegation from the Carter Center. Castro offers Carter "free and total" access to Cuban laboratories to disprove earlier US allegations [see 6 May] that Cuba has "a limited offensive biological warfare research and development effort". On 13 May, Carter visits the Center for Genetic Engineering and Biotechnology and says: "With some degree of reluctance I would also like to comment on the allegation of bioterrorism. I do this because these allegations were made maybe not coincidentally just before our visit to Cuba. In preparation for this unprecedented visit, I requested, and we all received, intense briefings from the State Department, the intelligence agencies of my country, and high officials in the White House. One purpose of this briefing was for them to share with us any concerns that my government had about possible terrorist activities that were supported by Cuba. There were absolutely no such allegations made or questions raised. I asked them specifically on more than one occasion is there any evidence that Cuba has been involved in sharing any information to any other country on Earth that could be used for terrorist purposes. And the answer from our experts on intelligence was 'no'. I think it's very significant though that this allegation was made, and I'm grateful for a chance to come here at the center of this effort on behalf of Cuba. In the welcoming address at the airport when we arrived, your president publicly offered that any person who wanted to come and investigate any allegations concerning this bioterrorism issue would be free and welcome to come without restraint. My presumption and hope is that anyone who does have evidence of this kind would take advantage of this offer."

However, Bush Administration officials are quick to contradict Carter's remarks. Assistant Secretary of State for the Western Hemisphere Otto Reich says: "Cuba has at least a limited offensive biological weapons research and development effort, and has provided ... biotechnology to other rogue states." He adds that this is the "consensus of what the Bush administration's experts believe about Cuba and its weapons ability." Speaking on the PBS *News Hour With Jim Lehrer*, US National Security Advisor Condoleezza Rice says: "I will say that you can't show someone a biotech lab and be assured that they're not creating weapons of mass destruction. That's not how biological weapons work. They're actually very easy to conceal. You need multiple measures to make certain that biological weapons are not being developed and transferred." Later still however, the acting commander of US Southern Command says that he has seen no evidence that Cuba is producing biological weapons. Maj Gen Gary Speer says: "The Cubans do have a very active R&D program. They pride themselves on their biomedical advances and it kind of fits into the purpose for which that is used." He continues: "I think what Mr Bolton said in his statement, it kind of got reported as an accusation that the Cubans were ... that we had evidence that they were actually producing bio-weapons. And I'm not sure that's the case."

13 May In Singapore, the government will reportedly spend \$55.6 million to build laboratories to help combat infectious diseases and bioterrorism. The deputy chief executive of the Agri-food and Veterinary Authority, Chua Sin Bin, says: "We don't wait until a disease arrives here to map out a strategy. We

map out our strategy long before it even arrives in Singapore. We are always on the lookout."

13 May In the UK, the London *Times* reports that the police are to be equipped with CS bullets. The bullets are a hollow version of the recently-introduced L21A1 baton rounds which would be filled with CS in liquid or powder form and be accurate at up to 40 metres.

13 May US Secretary of State Colin Powell, en route to a North Atlantic Council meeting in Reykjavik, comments on allegations made [see 6 May] by Under Secretary of State for Arms Control and International Security John Bolton that Cuba has an "offensive biological weapons research and development effort". Secretary Powell says: "As Under Secretary (John) Bolton said recently, we do believe that Cuba has a biological offensive research capability. We didn't say that it actually had such weapons, but it has the capacity and the capability to conduct such research. This is not a new statement, I think that it is a statement that has been made previously. So Under Secretary Bolton's speech which got attention on this issue again wasn't breaking new ground as far as the United States' position on this subject goes."

13 May The US Army announces that the Tripler Army Medical Center in Hawaii is to be upgraded to a BSL-3 laboratory at a cost of \$41 million. According to Tripler's deputy commander for readiness, Col Ernie Takafuji, "this research center is not intended to be a storage center for biological agents. You might want to think of it as a place where you can process biological agents when you don't know what you have."

14 May From OPCW headquarters, it is reported that the US has paid the remaining half of its annual contribution to the OPCW 2002 budget.

14 May From Brussels, the European Union issues a statement on the US "unsigned" of the International Criminal Court statute [see 6 May]. The statement includes the following: "While respecting the sovereign rights of the United States, the European Union notes that this unilateral action may have undesirable consequences on multilateral treaty-making and generally on the rule of law in international relations. ... The European Union is also concerned at the potentially negative effect that this particular action by the United States may have on the development and reinforcement of recent trends towards individual accountability for the most serious crimes of concern to the international community and to which the United States shows itself strongly committed."

14 May In the UK House of Commons, former OPCW Director-General José Bustani [see 21-24 Apr] briefs a meeting on "the future of the OPCW" organized by Labour backbench MP Lynne Jones. Bustani in fact focuses on past events and particularly his dismissal from the OPCW. He directs most of his criticism at the US for undermining the independence of the OPCW and for expecting preferential treatment from him during his term as Director-General. He calls on countries like the UK to take a particular interest in monitoring the implementation of the CWC and in standing up for the independence of the OPCW.

14 May In Reykjavik, the NATO North Atlantic Council meets at the level of foreign ministers. The final communiqué of the meeting includes the following: "Our countries are also working together to deal with the threat posed by possible use of weapons of mass destruction (WMD), including their possible use by terrorists, and the means of their delivery. Disarmament, arms control and non-proliferation make an essential

contribution to preventing the use of WMD, along with deterrence and defence. The Alliance is working on proposals to develop critical defences against biological and chemical weapons. We also attach importance to reinforcing the role of the NATO WMD Centre within the International Staff. We will also enhance our ability, through working on all possible options, to provide support, when requested, to national authorities for the protection of civilian populations against the effects of any terrorist attack, and are cooperating with our Partners in this field, taking into account the various proposals and initiatives put forward. We are exploring the scope for enhancing cooperation with the European Union in this field. Together with our Defence colleagues, we are developing a package of proposals to be in place for the Prague Summit, to strengthen these capacities.”

The communiqué continues: “The Alliance’s policy of support for arms control, disarmament and non-proliferation will continue to play a major role in the achievement of the Alliance’s security objectives. We will continue to work together to adapt the Alliance’s comprehensive strategy to meet the threats posed by the proliferation of WMD and their means of delivery, adopting an appropriate mix of political and defence efforts. Our efforts to that end should be consistent with the indivisibility of Allied security. The Alliance stresses the importance of abiding by and strengthening existing multilateral non-proliferation and export control regimes and international arms control and disarmament accords. We will continue to actively contribute to the development of agreements and measures in this field and pursue further arms reductions, transparency and confidence and security building measures.”

14 May At UN headquarters, the Security Council adopts resolution 1409 which implements a new regime of sanctions on Iraq. The resolution is the result of long negotiations [see 2 Jul 01] among Security Council members on so-called “smart sanctions” which are intended to ease the flow of civilian products while concentrating more scrutiny on suspect items. Adopted simultaneously is a new Goods Review List which enumerates the items subject to the export/import monitoring mechanism under resolution 1051 [see 27 Mar 96]. The list is much shorter than the existing list. The export to Iraq of items with solely military applications will still be prohibited but requests to export those dual-use items on the Goods Review List will be reviewed by UNMOVIC or the IAEA. Two days later, Iraq decides to accept resolution 1409. The Goods Review List will enter into force on 30 May.

14 May In the US, the current issue of the *Proceedings of the National Academy of Sciences* carries a number of articles on research into anthrax. One reports the development of a fluorescence resonance energy transfer assay for monitoring *Bacillus anthracis* lethal factor (LF) protease activity. An accompanying commentary states that “the choice of LF as a drug target, through inhibition of the metallopeptidase activity, probably is a more promising approach than blocking the complex formed between [protective antigen] and LF.” Two other papers are concerned with the way in which two of the three anthrax toxin proteins, lethal factor and edema factor, bind to the third, protective antigen. A fourth paper presents a mathematical model of the transmission of inhalational anthrax through the postal system by cross-contamination. The model suggests that as many as 5,000 letters could have been contaminated by the original anthrax-filled envelopes [see 15 Oct 01] as they passed through the US postal system.

14 May In Oregon, Governor John Kitzhaber, receives a recommendation from a 20-member review panel to allow the

US Army to conduct test burns of the incinerator at the Umatilla Chemical Weapons Destruction Facility (CWDF).

14–17 May In Warrenton, Virginia, Barry Kellman of the DePaul University College of Law International Weapons Control Center organizes a *Workshop on Biological Terrorism: An International Criminal Law Approach*. Kellman presents his *Draft Model Convention on the Prohibition and Prevention of Biological Terrorism* and Matthew Meselson of the Harvard Sussex Program presents the Program’s *Draft Convention to Prohibit Biological and Chemical Weapons Under International Criminal Law*.

15 May Armenia accedes to the ENMOD Convention, bringing the total number of states parties to 68.

15 May In Kabul, 18 UK troops serving with a field hospital attached to the International Security Assistance Force are diagnosed with an unknown virus. Two are seriously ill and have been evacuated to hospitals in the UK and Germany. All 300 troops of the field hospital have been quarantined. Defence sources are reported as ruling out a biological weapons attack as a possible cause of the outbreak. The cause of the outbreak is later identified as a Norwalk-like virus, otherwise known as the “winter vomiting bug”, of which there had been an outbreak at a UK hospital in January.

15 May In the UK, Prime Minister Tony Blair is interviewed on the BBC 2 *Newsnight* programme on foreign policy. Asked whether he thinks that Iran is part of an “axis of evil” [see 29 Jan], Blair replies: “I think Iran in certain of the actions that it takes, has the capability to threaten the outside world. I favour a process of engagement with Iran but engagement on terms that makes it very clear that they cannot carry on supporting terrorist groups or dealing in and acquiring weapons of mass destruction.” A few days later, the Iranian foreign ministry summons the UK charge d’affaires in Tehran to object to “the baseless statements of Blair” and to demand an explanation. A foreign ministry official stresses that Iran is a member of international conventions against nuclear, chemical and biological weapons.

15 May In the UK House of Commons, Parliamentary Under-Secretary of State for Foreign and Commonwealth Affairs Denis MacShane answers a parliamentary question on recent exports to Iraq of goods subject to strategic controls. He says that, following consultations with the Foreign and Commonwealth Office and the Ministry of Defence, the Department of Trade and Industry had recently approved a licence to export laboratory equipment to UNESCO for use by higher education institutions in northern Iraq. The export included bacterial growth media and potassium cyanide, both subject to the UN import/export regime. MacShane adds: “The conclusion that this export does not represent a proliferation threat has been reached after careful assessment.”

15 May In the UK House of Commons, Minister of State for Health John Hutton is asked to provide further information on the government’s decision [see 12 Apr] to purchase smallpox vaccine from PowderJect. He replies: “The United Kingdom has held a substantial stockpile of smallpox vaccine for contingency purposes since smallpox vaccination ceased in the 1970s. The existing stock of vaccine is nearly 30-years-old. Although the vaccine has retained its potency, the technology underpinning these stocks is now also 30-years-old. In the aftermath of the events of September 11, we reviewed our ability to deal with terrorist attacks involving biological weapons. We have decided that the sensible course of action is to up-date our existing

smallpox vaccine supplies with new supplies of cell based vaccines to reflect advances in vaccine development and safety standards. Ministers took the decision to proceed to purchase smallpox vaccine on 11 March, and a contract was signed with PowderJect on 11 April." He continues: "The Department is not putting information about the size of its smallpox vaccine stock or its deployment in the public domain as this is information that might be useful to terrorists. As smallpox has been eradicated since the 1970s, its re-introduction into the UK is only likely if there is a terrorist attack on the United Kingdom. This therefore raises issues of national security. The cost of the current procurement is £32 million." He also reveals that PowderJect's UK partners, Bavarian Nordic, are already producing the smallpox vaccine to meet the UK contract.

15 May In the US House of Representatives, the Appropriations Committee marks up HR 4775, the *2002 Supplemental Appropriations Act for Further Recovery From and Response to Terrorist Attacks on the United States*. Included in the Committee's report is a section on the Remote Chemical and Biological Agent Vapor Detection System [see 15–18 Apr] which includes the following: "The Committee is aware that the Department has initiated testing to employ commonly used radars in the detection of chemical and biological agents. Early results of the testing indicate this remote chemical and biological agent vapor detection system used in conjunction with Doppler radar sites has the potential to provide a rapid chemical and biological defense umbrella for the nation." The Committee therefore decides to include \$20,000,000 over and above the President's budget request to further pursue the initiative and requests the Undersecretary of Defense for Acquisition, Technology and Logistics to submit to the congressional defense committees a programme plan to accelerate the development, testing, training and deployment of the system at 153 existing Doppler radar sites of the National Weather Service and the Federal Aviation Administration.

15 May In the US, the Association of American Physicians and Surgeons publishes two articles in its journal claiming that Cuba is producing biological weapons [see 6 May]. One of the articles suggests that West Nile Virus was introduced to the US by Iraq from Cuba carried by migratory birds. The second article alleges that there are "about 12 centers producing bacteriological agents strategically located around Havana." It goes on to describe a chemical weapons facility in Havana called La Fabriquita which it is claimed is producing the Novichok chemicals A-232 and A-234.

15 May In Colombia, the commander of the 3rd Army Division General Francisco Rene Pedraza claims that the Revolutionary Armed Forces of Colombia (FARC) are using chemical weapons against his troops, several of whom have suffered symptoms of asphyxia.

16 May In Kazakhstan, the senate votes to extend by five years a non-proliferation agreement with the US. Since 1993, Kazakhstan has received about \$150 million for the destruction of military installations and the conversion of scientific facilities. Activities during the forthcoming five years could include the completion of the demolition of the biological weapons production facility in Stepnogorsk and the destruction of some equipment at the Pavlodar chemical weapons production facility.

16 May From the Netherlands, Dutch biotech company Crucell NV announces that it has entered into a cooperative research and development agreement with the US National Institute of Allergy and Infectious Diseases to develop an Ebola vaccine. A

Crucell press release says: "The Ebola vaccine is targeted towards travellers, government officials, military personnel and people living in Ebola endemic areas in Africa. In addition, the vaccine could provide protection from the lethal virus in the event of biological warfare."

16 May The London *Times* reports that Iraq is willing to allow UN inspectors back. The newspaper cites UK and US officials, who had in turn been informed of the move by Arab mediators.

16 May At the US State Department's daily press briefing, spokesman Richard Boucher is asked whether the Administration would want to inspect the facilities in Cuba which it suspects [see 6 May] of being involved in Cuba's biological weapons "effort". Boucher responds thus: "I think the issue of biological facilities, the inspection of biological facilities, is one you're familiar with because you're familiar with the effort that has been made and will continue to be made to come up with a protocol for the Biological Weapons Convention. And inspections in and of themselves, because of the nature of the technology, don't necessarily discover everything you need to know about what may or may not be going on. At the same time, I think it's important to remember that Cuba could indeed end any illicit activity that it might be engaged in. Cuba could indeed come into full compliance with the Biological Convention and make efforts itself to demonstrate that — opening laboratories up, allowing having normal exchanges with other scientists and people in the field. ... But the dual-use nature of the technology means that a particular inspection at a particular moment at a particular place cannot necessarily prove or demonstrate that people are in compliance. ... It's that a particular inspection, or even a particular inspection regime, because of the dual-use nature of the technology, doesn't guarantee compliance with the protocol. On the other hand, because we see these at least limited research and development efforts and capabilities, we would say that Cuba should be in compliance. Cuba should abide by the Convention. ... But we are not asking for a particular inspection regime or a particular inspection, because the nature of the technology is such that you cannot demonstrate through a single inspection, or even a series of inspections, that there is not this kind of activity going on. ... So at this point we really haven't asked specifically for visits to Cuban facilities, because by the nature of the thing, that in and of itself doesn't resolve the concerns."

16 May In the US, the National Security Health Policy Center of the Potomac Institute publishes a *Study on Smallpox Vaccines and Vaccination*. The study compares the two most widely-used strains of smallpox vaccine; the Lister strain and the New York City Board of Health (NYCBH) strain. Among its conclusions, the report states: "The data in the literature that ascribes the major role in controlling endemic smallpox to the Lister strain requires reinterpretation when one considers the history of the many vaccines used around the world. ... Contrary to previous reports that the use of the Lister strain was more widespread than NYCBH the data show that the latter strain was very widely used in countries where smallpox remained an endemic disease." The study focuses on the eradication of smallpox from India which it describes as a "conquest over some of the most virulent forms of the disease". The initial vaccine used in India, EM-63, although donated by the USSR, was based on the NYCBH strain. The origin of a later, locally-produced vaccine strain, the Patwadanger strain, has not yet been identified. The type of strain used in India is of interest given current concerns about the use of smallpox by bioterrorists. According to the study: "Former Soviet Union scientists identified that India was afflicted with some of the most virulent forms of smallpox, so virulent that it is claimed that the

Soviets restructured their BW program around 'India-1'. It has further been suggested that the large amounts of smallpox material produced by the former Soviet Union is [sic] the most likely source of starting material for a bioterrorist group. It would therefore seem logical to have any vaccine-based defense against the threat posed by this material use as its progenitor the vaccine strains that exhibited success during the eradication campaign."

16 May In Texas, the Sunshine Project sends to the US Attorney for the Western District of Texas copies of two proposals for research by US governmental and military laboratories which the Project argues violate the BWC [see 8 May]. An accompanying letter requests Department of Justice action pursuant to the *Biological Weapons Anti-Terrorism Act of 1989* [see 22 May 90], which is the law implementing the BWC within the US. A week later, the Project sends a copy of a third proposal to the Attorney.

17 May In Milan, three Tunisian arrested some months earlier [see 18 Feb] are given prison sentences for offences including dealing in toxic chemicals. The men, Mehdi Kammoun, Riadh Jelassi and Adel Ben Soltani, are sentenced to between four and five years each and will be expelled from Italy upon their release.

17 May In Madrid, there is a summit meeting between heads of state and government from the European Union and Latin American and Caribbean countries. The leaders adopt a political declaration which includes the following: "We pledge to work together in the fight against bio-terrorism, strengthening the capacity of our countries to prepare for and respond to emergencies resulting from terrorist acts of biological, radiological and chemical nature, in order to protect the health of our people." The declaration continues: "We highlight the importance of the multilateral strengthening of international legally binding and political instruments to prevent the proliferation of weapons of mass destruction and their means of delivery. We are equally committed to the reinforcement of disarmament instruments in this field. We will continue to work together for the complete eradication of chemical and biological weapons. We underline the importance of strengthening the compliance with and the promotion of the universality of the Chemical Weapons Convention and the Biological and Toxin Weapons Convention as well as other international norms against the use of chemical, biological and toxin weapons. We underline that it is our conviction the latter Convention is best enhanced by the adoption of a legally binding instrument to oversee the prohibition of the development, production and stockpiling of Biological and Toxic [sic] Weapons and their destruction. We continue to support the objective of attaining a regime that would enhance trust in compliance with the Biological Weapons Convention in accordance with the mandate of the ad hoc group set up under the said convention."

18 May In Russia, Yevgeniy Korol of the federal department for safe storage and disposal of chemical weapons says that Russia's chemical weapons storage facilities are not at risk from forest fires burning in eastern regions and moving westwards.

18 May In Geneva, the ongoing fifty-fifth session of the World Health Assembly decides to authorize the further [see 24 May 99], temporary retention of the existing stocks of live smallpox virus for the purpose of enabling further international research. The Assembly also decides that "a proposed new date for destruction should be set when the research accomplishments and outcomes allow consensus to be reached on the timing of destruction of *Variola virus* stocks". The Assembly requests the

WHO Director-General to continue the work of the Advisory Committee on Variola Virus Research, to ensure that regular biosafety inspection of the storage and research facilities continues, to make available to all WHO member states the research results and benefits of the work and to report annually on progress to the Assembly through the Executive Board. In addition, the Assembly also adopts a resolution on *Global Public Health Response to Natural Occurrence, Accidental Release or Deliberate Use of Biological and Chemical Agents or Radionuclear Material That Affect Health*. The resolution urges member states to have in place national disease-surveillance plans, to collaborate and provide mutual support and to treat any deliberate use of biological and chemical agents as a global public health threat.

20 May In Moscow, Russian President Vladimir Putin tells a cabinet meeting to draft proposals for the disposal of aging weapons stockpiles inherited from the USSR, in particular chemical weapons. He tells the cabinet: "We must think about financing the destruction of excessive stockpiles of aging weapons which have become a liability and, sometimes, an environmental hazard."

20 May In Russia, the Munitions Agency and the government of the region of Udmurtia 1,300km east of Moscow agree to the construction of a chemical weapons destruction facility at Kambarka, one of two chemical weapons storage facilities in the region, the other being at Kizner. According to Alexander Gorbovskiy of the Munitions Agency, the decision to begin work at Kambarka has been taken due to the suspension of US funding of the Shchuch'ye chemdemil facility. Gorbovskiy says: "In order to be able to fulfil our obligations under conditions of acute shortages, we are forced to change our priorities in the construction of facilities for the destruction of military poisonous substances and to launch the Kambark facility second, not the Shchuch'ye facility."

20 May From Brussels, the European Union issues a statement on Iraq which includes the following: "The European Union welcomes the meetings between Mr Najib Sabri, Minister for Foreign Affairs of Iraq, and Mr Kofi Annan, Secretary-General of the United Nations, aimed at finding a diplomatic solution to the question of weapons of mass destruction in Iraq, through full implementation of the Security Council Resolutions and compliance by Iraq with its disarmament obligations. The European Union reaffirms its attachment to the unconditional observance of the United Nations Security Council Resolutions. It calls on Iraq to comply with the Resolutions without delay, in particular by agreeing to the return of inspectors to Iraq in accordance with Resolution 1284."

20 May In the UK House of Commons, Minister of State for Health John Hutton replies to a parliamentary question on the potency of the existing UK stockpile of smallpox vaccine as follows: "As the vaccine is a live, biological material, its potency would be expected to decrease over time. Expert advice in September 2001 was that the current stocks of vaccine could still be used. The result of the recent testing show all the current vaccine has a potency at least equivalent to that found in a recent [see 28 Mar] American study to induce adequate clinical and immunological reaction. Further expert advice has confirmed that the findings of the American study can be applied to the United Kingdom's vaccine."

20 May In Barcelona, there is a *Transshipment Enforcement Conference For Middle East States*. According to US NPT representative Ambassador Norman Wulf the conference will

“consider how export controls fit into global non-proliferation efforts, but also to address challenges unique to the Middle East in the export control arena.”

20 May In Washington, there is another [see 9 May] anthrax scare. A routine test for anthrax of mail delivered to the World Bank returns a positive result. Bank employees are told to stay at home and four are put on antibiotics. A second more sophisticated test returns a negative result and the sample is sent to a private laboratory in West Virginia for a definitive test. The following day, there is another positive test in Washington, this time at the International Monetary Fund. The Fund puts 100 of its staff on antibiotics. Two days later, the World Bank reports that the laboratory results were negative, and the IMF later announces that its sample too did not contain anthrax. Washington city officials are reportedly unhappy that neither organization notified them of the test results before sending their employees home. The US Department of Health and Human Services subsequently announces that it will be issuing national guidelines for the use of field tests. Jerome Hauer of the Department's Office of Public Health Preparedness says that field tests like those used by the World Bank and IMF are unreliable: “By and large, what they've done is create a lot of unnecessary anxiety.”

20–24 May In Arlington, Virginia, there is the third annual *CINC NBC Defense Program Review*. Topics covered include an overview of NBC defence programmes, passive defence issues, force protection issues and homeland security issues.

21 May In Brussels, the European Commission hosts a *Conference on the Impact of the new Chemicals Policy* [see 7 Jun 01]. The conference is intended for EU member states, industry and NGOs to be informed of the results of a study on the business impact of the Commission's white paper, *Strategy for a Future Chemicals Policy*.

21 May In the US Senate, Secretary of Defense Donald Rumsfeld testifies before the Defense Subcommittee of the Appropriations Committee. He says: “On September 11th, terrorists took commercial jetliners and turned them into missiles, killing thousands. Let there be no doubt, it is only a matter of time before terrorist states, armed with weapons of mass destruction, develop the capability to deliver those weapons to US cities, giving them the ability to try to hold America hostage to nuclear blackmail.” He continues: “The problem I see — and it's a very serious one — is that there has been a proliferation of weapons of mass destruction. And the terrorist networks have close linkages with terrorist states, the states that are on the worldwide known terrorist list — Iraq, Iran, Libya, Syria, North Korea, one or two others. Now, those countries have been developing weapons of mass destruction for some time. They are testing and weaponize chemical and biological weapons. ... In just facing the facts, we have to recognize that terrorist networks have relationships with terrorist states that have weapons of mass destruction, and that they inevitably are going to get their hands on them, and they would not hesitate one minute in using them. That's the world we live in.”

21 May In the US Senate, the Foreign Relations Committee considers the nominations of Paula Desutter to be Assistant Secretary of State for Verification and Compliance [see 22 Mar] and Stephen Rademaker to be Assistant Secretary of State for Arms Control [see 1 Mar]. Committee chairman, Senator Joseph Biden tells the nominees: “If a person accepts an arms control position, we do not expect that person to be dedicated to doing away with arms control.” He continues: “We do expect a person

in one of these positions we're discussing today to take a broad view of our national security interest and to judge arms control in that context. But we do not expect that person to set out to destroy arms control.”

21 May In the US, Hadron Inc announces the filing, by its Advanced Biosystems Inc subsidiary, of nine provisional patent applications with the US Patent and Trademark Office. The applications cover novel treatments of anthrax and filovirus infections, a new approach for the identification of smallpox drug candidates, a medical device design with many potential uses including for cancer treatment and biodefence, and a new use of biodefence research for possible cancer treatment. Three of the applications are supported by the US Army Research Command. Advanced Biosystems is exploring opportunities to license its technology to, or seek a joint venture with, a partner to complete the necessary clinical trials, regulatory approvals and the development, manufacturing and marketing of any future products that might arise from these patents.

21–22 May In the US, the Washington-based branch of the International Institute for Strategic Studies and the Chemical and Biological Arms Control Institute host a meeting to engage the North American biotech and pharmaceutical industry. The meeting is the first in a joint IISS/CBACI project which aims to establish a world association of biotechnology companies to encourage the safe and secure operation of facilities and business practices. The project team have already had meetings with representatives of Astra Zeneca, Novartis, Pfizer, Glaxo SmithKline and Eli Lilly in the US and with other biotech companies in Canada, Europe and Asia. Besides industry representatives, the meeting also includes governmental and non-governmental organizations with a stake in public safety and security in relation to developments in biotechnology. A second meeting, to engage the Asian biotech community, will be held on 30-31 July in Singapore.

21–23 May In The Hague, the UK Defence Science and Technology Laboratory joins with ICF Consulting and Science Applications International Corporation to host CWD2002, the fifth [see 22–24 May 01] international chemdemil conference. The meeting is held in the Netherlands Congress Centrum, adjacent to the OPCW. The Acting Director-General of the OPCW, John Gee, gives the keynote address and other OPCW representatives are involved in the conference proceedings.

22 May From the US State Department, the Office of the Coordinator of Terrorism releases its twenty-first annual terrorism report [see 30 Apr 01], *Patterns of Global Terrorism 2001*. The report says there were 346 terrorist incidents in 2001 as compared with 426 during 2000. However, due to the 11 September attacks in the US, the number of casualties was the highest ever recorded, 3,547 dead and 1,080 injured as compared with 409 killed and 796 wounded in 2000. The list of state sponsors remains as before: Cuba, Iran Iraq, Libya, North Korea, Sudan and Syria. In a section on chemical, biological, radiological and nuclear terrorism, the report states: “Usama Bin Ladin has professed the acquisition of ‘weapons of mass destruction’ (WMD) to be a ‘religious duty’ and he has threatened to use such weapons. Reports [see 22 Mar] that documents retrieved from al-Qaida facilities in Afghanistan contain information on CBRN materials underscore Bin Ladin's rhetoric. The threat is not limited to Bin Ladin and al-Qaida. Other information indicates interest in acquiring and using CBRN materials by a small but growing number of other terrorist groups. The use [see 27 Feb] by HAMAS of poisons and pesticides to coat shrapnel in improvised explosive devices is one example. The recent [see 19 Feb] arrest in Italy of a group

which had in its possession a compound that could produce hydrogen cyanide (HCN) gas under certain circumstances, along with maps of the underground utility systems near the US Embassy, is also demonstrative of terrorist intentions to employ CBRN materials in their activities.

The report continues: "CBRN terrorism events to date have generally involved crude and improvised delivery means that have been effective but only marginally so. The lethal materials employed in some events (with the exception of the anthrax used in the incidents in the United States) also have been crudely manufactured. Other events have featured materials (toxic industrial chemicals and materials, poisons and pesticides, radiological source materials embedded in legitimate measuring instruments, etc.) that have been acquired legitimately or illegitimately and used for purposes other than those for which they were intended. While terrorist events involving these materials and improvised delivery systems can be lethal and can cause significant damage and disruption, they pale in comparison to the number of casualties and damage levels that could occur should terrorists ever acquire militarized Weapons of Mass Destruction (WMD) and the systems to deliver them."

22 May From the US Department of State, the Bureau of Arms Control releases a fact sheet on the BWC. The document explains the US rejection [see 25 Jul 01] of the draft BWC protocol as follows: "In July 2001, however, the Bush Administration reluctantly concluded that the draft protocol would not enhance our confidence in compliance and would do little to deter those countries seeking to develop biological weapons. The US immediately embarked on efforts to find other, more effective ways to combat the BW threat, spurred by the unprecedented attack on the US on September 11 and subsequent bioterrorism, which underscored the dangers posed by both determined State actors as well as non-State actors. While the BWC retains an important role, the U.S. believes we should also look beyond traditional arms control measures to deal with the complex and dangerous threat posed by BW. Countering this threat will require a full range of measures — tightened export controls, intensified non-proliferation dialogue, increased domestic preparedness and controls, enhanced biodefense and counterterrorism capabilities, and innovative measures against disease outbreaks, as well as the full compliance by all States Parties with the global ban."

The fact sheet describes events at the 5th BWC Review Conference [see 19 Nov 01 and 7 Dec 01] thus: "The US presented a package of 'alternative measures' to strengthen the Convention to the Conference held in November 2001 to review the operation of the global ban. Our goals at the Conference were to highlight compliance concerns and gain support from all States Parties for our package and other measures that would address the biological weapons threat of today and the future. There was widespread support for US and allied initiatives intended to strengthen the Convention through practical, national implementation measures and continuing expert meetings. The US succeeded in raising worldwide awareness of the serious problem of noncompliance with the BWC. The Review Conference adjourned on December 7, 2001 and will reconvene on November 11, 2002. At the time of adjournment there were major disagreements on several issues, including 'the way forward' for strengthening the Convention and on how to reflect compliance concerns. The challenge that lies ahead before the Conference resumes in November is to develop a mutually acceptable approach, building on the foundation of the proposals and themes the US tabled in November 2001."

22 May In the US, scientists at the Lawrence Livermore National Laboratory demonstrate a computer program which is designed to link cities to the National Atmospheric Release

Advisory Center to help them map potential releases of chemical or biological agents. The programme, which is being testing in Seattle, should provide city authorities with information on the spread of such agents based on meteorological conditions.

23 May In Seoul, a court rejects three compensation suits filed collectively by 17,000 Korean veterans of the Vietnam war and their children suffering from the effects of defoliants used by US forces during the war. The suits had been brought in September 1999 against US companies Dow Chemicals and Monsanto. In its verdict, the court says that there are no proven links between the defoliants and the plaintiffs' physical conditions. The court additionally claims that over 90 per cent of the defoliant was sprayed in areas distant from Korean troops. A lawyer for the Korean veterans says that he will appeal the court's ruling.

23 May In Moscow, in an interview with the *Financial Times*, the director-general of the Russian Munitions Agency, Zinoviy Pak, calls on the US to unblock financial assistance for Russia's chemdemil programme. Pak warns that without the US funding there is a growing danger that the chemical weapons could end up in the hands of terrorists or hostile countries. He adds that he is not satisfied with security at Russia's seven chemical weapons storage sites and does not exclude the possibility that there might have already been theft as well as a leakage of expertise. Pak says that he believes that the total destruction costs will be \$8.5 billion and stressed that Russia itself was providing the bulk of the total.

23 May In Berlin, US President George Bush addresses a special session of the Bundestag. In his speech, he says: "The evil that has formed against us has been termed the 'new totalitarian threat.' The authors of terror are seeking nuclear, chemical and biological weapons. Regimes that sponsor terror are developing these weapons and the missiles to deliver them. If these regimes and their terrorist allies were to perfect these capabilities, no inner voice of reason, no hint of conscience would prevent their use."

23 May In Prague, it is reported that the Czech ministry of defence has offered the use of its chemical and biological warfare training area near Vyskov [see 17–21 Oct 99] to NATO. Czech defence minister Jaroslav Tvrdik says: "This is a theoretical consideration corresponding to the fact that the Czech Republic would like to play an important role within NATO in the campaign against chemical and bacteriological weapons." Exercises with live agents are apparently scheduled for the beginning of July, involving an Austrian anti-chemical unit. Meeting the Czech prime minister in Prague the following day, NATO Secretary-General George Robertson denies that NATO has received a definite offer but adds that use of the facility could logically be extended to all NATO allies.

23 May In Brussels, the Johns Hopkins Centers on Transatlantic Relations and Civilian Biodefense Strategies host a preparatory meeting with European public health and civil emergency planning experts. The meeting, and a conference in Washington in June, are designed to set the scene for a bioterrorism simulation exercise in October, in advance of NATO's Prague summit. The exercise will build on the experience gained by the *Dark Winter* exercise [see 22–23 Jun 01].

23 May In Leeds in the UK, the Pensions Appeal Tribunal rules that the symptoms suffered by Gulf War veteran Shaun Rusling are directly attributable to his service in the Gulf. The Tribunal criticises the actions of the Secretary of State for Defence, Geoff Hoon: "We conclude that the Secretary of State has failed to show beyond reasonable doubt that Gulf war syndrome is not

attributable to Mr Rusling's service." Rusling's original pension claim was turned down nine years ago on the advice of Ministry of Defence lawyers arguing that his symptoms could not be attributed directly to his time in the Gulf. Veterans hope that the verdict clears the way for 5,200 other veterans to appeal against the refusal of the MoD to recognize that they have Gulf War Syndrome.

Later in the House of Commons, Minister of State for the Armed Forces Adam Ingram responds to the verdict as follows: "The Pensions Appeal Tribunal's decision in the recent case involving 'Gulf War Syndrome' is specific to that case. It does not set a legal precedent for other war pension claims. The Tribunal found that the Ministry of Defence had failed to show beyond reasonable doubt that 'Gulf War Syndrome' was not attributable to service. However the overwhelming consensus of medical and scientific opinion is that the symptoms reported by some Gulf veterans do not constitute a discrete disorder. It would be wrong to interpret from the Tribunal's finding that 'Gulf War Syndrome' does exist. The fact that there is, at present, no proper basis for recognising 'Gulf War Syndrome' as an appropriate diagnostic label does not prevent a Gulf Veteran getting a war pension. A war pension can be paid for any disablement provided that a causal link to service is accepted."

23 May In the UK, Oxford University Press publishes *Deadly Embrace: Morocco and the Road to the Spanish Civil War* by Sebastian Balfour. Relying heavily on Spanish archival material, the book recounts the use of chemical weapons by Spain against the tribes of northern Morocco between 1921 and 1927. During his research, Balfour has also interviewed Moroccan survivors of the chemical attacks and consulted recently-released UK and French intelligence document from the time.

23 May In the US, the Department of Defense releases six more [see 1 Feb] fact sheets on tests carried out in the 1960s in the Pacific under the auspices of Project SHAD. This release brings the total number of fact sheets published so far to 12. Of the six tests, three (*Fearless Johnny*, *Flower Drum Phase I* and *Flower Drum Phase II*) used the nerve agents VX or sarin, one (*Speckled Start*) used Staphylococcal enterotoxin B, one (*DTC Test 69-32*) used a biological simulant believed at the time to be harmless but which has now been found to be hazardous (*Serratia marcescens*) and one (*Purple Sage*) used a non-hazardous simulant. The US Secretary of Veterans Affairs, Anthony Principi, announces that his department has begun to contact those veterans involved in the tests, so far notifying 622 out of about 4,300 already identified as participants in Project SHAD.

23–24 May In Berlin, there is an informal European Union meeting on the BWC involving governmental experts from Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Spain, Sweden and the UK. The seminar's agenda covers three areas, resumption of the 5th Review Conference, measures for follow-up and review of the EU Common Position [see 17 May 99].

24 May In Seoul, the US–Korea Combined Forces Command unveils five new biological detection vehicles for deployment during the forthcoming World Cup [see 9 May]. Biological detection forces are to be deployed to all 10 World Cup venues in South Korea.

24 May In Moscow, US President George Bush and Russian President Vladimir Putin sign the Strategic Offensive Reductions Treaty which commits both countries to reduce their nuclear arsenals to no more than 2,200 each at the end of 2012. However, the treaty has no verification mechanism and surplus

warheads will be stored rather than destroyed. In addition, either party can reactivate its warheads when the treaty expires or can withdraw from the treaty on three months notice. Bush and Putin also adopt a joint declaration on the new US–Russia relationship which includes the following: "The United States and Russia recognize the profound importance of preventing the spread of weapons of mass destruction and missiles. ... To that end, we will work closely together, including through cooperative programs, to ensure the security of weapons of mass destruction and missile technologies, information, expertise, and material ... We also intend to intensify our cooperation concerning destruction of chemical weapons. The United States and Russia will also seek broad international support for a strategy of proactive non-proliferation, including by implementing and bolstering the Treaty on the Non-Proliferation of Nuclear Weapons and the conventions on the prohibition of chemical and biological weapons. The United States and Russia call on all countries to strengthen and strictly enforce export controls, interdict illegal transfers, prosecute violators, and tighten border controls to prevent and protect against proliferation of weapons of mass destruction."

25 May In Pyongyang, the nationwide special committee for probing the truth behind GI's mass killings releases the second instalment of a white paper on the subject of US forces using chemical and biological weapons during the Korean War. The paper alleges that US use of biological weapons escalated from a limited offensive to an all-out one in early 1952 during which over 20 types of biological agent were used including plague, cholera, smallpox and epidemic bleeding fever. The paper also claims that US forces used chemical weapons in 24 cities, counties and front areas between February 1951 and July 1953.

25 May In Tehran, the Iranian Society of War Veterans Injured by Chemical Weapons writes to the Tehran UN representative expressing its regret at the silence of the UN in the face of continued deployment and use of chemical weapons. The letter criticizes the UN for its lack of action to help the 130,000 Iranians suffering from chemical weapons injuries. It also reports that just since the beginning of the year, nine Iranians have died as a result of chemical weapons-related injuries.

26 May The London *Sunday Times* reports on UK plans to use *Pleospora papaveracea* against opium crops in Afghanistan [see 13 Feb]. The newspaper reports that Afghan farmers have been told their crop will be destroyed if they plant opium next year, but adds that the fungus will only be used if financial incentives offered to the farmers fail to reduce the crop. Development of the fungus has been funded by the UK Foreign and Commonwealth Office and it has been tested at a former Soviet biological weapons facility in Uzbekistan.

27 May In Moscow, the Russian cabinet approves a draft bilateral agreement with Canada on chemdemil assistance [see 14 Mar]. Under the agreement, Canada will provide C\$5 million to Russia which Russia will guarantee is not misused. The two countries will share technical and other information as they see fit. The agreement will expire on 30 April 2004.

27 May In Moscow, Gennadiy Onishchenko, Russia's chief public health inspector, calls for active joint efforts between Russian and US doctors to combat bioterrorism. He says that the most promising aspect of US–Russia cooperation is the development of a new smallpox vaccine. Onishchenko also urges improved information-sharing between the two countries, particularly on methods of treatment and treatment courses for patients.

27 May From Panama City, US chargé d'affaires Francis Baker is quoted as saying that the US is developing a plan for the recovery of chemical weapons abandoned on San Jose Island [see 1 Mar]. According to Baker: "We have offered to clean up certain chemical weapons that have been discovered and we are creating a plan which we will present to Panama to carry out our promise. ... We have made a commitment to Panama, to President Mireya Moscoso, that we are going to take care of this problem." The OPCW has reportedly confirmed the discovery of four live chemical munitions — a 500lb bomb and three 1,000lb bombs. However, a month later, the Panama City *La Prensa* reports that there are no plans for the US Army Corps of Engineers to go to San Jose Island. The newspaper quotes a spokesman for the Hemispheric Affairs Office of the US State Department as saying: "The Army Corps will not go to Panama to participate in any exercise for the cleanup of San Jose." In addition, Panamanian foreign minister José Miguel Alemán denies any knowledge of such a plan. The paper does report however, that the US has proposed removing the munitions found to date on San Jose, a proposal which Panama considers unsatisfactory.

28 May In Rome, leaders from NATO and Russia meet to establish the new NATO–Russia Council, replacing the existing NATO–Russia Permanent Joint Council. The new Council will be chaired by the NATO Secretary-General and will meet at the level of foreign and defence ministers twice a year and at the level of heads of state and government as appropriate. Ambassadorial meetings of the Council will be held every month. A declaration by the leaders states that as initial steps they have agreed to pursue cooperative efforts including in the area of non-proliferation in which they agree to "broaden and strengthen cooperation against the proliferation of weapons of mass destruction (WMD) and the means of their delivery, and contribute to strengthening existing non-proliferation arrangements through: a structured exchange of views, leading to a joint assessment of global trends in proliferation of nuclear, biological and chemical agents; and exchange of experience with the goal of exploring opportunities for intensified practical cooperation on protection from nuclear, biological and chemical agents."

28 May In Strasbourg, the Committee on the Environment and Agriculture of the Parliamentary Assembly of the Council of Europe adopts a report on *Reducing Environmental Risks by Destroying Chemical Weapons*. The report includes the following: "The report therefore concludes that major efforts need to be made without delay to stop the proliferation of chemical weapons and the related technology. It also highlights the risk of disaster coming from the remaining stockpiles. The danger of major accidents involving large numbers of victims and severe pollution increases as the stockpiles grow older. Moreover, the risk of chemical weapons being stolen will remain as long as stockpiles exist. There is a particular concern here about small artillery shells that can easily be used for terrorist acts or in regional conflicts. For these reasons, the report urges Council of Europe member states to make a greater commitment to rapid chemical disarmament, since that is the best method of preventing disasters and much less expensive than the efforts that would be required to cope with disasters once they have occurred."

28 May In the UK, the BBC 2 *Newsnight* television programme carries a report on allegations of chemical weapons production in Libya. Senior UK and Libyan diplomats and security officials are due to meet soon in London to discuss various issues, including weapons of mass destruction and Libya's possible accession to the CWC [see 19 Nov 01].

29 May At Shchuch'ye in Russia, a visiting group of US Congressmen led by Senator Richard Lugar is told by a local administration official that there are three to five accidents involving leaking munitions every year at the chemical weapons storage facility. The official says that such leaks do not have any serious consequences and are quickly contained but that they do indicate the age of the munitions.

29 May In Moscow, there is the ninth EU–Russia summit. Attending are Russian President Vladimir Putin and Spanish Prime Minister and current President of the European Council Jose Maria Aznar, who are assisted by Javier Solana, Secretary-General of the EU Council/High Representative for Common Foreign and Security Policy and Romano Prodi, President of the European Commission. A joint statement issued after the meeting includes the following: "In the discussion on international affairs we emphasised the key importance of implementing and further strengthening non-proliferation regimes and of solving the problems of arms control and disarmament. We reaffirm our determination to deepen our dialogue and cooperation in this sphere, including the ongoing important EU contribution to existing relevant disarmament programmes in Russia. We will strengthen dialogue and cooperation on global security and stability. The EU welcomes the recent Treaty between the Russian Federation and the USA on Strategic Offensive Reductions [see 24 May]."

29 May In Moscow, the Russian Deputy Foreign Minister, Georgy Mamedov meets with Friedrich Löhr, head of chemical and biological arms control at the German Ministry of Foreign Affairs who is in Moscow for consultations on strengthening the BWC. A Russian foreign ministry press release says that during the exchange of views that takes place, both sides express interest in continuing the multilateral talks on strengthening the Convention. Questions of CWC implementation are also discussed and Mamedov thanks Germany for its assistance to Russia's chemdemil programme.

29 May In Vienna, the UNMOVIC college of commissioners reconvenes [see 18–19 Feb] for its ninth plenary session. As at the previous sessions, IAEA and OPCW staff attend as observers. UNMOVIC Executive Chairman Hans Blix reports on the Commission's activities since the last meeting and on the recent meetings between the UN and Iraq. UNMOVIC's director of information made a presentation on the implementation of the new Goods Review List and the OPCW observer briefs commissioners on the activities of the OPCW. The commissioners welcome Blix's intention, during the forthcoming talks with Iraq, to focus on Iraq's acceptance of the practical arrangements necessary for the resumption of inspections. The College agrees that such clarification would be necessary before the deployment of any UNMOVIC inspectors in Iraq. Such clarification would also help avoid disputes and misunderstandings during the start and operation of UNMOVIC inspections.

29 May In the Bundestag in Berlin, the federal government responds to parliamentary questions on the anthrax attacks in the USA. Asked about the production of anthrax by the US Army, the government says that it has no evidence to contradict US claims that the activities were solely defensive in nature. In addition, the government reveals that federal authorities were aware of 3,949 anthrax hoaxes in Germany in 2001 and 27 people have been arrested. Since 10 October 2001, the Robert Koch Institute has investigated 78 reports of anthrax spores, all of which have returned negative results.

29 May In the Bundestag in Berlin, the federal government responds to written questions on smallpox by confirming that it

is procuring six million doses of smallpox vaccine as an immediate measure and has begun the production of vaccine for the armed forces. Negotiations for the production of additional doses are being led by the Federal Ministry for Health, together with the Federal Ministry of the Interior. The government also reports that the intelligence services have no concrete indications of a threat to Germany from bioterrorism but that precautions need to be taken due to the possibility of smallpox being carried to Germany from elsewhere.

29–31 May In Washington, the Center for Nonproliferation Studies of the Monterey Institute of International Studies convenes an expert workshop on the *Conduct of Challenge Inspections Under the Chemical Weapons Convention*. Attending the workshop are 28 experts from eight countries (Canada, France, Germany, the Netherlands, South Africa, Switzerland, the UK and the US). The main aim of the workshop is to identify major logistical, communications and political problems that could arise during a CWC challenge inspection of a large complex facility, and to explore practical solutions. The moderators have prepared a hypothetical scenario divided into several parts which serves as the basis for discussion at the workshop. In addition, the participants discuss the conduct of the inspection from a number of different perspectives including the requesting and inspected states parties, the inspection team and the news media. The scenario is based on a US request for a challenge inspection at a large industrial complex in the imaginary Democratic Independent Republic of Erewhon (DIRE). The inspection ends without the discovery of any Schedule 1 or 2 chemicals but the team did find some unresolved ambiguities. At a special session of the Executive Council called to review the inspection, the deputy foreign minister of DIRE argues that the inspection failed to uncover any credible evidence of non-compliance and was therefore both frivolous and abusive. He demands that the US reimburse his government for all expenses and lost profits, together with punitive damages to compensate for the adverse publicity. The proceedings of the workshop are later published.

30 May In Prague, the Czech senate passes a bill tightening regulations on handling chemical and biological agents. Under the bill, the handling of such agents without permission from the State Nuclear Safety Office will be illegal. The government had opposed a total ban on state facilities handling such agents, pointing out that some research is necessary for defensive purposes.

30 May The US Department of the Army announces the availability of a Draft Environmental Impact Statement for the disposal of chemical weapons at Blue Grass Army Depot in Kentucky. The DEIS examines the potential environmental impacts of four destruction alternatives: incineration as used at Johnston Atoll; chemical neutralization followed by supercritical water oxidation (SCWO); chemical neutralization followed by SCWO and gas phase chemical reduction; and electrochemical oxidation. A decision on which alternative to implement will be taken by the Defense Acquisition Board.

The Department also announces the availability of a Final Environmental Impact Statement for the design, construction and operation of one or more pilot test facilities for assembled chemical weapons destruction technologies at one or more sites. The FEIS examines the potential environmental impact of four alternative destruction technologies: chemical neutralization followed by biological treatment; chemical neutralization followed by SCWO; chemical neutralization followed by transpiring wall SCWO and gas phase chemical reduction; and electrochemical oxidation. The locations at which pilot facilities could be constructed are Anniston Army Depot,

Pine Bluff Arsenal, Pueblo Chemical Depot and Blue Grass Army Depot. The FEIS states: "For the majority of impact areas considered at each installation, the technology alternatives had similar impacts. Distinctions among the technologies did, however, occur in the areas of utility requirements, human health and safety, and socioeconomics. The FEIS recommends piloting neutralization followed by biological treatment at Pueblo and but takes no firm decisions on technologies for any of the other sites.

30 May US Undersecretary of Defense for Personnel and Readiness David Chu says that the Department does not expect to return to its original goal [see 15 Dec 97] of vaccinating all 2.4 million service personnel against anthrax. The vaccine will initially be given to those most at risk, such as laboratory workers and special forces troops. It is also likely that some doses will be allocated to the civilian population. Chu says: "The events of last fall were really a wake-up call for the country about the possibility of biological agents being used as weapons of mass destruction and therefore this is no longer just a military personnel problem. This is also a national problem." He continues: "While we are still debating the details, what I think you will see in the end is, we will set aside a major part of what vaccine is available to be sure that we can protect the civil population of the United States. I don't want to start any rumours here. We're not going to vaccinate the whole population."

30 May The US Food and Drugs Administration adopts a new regulation allowing certain drugs and vaccines designed to combat chemical and biological agents to be approved without having been tested on humans. The fast-track approach is intended to encourage research into new treatments by removing the obstacle which the human testing requirement presented for research on, for example, smallpox or nerve agents. Under the new regulation, animals will be used to test drug effectiveness. The regulation had actually first been proposed in 1999 and had languished since then until the recent focus on bioterrorism.

31 May The UN Secretary-General submits to the Security Council UNMOVIC's ninth quarterly report [see 26 Feb]. The report covers the period from 1 March to 31 May, including the ninth meeting of the college of commissioners [see 29 May]. During the period of the report, the Executive Chairman, Hans Blix, has provided monthly briefings to the Presidents of the Security Council. Blix has also had discussions with the Director-General of the IAEA, Mohamed El Baradei, and has visited Beijing, London, Moscow and Washington for consultations. In the light of the possibility of resumed inspection work, Blix reports that UNMOVIC is increasing its readiness by recruiting more headquarters staff that had previously remained unfilled. A number of new posts have further been established to cover the additional work given to the Commission under resolution 1409 [see 14 May]. As of the end of May, the UNMOVIC core staff, in the Professional grades at headquarters, is composed of 58 persons (including four on short-term contracts) of 24 nationalities, eight of whom are women. In addition, there are 230 experts of 44 nationalities on the roster of trained experts available to serve the Commission in Iraq. The report states that UNMOVIC staff have prepared a first draft of a list of clusters of unresolved disarmament issues. UNMOVIC staff have also been in discussions with a number of international laboratories which may assist in the future analysis of samples. While extending its contract with the Monterey Institute for International Studies for the supply of open source information, the Commission has also concluded a contract with a French research institute for the provision of open source information focused particularly on French, European and

Middle Eastern sources. Due to the extended mandate conferred by resolution 1409, the report states that UNMOVIC will be taking on a number of additional analysts to review contracts currently on hold.

1 June President Bush gives a speech at the US Military Academy at West Point, New York, in which he outlines a new pre-emptive element in US foreign policy. In his speech, he says: "The gravest danger to freedom lies at the perilous crossroads of radicalism and technology. When the spread of chemical and biological and nuclear weapons, along with ballistic missile technology — when that occurs, even weak states and small groups could attain a catastrophic power to strike great nations. Our enemies have declared this very intention, and have been caught seeking these terrible weapons ... For much of the last century, America's defense relied on the Cold War doctrines of deterrence and containment. In some cases, those strategies still apply. But new threats also require new thinking. Deterrence — the promise of massive retaliation against nations — means nothing against shadowy terrorist networks with no nation or citizens to defend. Containment is not possible when unbalanced dictators with weapons of mass destruction can deliver those weapons on missiles or secretly provide them to terrorist allies. We cannot defend America and our friends by hoping for the best. We cannot put our faith in the word of tyrants, who solemnly sign non-proliferation treaties, and then systemically break them. If we wait for threats to fully materialize, we will have waited too long. Homeland defense and missile defense are part of stronger security, and they're essential priorities for America. Yet the war on terror will not be won on the defensive. We must take the battle to the enemy, disrupt his plans, and confront the worst threats before they emerge. In the world we have entered, the only path to safety is the path of action. And this nation will act. Our security will require the best intelligence, to reveal threats hidden in caves and growing in laboratories ... The work ahead is difficult. The choices we will face are complex. We must uncover terror cells in 60 or more countries, using every tool of finance, intelligence and law enforcement." The document outlining the new strategy drawn up by the National Security Council is expected to be released to Congress and the public in early autumn.

1 June At the University of Texas in the US, researchers publish a report, in which they claim to have successfully genetically engineered a mouse protein that offers anthrax toxins a more attractive docking station than healthy blood cells. The breakthrough is particularly relevant to the later stages of poisoning through anthrax, which is beyond treatment and often fatal. Any use of antibiotics at such a late stage would be futile as the anthrax bacteria would have flooded the blood stream. The study involved the injection of five rats with the antitoxin and five without. The untreated rats died within two hours, whilst the treated ones survived the five-hour experiment without showing any anthrax-related symptoms.

2 June From the USA, Professor Konstantin Severinov, of Rutgers University in New Jersey, is to travel to Russia to recruit former Soviet biological weapons scientists. He has received \$1 million in federal grants to employ former Soviet biological weapons scientists from the Russian Center for Applied Microbiology. He is one of six US scientists chosen by the National Academy of Sciences to work on projects with former biological weapons scientists in Russia and other former Soviet republics. Severinov says of the project that: "The Center's stockpiles might contain cures for diseases caused by biological weapons agents ... They have a huge collection of viruses ... The whole reason for my being there is to have access to these viruses".

3 June In the USA, researchers at Mayo Clinic publish a paper in which they claim to have devised a test for smallpox that can detect the virus in as little as two hours. Traditional technology takes up to three days to confirm the virus in specimens taken from patients. Like traditional tests, Mayo's test detects whether the virus' genetic material is present, and can find as few as five copies of smallpox DNA in a sample. Researcher Thomas Smith says: "Speed would obviously be important to recognise cases of smallpox ... In the event of a bioterrorism event so that the infection could be contained ... [the tests could] help hospitals and communities implement a bioterrorism plan".

3–6 June In Paris, the Australia Group meets in plenary session. At the end of the session, the Group agrees first to "adopt formal guidelines governing the licensing of sensitive chemical and biological items. These guidelines are public, consistent with the Group's strong commitment to transparency. All countries are encouraged to adhere to these guidelines in the interest of international peace and security." Secondly it agrees to "include a 'catch-all' provision in its guidelines. This is the first time that an export control regime has agreed to include a 'catch-all' clause in its public guidelines, reflecting the resolve of participating national governments to use all means at their disposal to fight the spread of CBW." Thirdly, it agrees to "apply more rigorous controls to the export of fermenters, lowering the volume threshold from 100 litres to 20 litres. This offers a substantial increase in security against terrorists seeking equipment for CBW attacks." It is to "add eight new toxins to the Group's biological control list, raising to 19 the total number of controlled toxins. It will "control technology associated with dual-use biological equipment which could be used to manufacture biological weapons." The Group will also "control, for the first time, the intangible transfer of information and knowledge which could be used for CBW purposes." It agrees to additional measures to promote awareness of the threat of CBW proliferation through publication of the Australia Group booklet — "Fighting the spread of chemical and biological weapons: Strengthening global security". This complements the Australia Group website. Participants reiterate their commitment to fair and transparent trade in chemical and biological materials for peaceful purposes. They agree that the non-discriminatory application of national export licensing measures allows legitimate trade to expand unhampered by proliferation fears".

Previously, the Group's control lists had been geared toward preventing states from acquiring militarily useful material. The group is now trying to increase its focus on terrorists, the official said. These modifications "take into account that a terrorist doesn't need to get the worst of the worst," one official said. "All you need is something pretty bad and you can cause a lot of harm and a lot of panic. So, the expansion of the list is, at least in large part, in response to the need to look at the terrorist angle."

4 June In Almaty, the first *Conference on Interaction and Confidence-Building Measures in Asia* (CICA) takes place. The 16-nation conference adopts the 'Almaty Act'. The Act starts by stating that: "The main objective of the CICA will be to enhance co-operation through elaborating multilateral approaches towards promoting peace, security and stability in Asia". Article 11 of the Act continues: "The Member States pledge to support the efforts for the global elimination of all Weapons of Mass Destruction (WMD) and therefore they commit themselves to an increased co-operation for the prevention of proliferation of all such weapons..." Article 12 states: "We affirm the importance of the early realization of the universal adherence to the multilaterally negotiated instruments on the elimination of WMD, and urge those states not yet party to these instruments to accede to them as soon as possible". Article 13 states: "We

support the establishment of zones free from nuclear weapons and other WMD in Asia on the basis of arrangements freely arrived among the states of the region concerned. The establishment of such zones in regions for which consensus resolutions of the UN General Assembly exist, such as the Middle East and Central Asia, should be encouraged; in this context, we invite adherence to internationally negotiated disarmament and non-proliferation instruments in accordance with all the provisions of the relevant consensus resolutions of the UN and the positions of states concerned on the implementation of these resolutions". The parties state under Article 26: "We affirm that being a State Party to the relevant internationally negotiated instruments should not be interpreted as affecting the inalienable right of all parties to those treaties to develop research, production and use of nuclear technology, chemical and biological materials and equipment for peaceful purposes in accordance with the provisions of these instruments ...". The parties agreed that the Heads of State or Government would convene every four years; the Ministers of Foreign Affairs shall meet every two years; and, the Committee of Senior Officials will meet at least once a year. Furthermore, it was agreed that 'Special Working Groups' would be established to study specific issues relevant to CICA's areas of interest and to carry out the tasks mandated to them.

4 June In Moscow, the Russian Government enacts a statute on *Licensing Work and Services Related to the Storage, Transportation, and Destruction of Chemical Weapons*, which repeals the "Collected Legislation of the Russian Federation, 2001, No.13, Article 1255". The Statute sets out the procedure for granting licences to organizations undertaking work in connection with the storage, transportation, and destruction of chemical weapons, including the development of technologies for destroying chemical weapons. The licensing is to be implemented by the Russian Munitions Agency. Article 3 sets out in detail the terms and conditions that have to be fulfilled in order that a licence can be granted, whilst Article 4 lists the documents that have to be submitted when applying for a licence. The Agency has to decide whether or not to approve an application for a licence within sixty days of the application being filed. It has the right to undertake necessary inspections and to request the applicant to provide evidence confirming that all licence terms and conditions are met. The licence — when granted — is valid for a period of five years (which may be extended). The Agency will maintain a register of licences (Article 7 sets out the details to be contained in the register), and shall monitor the observance of the terms and conditions of the licences by means of planned and unscheduled inspections.

4 June In Tallinn, Estonia signs an agreement with the US to cooperate in preventing the proliferation of weapons of mass destruction and promoting military and defence relations. The aim of the agreement is primarily to prevent the proliferation of nuclear, biological and chemical weapons, related technologies, materials and expert know-how. The US aid will consist of training, providing experts and supplying materials, devices and services. The agreement still needs to be ratified by the Estonian parliament.

4 June In Copenhagen, the WHO Regional Office for Europe, together with the International Programme on Chemical Safety, hosts a three-day meeting of regional government representatives to arrange, prepare and respond to any deliberate use of chemical agents by terrorists. Evidence is heard from officials in charge of anti-terrorist activities, poison centres, emergency preparedness units and national surveillance systems, and from those international organizations most involved in the area. The representatives

commit themselves to establishing an alert and response system for chemical incidents, utilizing as much as possible the existing mechanisms at the global, European Region and European Union levels; a forum for the exchange of experience between the countries to establish a strategy and programme for upgrading communication with the public; and, an international system to classify incidents. The participants further agree to define the role and functions of poison control centres in preparedness and response, and confirm that, if public health is to be protected against chemical terrorism, cooperation between countries and organizations in Europe is essential to help build on existing initiatives and systems.

5 June In Berlin, the German Bundestag adopts a motion relating to the strengthening of the BWC, to mark 30th anniversary of the signing of the Convention on 10 April. The motion starts by recognizing that the major deficit with the Convention is the fact that it lacks effective verification measures, and that recent attempts to address this problem have failed. It further states, that despite the international opposition, measures for export controls, challenge inspections and declarations must be further negotiated with perseverance. It calls on the Federal Government — in concert with other states parties to the BWC — to initiate the necessary steps so that the Fifth Review Conference in November 2002 will conclude with concrete measures to address the deficit having been taken. The US is singled out in particular as being a state that should be a party to such measures.

5 June In the UK, *Jane's Defence Weekly* reports that scientists at Porton Down are working to improve British biological detection capabilities. The current technologies used (the Provisional Biological Detection System and the Integrated Naval Biological Detection System) are considered to be labour intensive and require highly skilled operators. The Defence Science Technology Laboratories project is seeking to reduce the need for operators and find improved ways of detecting and categorizing potential biological threats. One potential breakthrough is the Fluorescing ASAS, which has been undergoing trials at Porton Down for 18 months. This complex technology, which uses ultra-violet and infra-red lasers, improves on the shape measurement of particles and by using a biological particle's fluorescent properties, cuts down the number of stages in biological detection. The project is also looking at the use of recombinant DNA technology to detect specific biological agents.

5 June In the US Senate, the Subcommittee on Western Hemisphere, Peace Corps, and Narcotics Affairs of the Foreign Relations Committee conducts a hearing on *Cuba's Pursuit of Biological Weapons: Fact or Fiction?* Subcommittee Chairman Christopher Dodd had requested testimony from Undersecretary of State for Arms Control and International Security John Bolton following his recent speech to the Heritage Foundation [see 6 May] but testifying in his place is Carl Ford, Assistant Secretary of State for Intelligence and Research [see 19 Mar]. Since his earlier testimony, Ford says "that assessment, and our concerns, have not changed". He continues: "The nature of biological weapons makes it difficult to procure clear, incontrovertible proof that a country is engaged in illicit biological weapons research, production, weaponization and stockpiling. Cuba's sophisticated denial and deception practices make our task even more difficult. That said we have a sound basis for our judgment that Cuba has at least a limited developmental offensive biological warfare research and development effort." Asked to distinguish between a "program" and an "effort", Ford replies as follows: "I would take some exception to the characterization of not much difference

between a program and an effort. There really is a difference. We've never tried to suggest that we had the evidence, the smoking gun to prove proof-positive that they had a program. Programs suggest to us something far more substantial than what we see in the evidence. But we feel very confident about saying that they're working and have been working on an effort that would give them a BW — limited BW offensive capability." He later adds: "A program, in our minds, is really the standard that we're using to compare is the Soviet Union during the Cold War, the Russians, and what sort of program they had, which include test facilities, weapons development, weapons production, the weaponization process in its sort of entirety. If you look at what we see going on in Cuba, we don't see that sort of thing." Ford is also asked whether he has any evidence of chemical weapons in Cuba, to which he replies with a simple "No".

5 June In the US, a survey — of 2,000 Americans nation-wide — undertaken by the Harvard School of Public Health and the Robert Wood Johnson Foundation, shows that 59 per cent of Americans would get themselves vaccinated — in spite of possible serious side-effects in a small number of cases — as a precaution against a bioterrorist attack using smallpox, were a vaccine to be made available. This is without any cases of smallpox having been reported. 81 per cent said they would get themselves vaccinated if cases of smallpox were recorded in their local community.

6 June From Israel, military sources claim that Palestinian militants are attempting to employ cyanide or nerve gas in suicide attacks against Israeli targets. The first such attempt is claimed to have been this year in the 27 March suicide bombing of a hotel in Nentanya in which 29 Israelis were killed, however, the Palestinians were unable to install the cyanide into the belt of the attacker. It is claimed that work with cyanide has been taking place in at least two laboratories in the West Bank, including An Najah University in Nablus. Major General Aharon Zeevi had earlier warned a committee that Palestinians were seeking to weaponize cyanide in suicide attacks and that Hizbullah, Iran and Syria are aiding Palestinian insurgents in their efforts. In connection with the Hamas attempt to use cyanide in the West bank city of Tulkram, a Hamas agent, Abbas Sayed, was arrested in May and later acknowledged that he had obtained assistance from Hizbullah in trying to develop weapons using cyanide and nerve gas.

6 June In Lithuania, a drum — 1.5 metres long and almost a ton in weight — marked 'mustard gas' has been found on a beach near to the Lithuanian port city of Klaipeda. Specialists believe it may be a World War II-era explosive chemical charge. Combat engineers decide that it was dangerous to neutralize the container on site; it will instead be taken to a military proving ground.

6 June President Bush announces his intention to create a cabinet-level Department of Homeland Security. In a televised address to the nation, Bush says: "The Department of Homeland Security will be charged with four primary tasks. This new agency will control our borders and prevent terrorists and explosives from entering our country. It will work with state and local authorities to respond quickly and effectively to emergencies. It will bring together our best scientists to develop technologies that detect biological, chemical, and nuclear weapons, and to discover the drugs and treatments to best protect our citizens. And this new department will review intelligence and law enforcement information from all agencies of government, and produce a single daily picture of threats against our homeland. Analysts will be responsible for imagining

the worst, and planning to counter it." The Department will lead the federal government's efforts in preparing for and responding to the full range of terrorist threats involving weapons of mass destruction, by setting national policy and establishing guidelines for state and local governments. It will be responsible for preparing for, and responding to, chemical, biological, radiological, and nuclear terrorism, as well as agroterrorism, and in this regard will direct exercises and drills at federal, state, and local level. The Department will unify three of the current centres of excellence in this field, including the Lawrence Livermore National Laboratory, and will manage national efforts to develop diagnostics, vaccines, antibodies, antidotes, and other countermeasures.

6 June US Secretary of Health and Human Services Tommy Thompson approves a number of plans enabling states, territories, and municipalities to receive the remaining 80 per cent of their share of nearly \$1.1 billion in bioterrorism grants (the first 20 per cent having been released earlier [see 31 Jan]). This will enable the building of stronger public health systems, covering the spectrum from stronger disease surveillance to better prepare hospitals. "This is the first time that federal, state and local governments have come together on a unified plan to strengthen our public health system and better prepare to respond to a terrorism attack", says Thompson.

6 June US Vice-President Dick Cheney speaking at the National Association of Home Builders says of Iraq: "A regime that has gassed thousands of its own citizens — a regime that hates America and our friends — must never be permitted to threaten America with weapons of mass destruction ... In Afghanistan we found confirmation that bin Laden and the al-Qaeda network were seriously interested in nuclear and radiological weapons, and in biological and chemical weapons ... We are especially concerned about any possible linkup between terrorists and regimes that have or seek weapons of mass destruction ... In the case of Saddam Hussein, we have a dictator who is clearly pursuing these deadly capabilities ... He used them in his war against Iran, and has used them against his own people ... This gathering danger requires the most careful, deliberate, and decisive response by America and our allies".

6 June In the US Senate, the Veterans Affairs Committee approves legislation — closely related to that passed by the House on 20 May — to create four emergency preparedness centres within existing Veterans Affairs facilities. Together, the two pieces of legislation provide for basic and clinical research to be undertaken at the four centres, whilst at the same time training medical professionals to prepare for large-scale terrorist disasters. The rationale behind the move is for the US to be better prepared to cope with any medical crises — affecting both veterans and the public in general — resulting from possible terrorist attacks against it. "The threats posed by biological, chemical, radiological, and incendiary weapons demand that we prepare immediately, using our existing national resources as efficiently as possible," comments Senator John Rockefeller.

6 June In the US Senate, the International Security, Proliferation and Federal Services Subcommittee of the Governmental Affairs Committee conducts a hearing on *Russia and China — Non-proliferation Concerns and Exports Controls*. Assistant Secretary of State for Non-Proliferation, John Wolf testifies: "Russia's cash-strapped defense, biotechnology, chemical, aerospace, and nuclear industries profit from exports and transfers to states on our list of state sponsors of terrorism. Some Russian universities and scientific institutes have shown a willingness to earn needed revenues by providing

WMD-related or missile-related teaching and training for foreign students ... Russian exports related to WMD and missiles to proliferant states take place in a complex environment. Strong economic motivation for enterprises to increase exports vie with mixed enforcement of export controls, a level of official corruption, and governmental policies that often confuse rather than clarify what is permissible and what is not. Russia's policy on such exports is generally to interpret its nonproliferation commitments narrowly. With the legal and regulatory basis for Russia's export controls now essentially in place, our assistance efforts are increasingly focusing on enforcement efforts and working with customs and law enforcement officials on combating illicit transfers." In relation to China Wolf testifies: "With regard to chemical and biological weapons, China is a Party to the Biological Weapons Convention and the Chemical Weapons Convention. But China's chemical-related export controls are not yet up to the Australia Group standard and only cover 10 of the 20 Australia Group-listed items not also on the CWC schedules. Chinese officials have told us they plan shortly to increase coverage to reach the Australia Group standard. This would be a welcome improvement. However, loopholes remain in Chinese controls and enforcement. Since 1997 the U.S. has imposed sanctions [see 9 May] on 13 Chinese entities under the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 and the Iran Nonproliferation Act of 2000."

6 June The US Postal Service announces that it will be carrying out a trial of an automated device that detects the DNA of the bacterium *Bacillus anthracis*, at selected post offices this summer. It plans to extend the practice nationwide next year. The device continuously channels samples into a detection unit that screens for anthrax DNA. The device relies on the polymerase chain reaction to single out and amplify regions of DNA found in the toxicity gene of anthrax. A molecular tag turns fluorescent if it finds amplified DNA tags to bind to, activating the alarm within half an hour of sample collection. If the gene is not present, no DNA is produced.

6 June At OPCW headquarters, in addition to paying its full assessed contribution of EUR 11,437,636 to the 2002 budget of the Organization, Japan has also made a "substantial voluntary contribution", amounting to EUR 338,900. The purpose of the voluntary contribution is to support the training and staff development of the Technical Secretariat. The contribution has been placed in a Voluntary Trust Fund to guarantee transparency and to ensure that the funds are applied to support specific staff development programmes.

6-7 June In Brussels, the 19 NATO defence ministers meet to redefine the role of the Alliance. They issue a statement identifying four general areas where European allies and Canada need to improve capabilities, including response to WMD threats as well as acquiring strategic lift, secure communications and modern weaponry. The statement reads: "The proliferation of weapons of mass destruction, of their means of delivery and the threat they pose to Alliance populations, territory and forces remain a matter of great concern, particularly in view of the possible use of such weapons by terrorists. Much valuable work has been accomplished as a result of the Weapons of Mass Destruction Initiative launched at the Washington Summit three years ago. Today we took further steps to enhance NATO's ability to defend its forces against chemical, biological and radiological weapons by endorsing a comprehensive package of WMD-defence capability initiatives. These initiatives, designed to provide an opportunity for multinational participation, include: a prototype Deployable NBC Analytical Laboratory; a prototype

30 Years Ago

7 June 1972 In London, Lord Chalfont, a former Minister of State in the Foreign and Commonwealth Office, introduces a debate on chemical weapons in the House of Lords.

He says: "Chemical weapons have been called the poor man's weapon of mass destruction ... But there are other, and I think somewhat more sinister, implications here. It is the possibility that these weapons might even spread out of the hands of governments and into the hands of private people. One only has to think of the appalling [recent attacks] to realise that nowadays international terrorists will stop virtually at nothing. The chemical weapon is easily portable, cheaply made and easily used ... [We must] think seriously about the appalling danger that would be presented to international order and stability if international terrorists of the kind that carried out the shocking [attacks] were to decide to use, instead of the weapons that they used there, this kind of weapon of indiscriminate destruction".

The attacks the speaker refers to were at Lod Airport, Tel Aviv, on 30 May in which 3 Japanese Red Army terrorists, operating in conjunction with the Popular Front for the Liberation of Palestine (PFLP-GC), killed 24 people and injured over 70 more.

NBC Event Response Team; a Virtual Centre of Excellence for NBC Weapons Defence; a NATO Biological and Chemical Defence Stockpile; a Disease Surveillance System. We directed that initial steps be taken to ensure that these initiatives are presented at the Prague Summit." The five initiatives formally endorsed are intended to be finalized in more detail in Prague.

7 June In the Marshall Islands, local officials are seeking details from the US Government about biological and chemical weapons testing under Project SHAD during the 1960s, reportedly undertaken at Enewetak and possibly other atolls, following disclosures by the US Department of Defense [see 23 May]. It has been claimed that the US Defense Department sprayed chemical and biological agents on ships and their crew; and, a test at Enewetak that involved a plane dumping a toxin that caused flu-like symptoms.

7 June In Russia, joint command and staff exercises by Russia's Emergencies Ministry, the Ministry of Internal Affairs and the Federal Security Service (FSB), are taking place in the village of Kambarka (one of the largest storehouses of chemical weapons) in Udmurtia, to practice procedures for the safe storage and transportation of chemical weapons. The Emergencies Ministry says that the main purpose of the exercises is to rehearse cooperation among all the services in the event of a threat or an act of terrorism against a chemical weapons storage facility. The scenario is that a terrorist group plans to attack the chemical weapons facility. To prevent this, officers from the FSB and the Interior Ministry will carry out aerial reconnaissance of the area around the site. They will also carry out operations to locate, blockade, capture and destroy the terrorists. The experts from the Emergencies Ministry have to evacuate the population and carry out radiation, chemical and biological sweeps. The exercises, it is said, will help to assess the reliability of plans to protect the population in the event of emergencies at chemical weapons storage facilities. The exercise lasts 12 hours, beginning with an explosion and 240

tonnes of lewisite bursting out across the storage base, followed by the firing of a single rocket into the sky to warn of the danger. A message to the local population, telling them to leave their dwellings, was communicated via an intercom. Fire-fighters mount a sweeping wall of water on the border of the dangerous area with the intention of thwarting the approaching cloud and to allow people to take cover at a safe distance. [see 20 May]

7 June In the UK, it is reported that Salisbury Health Care Trust (part of the National Health Service) is issuing consent forms to patients asking whether they would object to surplus skin — obtained as a result of surgical procedures — being used to develop an effective defence against chemical and biological weapons at Porton Down. The practice was stopped three years ago in the wake of the scandal over the storage of human organs at the Alder Hay Children's Hospital in Liverpool. Salisbury health care officials believe that previous consent forms failed to specify the uses to which the skin would be put. [see 9 Feb 01]

7 June In the US, Judicial Watch is reported to be suing the US Government, claiming that top officials may have known that last year's anthrax attacks were coming. It says that it has yet to receive documentation from several agencies after filing requests under the Freedom of Information Act, which it claims will prove its suspicions. Larry Klayman, chairman of Judicial Watch, notes that officials said last autumn that some White House staff had begun taking the antibiotic Cipro on 11 September, weeks before the anthrax attacks were made public. White House spokesman Gordon Johndroe has said: "We did not know about the anthrax attacks. Period!" He speculated that the antibiotic may have been given as "a precautionary measure in the early hours of September 11th before the situation could be fully assessed."

7 June The US government is planning to require that 15,000 chemical, water and waste-treatment facilities in the US assess their vulnerabilities and create risk management plans. The move comes after criticism of the lack of measures to protect the country's chemical plants when swift actions to address security lapses at airports and nuclear facilities have — since 11 September — been implemented [see 17 Sep 01].

7 June In Washington, the Cato Institute organizes a presentation on use of the smallpox vaccine: *Defending Against Bioterrorism: An Ounce of Prevention*. A Cato Institute Policy Analysis states: "The current ring containment strategy (administering smallpox vaccinations only after an outbreak in the hope of containing the spread of the virus) favored by the federal government may be appropriate for dealing with a natural outbreak of smallpox, but it is likely to be woefully inadequate for countering a direct attack by a thinking enemy intent on inflicting infection, death, and panic. A better approach than leaving the entire population at risk and responding to a smallpox attack after the fact would be to take preventive measures. The current stockpile of smallpox vaccine can be effectively diluted to create a more abundant supply, which — along with a newly discovered stockpile and additional vaccine already ordered and scheduled to be delivered by the end of 2002 — should be made available to the public. Even if only a small fraction of the population were vaccinated, a community immunity effect, which would lower the rate of transmission of a disease as well as significantly increase the chances of success of a ring containment strategy, would be produced. As a result, the chances of a successful attack would be lowered, and that could have a deterrent effect and might even prevent such an attack."

8 June In Laos, a Fact Finding Commission reports that 28 people have been killed as a result of the use of chemical weapons by Pathet Lao and Vietnamese troops in the province of Bolikhamxay. In addition, two leaders of the US Secret War veterans (a group still hiding in the jungles of Laos). Helicopters reportedly dropped chemical 'smoke' on the encampments occupied by the veterans and their families. Three types of chemical 'smoke', red, green and yellow were supposedly dropped from the helicopters onto jungle areas occupied by the veteran groups. The victims all became dizzy, began vomiting blood, had severe diarrhoea, dying within hours. The veteran leaders reported that the most recent spread of chemical poisoning began on 1 June.

8 June In Pakistan, the newspaper *Dawn* claims that an "epidemic" of smallpox has broken out in the Swabi district. The World Health Organization is investigating the claim. A spokesman for the WHO says: "There have been several recent rumours from Central Asia and the Middle East. In all cases, it has turned out to be the result of poor translation. In each recent case, the disease was actually chickenpox. It is likely that this is again chickenpox in Pakistan, especially as the report itself comments that those infected are mainly children ... For the moment we are investigating, but have so far received no information to indicate that this is in fact smallpox". In spite of the fact that smallpox is a deadly disease, there have been no reports of any deaths in the alleged outbreak.

9 June In Uzbekistan, at the Karshi Khanabad Air Base which is being used by US troops supporting operations in Afghanistan, field tests have detected traces of possible nerve and blister agents in three locations. Late last year up to 5,000 troops were based there, today that number has been reduced to 1,000. No US military personnel have reported any symptoms that would alert medical personnel to illness from exposure to any such agents. The possibility of there having been chemical weapons buried under the base during the Soviet era that might now be leaking has not been ruled out. It is not known whether Uzbekistan had stored chemical weapons at the base since inheriting it from the Soviet Union in 1991. The Russian Defence Ministry later denies as being "out of the question" the possibility that the chemicals were left behind by the Soviets. The Uzbek Defence Ministry subsequently denies the existence of the gases at the base, as the region was previously used as a military air base and had nothing to do with chemical and biological weapons. Two weeks later it is declared by the US military that the test used for detecting the chemicals had given a "false reading" and that "there is no chemical threat".

9 June From Baghdad, the Iraqi Foreign Ministry claims that the country has not made or possessed weapons of mass destruction since 1991, in spite of US claims to the contrary [see 6 Jun], and has fulfilled "its commitments under UN Security Council resolutions, including those related to weapons." The next day, US Defence Secretary Donald Rumsfeld dismisses the Iraqi claims, saying: "They have had an active program to develop nuclear weapons ... It's also clear they are actively developing biological weapons and used chemical weapons against their own Kurdish population in the 1980s."

9 June In Israel, Defence Minister, Binyamin Ben-Eliezer claims that Iran has "the capability to reach almost every corner" through its missiles, and that it has chemical and biological warheads. The head of Mossad, Ephraim Halevy, subsequently warns NATO that Iran is developing a nuclear weapons capability, a secret chemical weapons programme, and is carrying out research and development on biological weapons.

9 June In Brussels, the Political and Security Committee of the European Union adopts a draft paper outlining EU priorities for the forthcoming 57th session of the United Nations General Assembly. The document includes the following: "The EU reiterates the high priority it attaches to a successful outcome of the resumed Fifth Review Conference of the Biological and Toxin Weapons Convention and to the strengthening of the Convention in a multilateral framework, including regular annual meetings between the State Parties. The EU strongly supports the universal adoption and implementation of the BTWC and CWC. The EU also reiterates its strong commitment to the complete destruction of all chemical weapons and their verification, and to the effective functioning of the OPCW in this regard."

9–12 June In the UK, another of its series of annual CWC practice challenge inspections [see 25-30 Jun 01] takes place. On this occasion the test takes place at the Sea Mounting Centre Marchwood, a military port on the River Test. Three OPCW inspectors take part, one of whom was the chief inspector and the OPCW also provides an observer. Other team members are UK nationals while observers from the US are also present.

10 June In Prague, during a meeting between Czech Army Chief of Staff, Gen Jiri Sedivy, and his Latvian counterpart, Raimonds Graube, agree that the Czech Government will continue to train Latvian army experts in nuclear, biological and chemical protection. The two countries have co-operated in the area of chemical protection since 1992.

10 June In the UK House of Commons, responding to a written question on the contributions made to the OPCW by the UK and the US since the Organization was formed, Parliamentary Under-Secretary of State Nigel Griffiths says: "Since [the OPCW] was formed the UK and the US have each made full payments in respect of their annual assessed contributions." Responding to a subsequent question on what action the Government has taken in relation to breaches of OPCW financial regulations by other member states, Griffiths says: "The UK takes every opportunity in the OPCW Executive Council and also in private contacts to draw the attention of states parties the need to pay their assessments in full and on time." With regard to the late payments made by the US, Germany and Japan beyond the first day of the financial year to which they relate, he says: "Financial Regulation 5.4 requires payment of contributions to the OPCW budget within 30 days of receipt of the notice of assessment or the first day of the financial period (1 January), whichever is the later. It has, however, been the practice of some member states to make staged payments or their entire payment at different times of the year to fit in with budgetary cycles or for other reasons. 40 of the 145 states parties, including the UK, paid their 2002 assessment by early January. At 15 May this had risen to 69 (including the USA). Germany has made a partial payment and is expected to pay in full by mid-year. Japan is expected to pay in full by mid-year." [see 6 Jun]

10 June The London *Times* reports that it has learned through intelligence sources that Iraq is using an Iraqi–Syrian rail-link opened in August 2000 — between Mosul in northern Iraq, and Aleppo in Syria — to smuggle a vast range of military equipment and components for its nuclear, biological and chemical weapons programmes. The two countries have increased their ties in recent years as a result of a significant improvement in their relations. To add to Western intelligence concerns, another rail-link involving Iran, Iraq and Syria is currently under construction and could be open next year.

10 June In the US, Attorney General John Ashcroft announces that US citizen, Jose Padilla (who now calls himself Abdullah al Mujahir), has been arrested on suspicion of plotting to build and detonate a "dirty bomb" (a conventional device wrapped in or laced with radioactive material), and continues to remain in the custody of the US military as an enemy combatant. "We have disrupted an unfolding terrorist plot to attack the United States by exploding a radioactive dirty bomb ... [The Government has] multiple independent corroborating sources [on Padilla's plans]". Two days later the White House — in a highly unusual step — reprimand the Attorney General for exaggerating the matter. A day prior to the decision by the White House, Deputy Defense Secretary, Paul Wolfowitz, said: "I don't think there was actually a plot beyond some fairly loose talk and obviously to plan future deeds."

10–11 June In Stockholm, the *European Symposium on Bioterrorism* commences. The symposium is organised by the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) together with the Karolinska Institute and the Swedish Institute for Infectious Disease Control. The aim of the symposium is to address the challenges, new and old, raised by the threat of bioterrorism.

11 June In Sangrampour, India, two spells of "green rain" on 7 and 9 June that sparked a media frenzy as to the possibility of it being toxic, are reported to be innocuous. Dipak Chakraborty, chief scientist of the state's Pollution Control Board said: "On studying the samples of condensed droplets we found they were faeces of bees containing traces of honey excreted from a large swarm of bees flying overhead". He said that the droplets contained pollen, giving them a greenish-yellow colour. [see also 23 Aug 87]

11 June From Budapest, chairman of the parliamentary defence committee (and former defence minister), Gyoergy Keleti — discussing whether Hungary had over committed itself when joining NATO — says: "Two changes can be seen clearly in NATO since 11 September 2001. One is that 11 September 2001 will not come to pass without a trace; it can be expected, among other things, that the army must develop special capabilities, such as, for example, chemical defence, which could be one of the effective contemporary weapons to tackle terrorism — I'm not saying that it would be but that it could be".

11 June In Bratislava, Slovak Minister for Health, Roman Kovac, is to solicit the Slovak Government for additional funds to pursue counter-terrorism measures such as the purchase of instruments to equip the Information Centre for Bacteriological and Toxic Weapons at the State Health Institute in Banska Bystrica. The Institute was established in October 2001 in response to the terrorist attacks on the US and the potential threat of biological weapons. Kovac is advocating the purchase of a mobile laboratory — which Slovakia currently does not have — so as to be able to diagnose infectious diseases at the source of the outbreak of a disease, and to be employed for crises where a radiological or chemical outbreak occurs.

11 June In the UK House of Commons, the Parliamentary Under Secretary of State for Defence and Minister for Veterans, Lewis Moonie, announces that the Ministry of Defence has accepted a recommendation by the Medical Research Council (MRC) to fund epidemiological research on Porton Down volunteers. The research will be undertaken by Dr Kate Venables of Oxford University and colleagues from the London School of Hygiene and Tropical Medicine and from Imperial College, London. The work will consist of a one-year pilot study to assess the incidence of mortality and cancer among a

selected group of 500 Porton Down volunteers compared with a control group of 500 other members of the armed forces and a small scale questionnaire study to evaluate volunteers' own views of their health status. The pilot study will commence this month and will take about a year to complete. The MRC will be in a position towards the end of the pilot study to advise the Ministry of Defence whether the available historical data are of sufficient quality and quantity to allow a full scale epidemiological study to proceed.

11 June In the US Senate — before the Governmental Affairs Subcommittee on International Security, Proliferation & Federal Services — Acting Deputy Assistant Secretary for Non-Proliferation, Vann Van Diepen, testifies on the measures taken by the US to prevent the proliferation of unmanned air vehicles (UAVs). 'UAVs' is the terminology employed by the Missile Technology Control Regime (MTCR) to refer to unmanned systems that fly within the atmosphere and are not rocket-propelled. Van Diepen testifies: "[The] attributes of UAVs that are so useful for the U.S. military — for example, the ability to strike targets with precision and substantial protection from interception and to collect real-time intelligence — makes UAVs in the hands of our adversaries a threat to us and to our friends and allies. Moreover, UAV's are potential delivery systems for weapons of mass destruction (WMD), and indeed are ideally suited for the delivery of chemical and biological weapons (CBW) given UAVs' ability to disseminate aerosols in the right places at the right altitudes. And while, thus far, the primary concern for adversary use of WMD-armed UAVs has been with nation-states — such as Iraq, which has been converting L-29 trainer aircraft to UAVs for probable CBW use — there is a potential for terrorist groups to produce or acquire small UAVs and use them for CBW delivery. U.S. efforts to impede threats stemming from the proliferation of UAVs and their technology encompass a broad spectrum of measures. As in other nonproliferation areas, the US attempts to use aggressively all of these tools to affect various aspects of the UAV proliferation threat."

12 June In Nizhiny Novgorod, Chairman of the State Commission for Chemical Disarmament Sergey Kiriyyenko announces that the destruction of Russian chemical weapons and their production facilities — as per the federal programme — is fully on schedule, and in some areas even ahead of schedule. He further says that he was confident that the Gorny chemical weapons destruction facility being constructed in the Saratov region would start its work on schedule too.

12 June In Italy, the authorities are preparing a response strategy to be implemented in the event of a terrorist attack involving the use of non-conventional weapons. Of the three hazard levels, 'biochemical' is at the top, with particular attention being paid to the possibility of water contamination. Prefect Mario Morcone, of the Civil Defence Department, says: "In order to obtain the top safety standard we are acquiring sophisticated appliances capable of providing constant monitoring of water purity. As well as addressing the possibility of a nuclear alarm, procedures for countering any future chemical attack have also been put in place. These include, the use of sensors capable of raising an immediate alarm and emergency escape routes from all places deemed to be at risk. An Emergency Plan setting out procedures for responding to NBC contamination, is being sent to regional heads of the fire service and regional leaders. The document says that attention should be focused primarily on "the infrastructures of public transport, chemical plants, hospitals, wells, springs, reservoirs, air conditioning and treatment plants, and places where foodstuffs are sold" as being places where terrorists could introduce viruses, gas or poisons.

Response operations will consist of the immediate dispatch of specialist task-forces, each consisting of five people who, amongst other things, will declare whether or not the area should be evacuated. The area in question will be sealed off and the existence of any harmful agents in the atmosphere identified using sophisticated equipment. In the event of an area requiring to be evacuated, such notice will be given over the radio and television.

12 June In the UK, the Ministry of Defence produces a discussion paper on the creation of a domestic reaction force for home defence and security. The force would consist of 6,000 reservists (500 per region); capable within moments of a terrorist attack taking place. The Government considers "asymmetric attacks on the UK are likely to be infrequent, and unpredictable as to timing and location ... More than one attack may be mounted at the same time in order to maximise the impact and chances of success ... Chemical, biological, radiological or even nuclear devices could not be ruled out". The members of the force would come from the existing reserves of 48,000.

12 June The UK Ministry of Defence signs a £2 million contract with the US company Parsons Delaware Inc. for management of the construction of a water pipeline and components of a water wells facility to supply the — soon to be completed — Shchuch'ye chemical weapons destruction facility in Russia. The work is expected to be completed by the end of the year.

12 June In Lisbon, delegates from governments and international organizations attend a *High Level Meeting on the Prevention and Combat of Terrorism*, under the auspices of the Portuguese chairmanship of the OSCE. The delegates agree to improve co-ordination and information sharing as a means of fighting terrorism. Among the many co-operative measure adopted, it is concluded that: "Organisations and institutions which share comparative advantages in issues relating to combating illicit trafficking of small arms and light weapons and weapons of mass destruction will consider developing a network to formulate specific project and activities. In this regard organisations and institutions should foster the implementation of their respective documents (such as the OSCE Document on Small Arms and Light Weapons). OSCE Chairman in Office and Minister of Foreign Affairs for Portugal states: "The Chairmanship has ... started to work on the proposal for a Charter for Preventing and Combating Terrorism to be adopted at the Ministerial in December. This Charter is intended to be a political document that reaffirms the OSCE support and contribution to the United Nations led international efforts against terrorism, and which underlines the OSCE principles and objectives in the prevention and combat of terrorism. The Charter will build upon the work of the OSCE under the Bucharest Plan of Action and the Bishkek Programme of Action."

12 June In the US, President George Bush signs the *Public Health Security and Bioterrorism Response Act 2002*. One function of the Act is emergency preparedness and response. It directs the Department of Health and Human Services to develop a national preparedness strategy designed to improve communications between state and local governments and federal agencies, and authorizes grant programs to that end. It also requires the development of a comprehensive plan to combat disease outbreak, which will ensure that health care facilities nation-wide have adequate capacity, up-to-date equipment, and highly trained personnel capable of identifying possible bioterrorist attacks. It specifically provides funding to train and educate public health professionals with respect to recognition and identification of potential bioterrorist incidents. Furthermore, it authorizes nearly \$1.2 billion to be spent to

increase the stockpiles of vaccines, drugs, and other treatment measures. The Act also seeks to combat potential sub-state biological weapons proliferation more directly by restricting access to dangerous pathogens to individuals who can demonstrate genuine need. Individuals or groups working with any agent on the list of dangerous pathogens will be required to register on a federal database. Additional aspects of bioterrorism related to food and water supply safety are also addressed. By improving the process by which imported food is inspected, the Act aims to decrease the likelihood that imported food can become a vehicle for bioterrorism through tampering. Similarly, there are provisions to ensure safe drinking water by requiring community water suppliers to undertake an assessment of their facilities in order to identify and correct vulnerabilities.

12 June In Canada, the Government is reported to be stockpiling sufficient smallpox vaccine so as to be able to inoculate every Canadian citizen in the event of a large-scale biological attack. It has been estimated that the process could cost the Government up to US \$80 million. Epidemiologists and “contact tracers”, i.e., health workers who would be the first people dispatched to the scene of an outbreak, are expected to be vaccinated by late summer / early autumn.

12–13 June In Whistler, Canada, G8 foreign ministers meet to discuss *inter alia* counter-terrorism; Afghanistan; tensions between India and Pakistan; the conflict in the Middle East; non-proliferation, arms control and disarmament, including weapons of mass destruction; and, the Balkans. The importance of increased cooperation among G8 states to prevent terrorist access to chemical, biological, radiological and nuclear weapons is stressed. The changed international security environment and the challenge to global stability and security posed by the proliferation of weapons of mass destruction is also discussed. Also, the need to use all available instruments — from multilateral mechanisms and legally binding arrangements to export controls is reaffirmed. A revised list of *G8 Recommendations on Counter-Terrorism* were drawn up with a view to complementing the work of experts in other regional organizations and international fora. This includes other experts groups of the G8 such as the Non-Proliferation Experts’ Groups that has developed Principles to prevent terrorists, or those that harbour them, from gaining access to weapons of mass destruction, radiological weapons and missiles. Section 3 of the list of recommendations reads: “We commit ourselves and urge all other States to: 1(a) With respect to ensuring effective action against the use of biological weapons by terrorists, make crimes the offences established in the Biological and Toxin Weapons Convention (1972), prosecute such crimes or, where appropriate, extradite individuals, in accordance with national law and bilateral extradition agreements, and work cooperatively to develop best practices to deter and detect such offences. 1(b) Take measures to work cooperatively to develop effective mechanisms to track and curb the illicit possession and transfer of selected biological agents both domestically and internationally, and to explore additional measures to prevent biological agents from being used to commit terrorist attacks ... 4. Work cooperatively to develop, in appropriate international fora, best practices to ensure the protection of chemical, biological, radiological, nuclear and related infrastructures against terrorist actions, and explore means to prevent sensitive information pertaining to these infrastructures from being used by terrorists for targeting purposes.”

13 June In Gorny, Russia, Chairman of the State Commission on the Destruction of Chemical Weapons Sergey Kiriyeenko tells

a meeting of the Commission: “Little time is left before the facilities are commissioned. The final stages of work are under way. We have no alternative but to launch the chemical weapons disposal plant ... The weapons are being kept in metal containers are rusting. That is why experts say that 10–12 years remain for the disposal of the chemical weapons”.

13 June In Rieti, Italy, nuclear, biological and chemical training exercises are taking place at a training camp established on a disused runway. The twenty-hectare strip is host to an underground stop; a train station; an artificial lake; a sewer system with bulkheads that turn into a maze; and, an immense hanger enveloped in a plastic bubble, inside of which are erected plastic tents designed to give protection against gases and bacteria. Interforce College Commander, General Mario Marioli explained: “There is a technology of terrorism that is developing, and we have to anticipate every step in its development ... We train everyone who gets called in to emergency scenarios”. The college has 130 members of staff. 350 servicemen are currently undergoing training, with 14,000 one-day visits in the first half of this year alone. The armed forces, the police, forest rangers, the fire service, and medical rescue personnel are trained at the camp.

13 June In Luxembourg, the Council of the European Union meeting at the level of justice and home affairs ministers adopts a framework decision on combating terrorism. The list of “terrorist offences” adopted by the Council includes the “manufacture, possession, acquisition, transport, supply or use of weapons, explosives or of nuclear, biological or chemical weapons, as well as research into, and development of, biological and chemical weapons”. It also includes the “release of dangerous substances, or causing fires, floods or explosions the effect of which is to endanger human life” and “interfering with or disrupting the supply of water, power or any other fundamental natural resource the effect of which is to endanger human life”.

The Council also takes note of the programme to improve cooperation in the European Union for protecting the population against bacteriological, chemical, radiological or nuclear terrorist threats. The Council agreed that the programme should be ready in time for the European Council meeting in Copenhagen in December and agreed to broaden the scope of the programme so as to cover nuclear and radiological terrorism as well.

13 June Morocco’s representative to the Conference on Disarmament announces that Morocco deposited its instrument of ratification of the BWC on 1 March. The depository with which the instrument has been deposited, however, is not mentioned. This would make Morocco the 146th state party to the treaty.

13 June In the UK, the Prime Minister lays the *2001–2002 Annual Report* of the Intelligence and Security Committee [see 28 Mar 96] before Parliament. Over the course of the next year, the Committee will pursue a number of issues, among which it lists “the work of the Agencies to counter the proliferation of Weapons of Mass Destruction”.

13 June In the UK House of Commons, Secretary of State for Defence, Geoff Hoon, is asked what plans he has to offer immunisation against anthrax to the armed forces. He replies: “It takes six months for immunisation against anthrax to become fully effective. But we may not have nearly so much warning of a change in the threat, nor of the requirement for British Armed Forces to deploy to a high threat area. Given that we cannot expect to predict exactly where or when a threat might arise, or which units of the Armed Forces might be called upon to

respond. We have decided to expand the immunisation programme so that all Service personnel, including reserves, and those essential civilians who are likely to deploy on operations, are routinely offered immunisation against anthrax. We plan to expand the programme gradually over the next few years, beginning with those units that are held at the highest readiness. Immunisation against anthrax is safe and effective. As before, and in keeping with long-standing medical practice, it will be offered to personnel on the basis of voluntary informed consent. By accepting it alongside their other defensive measures, this will ensure that they have the very best protection against anthrax used as a biological weapon.

13 June In the US, the National Institute of Allergy and Infectious Diseases issues three memoranda to the effect that it is seeking to work with organizations interested in: (1) supporting the development and licensure of botulinum anti-toxin immunoglobulin for its biodefense programme; (2) screening, development, and future licensure of two classes of currently licensed and marketed drugs for treatment of potential agents of bioterrorism: antiviral drugs for treatment of viral haemorrhagic fevers, and antibiotics for treatment of anthrax, pneumonic plague, and tularemia; (3) the development of three vaccines for biodefence: Rift Valley Fever vaccine, Plague vaccine, and Smallpox vaccine for persons at high-risk of complications from currently available vaccines (e.g. the immune deficient). In the case of (2) interested organizations must already have candidate drugs, and in the case of (3) they must have candidate vaccines. In all three cases the deadline for letters of application is 12 July.

13 June Netherlands Minister of Foreign Affairs, Mr Jozias van Aartsen, informs the OPCW that the Netherlands will be making a voluntary contribution [see 6 Jun] of Euros 75,000 to the Organization, to be used to fund any item in the 2002 OPCW budget. The Minister expresses the hope that other states parties will also consider making voluntary contributions, stating: "It is us, the States Parties, that play an important role in creating the conditions for the full implementation of the work programme (of the OPCW)."

15 June In Havana, responding to allegations made by the US Government that Cuba has biological weapons [see 6 May], Fidel Castro states that — as a matter of ethics — Cuba does not manufacture weapons in order to wage acts of bioterrorism. He said that Cuba had a right to defend itself against the demands and threats made by President Bush.

15 June In Washington, the Institute of Medicine hosts a one-day forum at the National Academy of Sciences on *Smallpox: The Scientific Basis for Vaccination Policy Options*. The purpose of the forum is to discuss the scientific evidence that provides the foundation for smallpox immunization policy options. The goal of the forum is to obtain input from scientists, policymakers, clinicians, emergency responders, the public, and others on the options being considered by the federal government for smallpox immunization.

Speaking at the forum, Alan Zelicoff of Sandia National Laboratory, refers to his section in the Monterey Institute report about a smallpox test in the former Soviet Union, which is soon to be released. The report, he says, draws on formerly secret Soviet documents and interviews with survivors, and shows that during the summer of 1971 the Soviet Union conducted a field test with the smallpox virus on Vozrozhdeniye Island, resulting in an outbreak of the virus. Ten people contracted the virus, three of whom died as a result. Homes had to be disinfected, hundreds of people had to be quarantined and almost fifty thousand persons needed to be vaccinated. The report, Zelicoff

explains, refers to a ship undertaking ecological research that sailed too close to the test site and subsequently infecting a crew member, who then carried the virus back to the city of Aralsk (a port on the Aral sea) where the outbreak took place. The virus is claimed to have been unusually potent — even affecting persons who had been vaccinated — which Zelicoff says may raise questions as to whether new vaccines or drugs may be required in case such a strain is used in a future attack. The three people who died were all unvaccinated. The seven survivors of the outbreak, however, had received routine vaccinations earlier but nevertheless contracted mild to serious cases of the disease. "We know that the vaccine works well in the vast majority of cases. What the new data strongly suggests is that we have a lot more work to do on new vaccines and the development of antiviral drugs, none of which are available today", says Zelicoff. Advisor on bioterrorism to the Secretary of Health and Human Services, and expert in the field of smallpox D A Henderson, however says: "We don't know when they [the Aralsk inhabitants] were vaccinated or whether they were successfully vaccinated ... [The Institute is] jumping to far-reaching conclusions with scant information." He adds that in his opinion the Institute is being "alarmist". Details of the report come as experts at the Centers for Disease Control and Prevention prepare this week to issue recommendations on how smallpox vaccine stockpiles should be used to minimize the aftermath of a possible terrorist attack.

15–16 June In Oegstgeest, the Netherlands, the Pugwash Study Group on the Implementation of the CBW Conventions holds its seventeenth workshop to consider the impending First CWC Review Conference.

16 June In Baghdad, President Saddam Hussein chairs a meeting of senior officials to discuss the agenda for the third round of talks this year between Iraq and the UN [see also 1-3 May]. It is agreed, that the Secretary General of the UN should not to consider issues in isolation, but rather to consider issues on the basis of international law and not on the basis of the US and its allies' wishes. In Iraq's opinion this would lead to a comprehensive and full solution, with a final lifting of sanctions, and the establishment of regional security in accordance with Security Council resolution 687. Iraq also desires that allegations made by the US that Iraq possesses chemical, biological and nuclear weapons be accepted by the international community as untrue.

16 June In Israel, Hamas reportedly releases a statement — after conducting a strategic debate — to the effect that it is to supplement its use of conventional bombs in attacks against Israel, with chemical weapons. The statement claims that the reasoning behind the decision is to further harm those hit by shrapnel in a bomb blast and "create a massacre". The movement claims that attempts to use chemicals in bombs have thus far failed due to the fact that the chemicals are inexpensive, crude agents, that tend to lose their potency in the heat created by the bomb exploding. Abd-al-Aziz al-Rantisi, spokesman for Hamas, however, denies that any meetings of Hamas members took place and declared the reports to be "lies".

16 June In Hamilton, Montana, it is reported that a fourth National Institutes of Health (NIH) Biosafety Level 4 (BSL 4) laboratory is to be added to the existing Rocky Mountain Laboratories facilities — a division of the National Institute of Allergy and Infectious Diseases. The US Congress has allotted \$66.5 million to construct the new facility, which could be operational within 30 months. BSL 4 laboratories are used for handling the deadliest and most debilitating microbes, and are

considered to be the most likely candidates for use in bioweapons.

16–19 June Vietnamese Deputy Prime Minister, Nguyen Manh Cam meets various members of the US government during a working visit to the US to discuss a number of bilateral issues. Cam pushes for the US to take responsibility in helping Vietnam overcome the consequences of having had Agent Orange and other toxic chemicals sprayed over its territory by the US during the Vietnam War. In this regard, Cam is requesting the US to implement humanitarian programmes to assist victims and to decontaminate areas heavily affected.

17 June From Russia, Director of the Russian Munitions Agency Zinoviy Pak announces that Russia will destroy the first tranche of 400 tonnes of chemical weapons — one per cent of Russia's total — by 29 April 2003. Pak says: "Our most important task now is to meet our obligations as regards the deadline for the implementation of the [CWC]. We are seriously lagging behind. Rosboyepripsy Russian ammunition company has substantiated a new deadline within the framework allowed by the convention and set it for 29 April 2012".

17 June *The Washington Post* runs a report on the secret history of the Pokrov Biologics Plant in Russia, which today manufactures pain-relief tablets. According to the report, the Pokrov facility was — during the Soviet era — ostensibly producing vaccine for farm animals, but working together with a sister-plant in the same town, it was in fact specializing in the manufacture of lethal pathogens that affect livestock, such as foot-and-mouth disease, which — according to Russian officials — could be unleashed on American farms in any future war. During the Soviet era as many as six agricultural research centres and up to 10,000 scientists are believed to have worked on anti-livestock and anti-agriculture weapons. Pokrov's five underground bunkers — built to survive a nuclear attack — were also equipped so as to be able to manufacture the smallpox during any future war. According to US officials the facility is still believed to house more than a dozen viruses, including the Newcastle-disease virus. Most of the ingredients for a biological weapon are housed in the crumbling and poorly guarded facility. The facility's director, Vladimir Gavrillov, says: "We have security concerns, but fixing them will be complicated and expensive." Security fences have been erected and security cameras installed in the past three years with US assistance. Gavrillov acknowledges that terrorists have been involved in attempted break-ins and mysterious Arab businessmen have attempted to make purchases from the facility. As far as he is aware, however, no such attempts have been successful.

17 June In Paris, Thales unveils a new light armoured vehicle at the Eurosatory Exhibition, fitted with a system for the stand-off detection of a toxic cloud — designed for chemical and nuclear warning — in addition to the customary chemical and nuclear detectors. The system compares infra-red images received through a number of barrel-mounted filters in front of the lens of a standard thermal camera.

17 June UK Defence Secretary Geoff Hoon answers a question in the House of Commons says: "I can confirm that there has been no change in the essential rules that we follow on the use of nuclear weapons. I have made it clear before how important it is to recognise that they would be used only in what are described as extreme conditions of self-defence. I want to emphasise that it does not help the deterrent effect of nuclear weapons to spell out precisely what those circumstances might be. I can stress, however, that nuclear weapons would be used

proportionately and consistently with our obligations in international law." [see 20 Mar]

17 June In the UK House of Commons, junior Defence Minister, Dr Lewis Moonie, is asked why the Ministry of Defence had changed the description of a claimant's illness from 'Gulf War Syndrome' in its submission to a case before the War Pensions Appeal Tribunal [see 23 May]. The Tribunal ruled that the Secretary of State had failed to show beyond reasonable doubt that Gulf War Syndrome was not attributable to the claimant's service. The Secretary of State replies: "[The claimant's] case was governed by the relevant war pensions legislation which requires disablement to be accepted unless it can be shown 'beyond reasonable doubt' that there is no service link. His case was reviewed and to reflect then emerging evidence and medical understanding of Gulf illness and the war pension standard of proof, the rejected 'Gulf Syndrome' was replaced by the WHO International Classification of Diseases 10th ed. diagnostic category, Signs, Symptoms and ill-defined Conditions. This included the symptoms previously claimed under 'Gulf Syndrome'."

17 June In Lima, Peru, the ministers of foreign affairs and defence of the Andean Community (Bolivia, Colombia, Ecuador, Peru and Venezuela) meet at the suggestion of Peruvian President Alejandro Toledo to consider a common view of security and peace, the enhancement and expansion of confidence-building measures and the limitation of foreign defence spending. The result of the meeting is the *Lima Commitment Andean Charter for Peace and Security and for the Limitation and Control of Foreign Defence Spending*. The charter includes a commitment to establish a peace zone in the Andean Community within which "the deployment, manufacture, transport and use of nuclear, biological and chemical weapons shall be banned, in conformity with the provisions of the Treaty of Tlatelolco and the international conventions on chemical, biological and toxin weapons".

Under a section entitled "commitments to consolidate the ban on nuclear, chemical and biological weapons", the Charter's signatories are committed:

"5. Not to develop, produce, acquire, stockpile, retain or use biological and toxin weapons under any circumstance whatsoever, in keeping with the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, of 1972;

"6. To ensure the concerted application in the Andean subregion of the confidence-building measures established at the Third Review Conference of the Convention on Bacteriological (Biological) and Toxin Weapons and to coordinate the submission of the corresponding declaration forms;

"7. Not to develop, use, produce, acquire in any other way, stockpile or retain chemical weapons, or to transfer such weapons to anyone else, directly or indirectly, in conformity with the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, of 1993.

"8. To facilitate the fullest possible exchange among their competent national agencies of chemical substances and scientific and technical equipment and information relating to the development and application of chemistry for purposes not prohibited by the respective conventions;

"9. To ensure the timely submission of the annual declarations on relevant chemicals and facilities to the Organization for the Prohibition of Chemical Weapons and, at the same time, to send copies of these declarations to the member States of the Andean Community through their respective foreign ministries."

17 June The US Department of Justice announces a programme recommending a twelve-step analysis and risk-reduction procedure, with a view to improving the security at the 15,000 chemical, water and wastewater treatment plants in the US [see 2 Jun]. Assistant Attorney General, Deborah Daniels, called it "a critically valuable tool that industry can use to help protect chemical plants against possible terrorist activity." The programme focuses on terrorist attacks, criminal activities, or hazardous releases that could shut down a facility or harm employees or nearby residents. The programme involves the definition and assessment of threats and the determination of the priority with which they should be dealt.

18 June In the UK House of Commons, Parliamentary Secretary of State for Foreign and Commonwealth Affairs, Mike O'Brien, responds to a number of questions relating to the removal of the former Director-General of the OPCW's Technical Secretariat. "We understood the main financial and administrative differences to be: (a) The failure of the OPCW Secretariat to implement the Financial Regulations in 2000, leading to expenditure exceeding income by £2.5 million. (b) Presentation by the Secretariat of incomplete and occasionally inaccurate information on the financial situation in 2001. (c) The drastic cuts in the operational programme intended to resolve the 2001 financial situation, before the scale of the problem was clear and the options evaluated. (d) Presentation of unrealistic budgetary proposals, over a number of years, that required extensive revision. (e) The handling of a staff grading review which led to legal action at the ILO Administrative Tribunal, and the handling of action subsequent to the ILO judgment... The shortcomings relate to the failure to comply with the OPCW financial regulations. These regulations require the Director-General to 'prudently manage appropriations ... to ensure that expenditures can be kept within funds available'. Expenditure in 2000 exceeded income by £2.5 million. The OPCW external auditor's report on the 2000 financial statements confirmed that these provisions had not been complied with and recommended corrective action. The external auditor also drew attention to the failure to comply with regulations governing transfers of funds between appropriations, and recommended action to minimise excessive use of transfers.

18 June US President George Bush transmits to Congress his proposals [see 6 Jun] for the creation of the Department of Homeland Security. The draft legislation provides the most detailed account thus far of the plan to consolidate twenty-two agencies into a new department. The functions of the new Department in relation to chemical, biological, radiological, and nuclear countermeasures, are to be found under Section 301–304 of the proposed Act.

Section 301 specifies primary responsibilities of the Under Secretary for Chemical, Biological, Radiological, and Nuclear Countermeasures. These include: securing the people, infrastructures, property, resources, and systems in the United States from acts of terrorism involving chemical, biological, radiological, or nuclear weapons or other emerging threats; conducting a national scientific research and development program to support the mission of the Department, including developing national policy and coordinating the federal government's (non-military) efforts to counter these types of terrorist threats, including relevant research and development; establishing priorities and directing and supporting national research and development and procurement of technology and systems for detecting, preventing, protecting against, and responding to terrorist attacks using chemical, biological, radiological, nuclear, or related weapons and materials, and for preventing the importation of such weapons and materials into

the United States; and, establishing guidelines for state and local efforts to develop and implement countermeasures in this area.

Section 302 identifies agencies and functions relevant to chemical, biological, radiological, and nuclear countermeasures that are to be transferred to the Department of Homeland Security. These include the select agent registration enforcement programs and activities of the Department of Health and Human Services, certain relevant programs and activities of the Department of Energy, the National Bio-Weapons Defense Analysis Center of the Department of Defense, and the Plum Island Animal Disease Center of the Department of Agriculture.

Section 303 requires the Secretary of Homeland Security to carry out his civilian human health-related biological, biomedical, and infectious disease defense research and development responsibilities through agreements with the Department of Health and Human Services unless the President otherwise directs, and gives the Secretary specific transfer authority to fund such agreements. In carrying out these responsibilities, however, the Secretary retains full authority to establish the research and development program, including the setting of priorities. The section also gives the Secretary specific authority to fund other research and development projects that he elects to carry out through the Department of Health and Human Services or other federal agencies.

Section 304 clarifies that nothing in the bill confers upon the Secretary of Homeland Security any authority to engage in armed conflict, the military defense of the United States, or other traditional military activities.

18 June In Baltimore, at Johns Hopkins University, the Center for Transatlantic Relations and the Center for Civilian Biodefense Strategies, [see 23 May] with funding from the State Department, host a conference on *Homeland Security in Europe: What's Happening? What Does it Mean for the United States?* The conference is one element of a larger project which aims to undertake a bioterrorism simulation exercise, modelled on the *Dark Winter* exercise [see 22–23 Jun 01].

18–19 June In London, the US Congressional Sub-Committee on National Security, Veterans' Affairs and International Relations, which is investigating Gulf War-related illnesses among US forces conducts a meeting in the Houses of Parliament. It is the first time that a Congressional committee has conducted a meeting in Parliament. Those invited to address the panel include veterans, their families, legal representatives and medical experts. All these groups have been pressing for a full public inquiry into 'Gulf War Syndrome' in the UK. About ten per cent of the 50,000 British service personnel deployed to the Gulf are said to have been affected. The hearing is being hosted by the Royal British Legion and the Inter-Parliamentary Gulf War Group, on the health problems of Gulf War veterans. During the hearings, Robert Haley, of the Southwestern Medical Center at the University of Texas reveals that detailed medical examination on 249 affected Gulf War veterans in the US, showed chemical changes in their brains, similar in nature to the onset of Parkinson's and Huntington's disease. He says that his research shows that Gulf War veterans are two to three times more likely to suffer from motor neurone disease than other people. His research has not yet been published.

19 June In the UK House of Commons, the Prime Minister, responding to questions, says: "We have no evidence linking Iraq with the recent anthrax attacks in the United States. Investigations into who was responsible for the anthrax attacks

and into the source of the anthrax itself are still continuing in the United States. We await the outcome of those investigations.”

19 June In London, at a news conference held in the Houses of Parliament, Libyan Secretary of State for Foreign Affairs, Sulayman al-Shuhumi stresses the need for weapons of mass destruction to be destroyed and declares Libya’s desire to be party to all relevant international agreements, including the BWC and the CWC.

19 June In Washington State, a man has appeared in court for allegedly producing ricin, with which he may have been intending to poison his wife after having an affair with another woman. The FBI say that there does not appear to be any link between Kenneth Olsen and any terrorist group; no bomb making material was discovered in his house. He previously worked for a company where he was found trying to establish how much ricin would be required to kill a 150-pound person, the approximate weight of his wife.

19–20 June In Geneva, the US-based Chemical and Biological Arms Control Institute convenes its second annual international workshop on *Health and Security: The Need for Global Partnerships*.

19–20 June In Atlanta, the Advisory Committee on Immunization Practices meets — having been authorized to do so by the Centers for Disease Control and Prevention — to review its recommendation made in June 2001 that the smallpox vaccine be given to: those persons working with orthopoxviruses; prepare for a bioterrorism attack; and, respond to an attack using smallpox. The review revises the previous recommendations and issues supplemental recommendations with regard both to the vaccination of the general population and those designated to respond to or care for a suspected or confirmed case of smallpox. The primary strategy for control and containment of smallpox in the event of an outbreak is also clarified. The Committee concludes: “Under current circumstances, with no confirmed smallpox, and the risk of an attack assessed as low, vaccination of the general population is not recommended, as the potential benefits of vaccination do not outweigh the risks of vaccine complications. With regard to the pre-release vaccination of selected groups to enhance smallpox response readiness, the Committee recommends the vaccination of smallpox response teams. “Smallpox vaccination is recommended for persons pre-designated by the appropriate bioterrorism and public health authorities to conduct investigation and follow-up of initial smallpox cases that would necessitate direct patient contact. To enhance public health preparedness and response for smallpox control, specific teams at the federal, state and local level should be established to investigate and facilitate the diagnostic work-up of the initial suspect case(s) of smallpox and initiate control measures. The ACIP recommends that each state and territory establish and maintain at least one Smallpox Response Team. Considerations for additional teams should take into account population and geographic considerations and should be developed in accordance with federal, state, and local bioterrorism plans.” The Committee also states: “Smallpox vaccination is recommended for selected personnel in facilities pre-designated to serve as referral centers to provide care for the initial cases of smallpox. These facilities would be pre-designated by the appropriate bioterrorism and public health authorities, and personnel within these facilities would be designated by the hospital.”

20 June UK Prime Minister Tony Blair appoints Sir David Omand as Security and Intelligence Coordinator in the Cabinet

Office. Omand was previously Permanent Secretary at the Home Office, Director of the Government Communications Headquarters (GCHQ), and Deputy Under Secretary of State for Policy at the Ministry of Defence. He was also a member of the Joint Intelligence Committee (JIC) for five years, and will rejoin the JIC in this appointment. He is currently Chairman of the Centre for Management and Policy Studies. This new Permanent Secretary post is being created to enhance the capacity at the centre of Government to coordinate security, intelligence and consequence management matters and to deal with risks and major emergencies should they arise. The chairman of the Joint Intelligence Committee, John Scarlett, and the head of the Civil Contingencies Secretariat, Mike Granatt, will both be accountable to the Coordinator.

20 June In the UK House of Commons, the Foreign Affairs Committee launches its Seventh Report on *Foreign Policy Aspects of the War Against Terrorism*. The Report states: “The OPCW has also faced difficulties recently because of the removal of its director, José Bustani. We merely note here the importance of the OPCW for the international control of chemical weapons. We recommend that the Government do its utmost to ensure that the new director of the Organisation for the Prohibition of Chemical Weapons is able to act independently, and for the benefit of all member states of the Organisation... We have previously encouraged the Government to bring the United States back to negotiations towards an international BWC verification protocol. We therefore welcome publication by the FCO on 29 April 2002 of a Green Paper on strengthening the Convention. It is our intention to hear evidence on the Green Paper later this year. Meanwhile, we restate the conclusion from our Report on British-US Relations, that the only way to establish whether states are developing biological and toxin weapons is to establish a mandatory, on the ground challenge inspection system to verify compliance to the Biological and Toxin Weapons Convention. Improving states’ control of biological and toxin agents is a necessary component of international co-operation to ensure that they do not fall into the hands of terrorists. We commend the Government for publishing its Green Paper on strengthening the Biological and Toxin Weapons Convention, and recommend that it continue its efforts to persuade the United States to agree an effective verification regime.”

21 June In Burma, Thai soldiers are undertaking searches along the northern Thai-Burma border in for physical evidence that the Burmese army may — according to Ahan State Army leader, Colonel Yawd Serk — have been using chemical weapons against Shan rebels. Colonel Serk says that the Burmese army previously used chemical weapons last year [see 1 May 01] against the rebels along the northern border in Chiang Mai and Chiang Rai provinces; and, that — following a series of clashes between Thai and Burmese troops early last year — physicians at Fang Shan district hospital in Chiang Mai detected the same chemicals in many Shan refugees. Thai Minister of Defence, Chavalit Yongchaiyudh, doubts that the Burmese army have resorted to the use of chemical weapons, saying: “If they did use chemical weapons against the Shan, it would be a violation of international agreements and would have a bad impact on peoples lives.”

On 24 June, Burma denies the allegations. Burmese Deputy Head of the Ministry of Defence, Colonel San Pwint, claims that the Shan rebels had poisoned a creek to endanger the Burmese troops and also to make it appear as if the Burmese army had been using chemical weapons.

21 June From Moscow, the Director-General of the Russian Munitions Agency, Zinoviy Pak, says that the revised version of

the Russian chemdemil programme (the scrapping of 40,000 tonnes of poisonous substances before 29 April 2012. He says: "We estimate the cost of the entire programme of chemical weapons destruction in Russia at \$3 billion. But that is the absolute minimum ... If we opt to increase spending on the infrastructure and other things, Russia might find itself in a situation similar to that of the US." [see 17 Jun]

23 June In Cologne, Bundeswehr Inspector General, Harald Kujat (due within the next few days to assume a position with NATO) says that in his mind the greatest risk to the security of Germany is a combination of terrorist activities coupled with the use of biological weapons. In contemplating the emergence of any such danger into a specific threat, Kujat says: "One must carefully think about the use of the Bundeswehr at home once more." Nevertheless, he says that there can be no general decision on the army's use at home. This he considers needs a differentiated approach, pointing out that in the fight against biological weapons the Bundeswehr possesses skills that could come in useful. The Bundeswehr was prohibited in undertaking certain activities on Germany following the end of the Second World War.

23 June In the US, scientists at Vanderbilt University are to evaluate 75 million doses of smallpox vaccine [28 Mar] that have been frozen for thirty years. They want to establish whether the freezing neutralized the vaccine's immunizing potential, and if not, whether the vaccines can be diluted one part to five and one part to ten with water, so as to offer protection to the entire US population. The project — funded by a new \$12.6 million bioterrorism grant from the National Institute of Health — will involve a total of 330 volunteers. Dr Kathryn Edwards, says that this will be just the first project to be funded by the grant, which "establishes funding for five years for us to be a vaccine evaluation center ... Here at Vanderbilt, we've been at the forefront in developing new vaccines for many years for meningitis, whooping cough, flu and respiratory viruses."

24 June In Russia, a group of about 150 Russian scientists are marching towards Moscow from a research center about 62 miles to the south of the city, and are expected to rally outside the gates of the Government offices there on 27 Jun. The purpose of their demonstration is to show their disapproval for decreased funding and broken Government promises. During the past ten years it is estimated that between 500,000 — 800,000 Russian scientists have emigrated — primarily to Japan, the US, the UK, Canada, France and Germany. The organizers of the protest say, however, that many of the scientists would like to return home if they were offered more acceptable employment conditions. On average a Russian scientist currently earns \$100 a month. Meanwhile, the Civilian Research & Development Foundation [see 10 Dec 99] — a US government-established foundation created in 1995 to help former Soviet scientists find alternatives to emigration — has announced that it will be funding a total of eleven workshops. The workshops will be jointly held by US and former Soviet researchers; the theme being to identify areas of research and development that will provide "innovative technical solutions to help protect civilians from terrorist acts." [see also 2 Jun]

24 June In West Palm Beach, Florida it is announced that the Senate Armed Services Committee is to conduct investigations in to all previous US military, chemical and biological weapons testing programmes. The investigations will include analysis of a series of covert military tests carried out over at four-year period — the first being in 1952 — over an area of about eighty-five acres at Boca Raton Army Air Field in South Palm Beach County. The tests involved the spraying of wheat crops

with a wheat-killing fungus, which formed spores and could be carried by wind currents. The idea behind the tests was to find an agent that would destroy Soviet crops. Information is to be gathered during the summer months with a view to begin the hearings in the autumn. The Committee will also be investigating the Project SHAD [see also 7 Jun] chemical and biological tests on sailors stationed on ships in the Pacific Ocean, which were undertaken by the Navy during the 1960s and 1970s. The Senate will attempt to identify servicemen and any civilians involved in the tests.

24 June In the US, it is reported that the US Department of Agriculture is considering a controversial upgrade to the Plum Island Animal Disease Center from Biosafety Level 3 to Biosafety Level 4, thus enabling it to work with infectious animal diseases posing the greatest risk to humans. Attempts to upgrade the Center in the past have been unsuccessful owing to opposition from New York legislators. Discussions on the matter are continuing.

24 June In the US, the National Academy of Sciences (together with the National Academy of Engineering and the Institute of Medicine) releases its report on *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism*. The Report calls on the Government to create a new institute for homeland security to assist policy-makers in the fight against terrorism. The Report says: "The structure of federal agencies is ... to a large extent the result of [the] distinction between the responsibility for national security and the responsibility for domestic policy. Given this compartmentalization, the federal government is not appropriately organized to carry out a [science and technology] agenda for countering catastrophic terrorism." The institute would basically function as a government contractor, helping to set standards for devices to prevent and contain terrorist attacks. Such devices would include sensors to help emergency workers, food and shipping inspectors, and city officials, to thwart biological, chemical and nuclear attacks. The Academy is also asking for the creation of a new granting arm of the National Institutes of Health to fund high-risk research, along the lines pioneered by the Defense Advanced Research Projects Agency.

24–25 June In Washington, there is the second [see 1–2 Apr] meeting of the National Academies of Science Committee on Research Standards and Practices to Prevent Destructive Application of Advanced Biotechnology. Those making presentations at the session include: Gerald Epstein of the Threat Reduction Agency; Anthony Fauci of the National Institute of Allergy and Infectious Disease National Institutes of Health; and, Richard Falkenrath from the Office of Homeland Security.

25 June The US Department of Defense claims that Kazakhstan is under the threat of bioterrorism. The Pentagon, is to coordinate a project called 'The Medicine for Peace' — within the framework programme 'The Partnership for Peace Information Management System' (PIMS). The aim of the project will be to establish a telecommunications network in Kazakhstan to link physicians in the two countries so as to enable liaisons to take place in the event of such a terrorist attack. The project will also require that the Department will rent a number of commercial satellites serving Kazakhstan. Although PIMS is not a NATO system, it supports NATO goals to enhance the Partnership for Peace Program.

25 June In Strasbourg, the Parliamentary Assembly of the Council of Europe convenes for its 18th sitting. Azerbaijani representative Rafael Huseynov asks: "Whether the Council of Europe envisages being involved in the establishment of

constant observation of the ongoing research into the preparation of nuclear, biological and chemical weapons in Armenia and the occupied Azerbaijan territories; and why the Council of Europe does not issue sanctions against the Armenian side so rudely defying the principles of international security, for the future security and stability in Europe and respect to the provisions of its Statute.” [see 9 Apr] Lydie Polfer Minister of Foreign Affairs for Luxembourg and Chairman-in-Office of the Committee of Ministers replies: “... under Article 1d of the Council of Europe’s Statute, matters relating to national defence do not fall within the scope of the Council of Europe. This is why the Organisation has never taken any steps to monitor military research activities and has developed no expertise in that area. I fail to see, therefore, how the Council of Europe could become involved in the type of investigation mentioned by the honourable member.” A few days later in Yerevan, Armenia, Armenian Foreign Affairs Commissioner, Gajik Manukian, denies that Armenia possesses chemical weapons. “Armenia has never had chemical weapons and does not plan to get them ... Armenia is prepared to receive foreign experts at all levels and thus put an end to these speculations” he says. The next day Rafael Huseynov yet again asserts — before the Azerbaijani Parliament — that chemical and biological weapons are being produced in Armenia. He further states, in relation to the Azeri-Armenian conflict, that Armenia needed to be exposed as an aggressor state before the international community.

25 June In the US House of Representatives, the Oversight and Investigations Subcommittee of the Energy and Commerce Committee, conducts a hearing on the Administration’s proposals to establish a Department of Homeland Security.

25 June In Washington, a new ‘yellow bag’ gas mask that collapses to the size of a bag of sugar is being launched at a press by the local Chief of Police, Terrence Gainer. The mask — 20,000 of which are on order for the district — is intended to protect the nation’s legislators, their staff and tourists from anthrax and sarin, as well as a number of other chemicals and germs. Mr Gainer continued, that the masks would provide anything from two minutes to an hour’s protection, but declined to say what sort of attack scenarios had thus far been assessed.

25 June In the US, the *Proceedings of the National Academy of Sciences* publishes research by University of Pennsylvania scientists who have developed a method of studying the mechanisms of smallpox infection without having to use the variola virus itself. In order to do this, the scientists have synthesized a smallpox protein (which they call SPICE) and compared it with the corresponding vaccinia protein (VCP). In an accompanying commentary another scientist writes: “There is (it is to be hoped) no smallpox virus available for experimentation to see whether replacing SPICE with VCP would confer on variola the power to infect other species. Nor can one envisage introducing SPICE into vaccinia to see whether this increases its pathogenicity to humans. Indeed, the idea that bioterrorists might be tempted to attempt such an experiment has been suggested as a reason for considering it imprudent to publish observations of this nature. This line of argument should, however, be resisted except in all but exceptional circumstances. In the present sad state of the world it is clearly undesirable to publish ‘cook books’ on how to manufacture novel weapons, whether nuclear or chemical or biological. This is, however, not the same as restricting the publication of valuable scientific information, especially when this is information that can be exploited for beneficial ends, merely because it might give a potential terrorist ideas. In the present case, it is very unlikely that vaccinia virus carrying SPICE in place of VCP would approach the pathogenicity of

either genuine variola or, indeed, of some other poxviruses that can infect humans. Furthermore, the information on SPICE could plausibly be used to enhance immunity to smallpox by immunization with SPICE. ... The experiments of Rosengard *et al* are an illustration of how the exploitation of microbial genomics can allow studies of the biology of viruses that cannot themselves be studied safely — or at all. The work is far more likely to stimulate advances in vaccinology or viral therapy than it is to threaten biosecurity.”

25 June In the US, WMD preparedness exercises are under way in Florida and Texas. In South Florida, 200 law enforcement officials — from the health department, hospitals and the fire service — are taking part in an exercise, the scenario of which is the spread of smallpox following an act of bioterrorism. Broward Sheriff Ken Jenne says: “There is a threat to this nation. We want to be prepared the best way we can for South Florida.”

At DFW International Airport, Texas a two-and-a-half day long simulated disaster exercise gets under way. The reasoning behind the exercise is to test the airport’s capabilities of responding to catastrophic incidents. It will be in two parts: an airline crash, followed by a scenario involving WMD with possible terrorist attacks. The Airport will be the first major airport in the US to carry out an exercise pertaining to the use of WMD. The first part of the exercise has to be undertaken every three years in accordance with requirements laid down by the Federal Aviation Administration. Immediately following this exercise, the airport response teams will partake in a tabletop weapons of mass destruction drill conducted by the Texas Engineering & Extension Service. This part of the exercise will test the airport’s incident command posts, emergency operations centre, and the State’s district disaster control office.

25–26 June In the Netherlands, the port of Rotterdam signs up to the US Customs Service Container Security Initiative. The Belgian port of Antwerp joins the next day. The *raison d’etre* of the initiative is to prevent terrorists from smuggling WMD to the US in sea-borne cargo containers. Part of the Initiative involves the pre-screening by US customs inspectors of US-bound containers at foreign seaports who will also assist local customs officials in screening any containers identified as a potential risk. The Netherlands and Belgium are the first European states to sign up to the initiative — launched in January. A US Customs Service press release notes that about 200 million sea cargo containers move annually among the world’s primary seaports, and that furthermore around 50 per cent of the value of all US imports arrive via cargo containers annually.

26 June In Italy, the Turin *La Stampa* quotes Italian Defence Minister, Antonio Martino, as recently saying, with regard to Italy’s ability to cope with terrorist attacks with weapons of mass destruction: “We are not adequately prepared to cope” with them. The article continues by pointing out that Switzerland adopted a civilian population protection protocol and revised its procedures and resources back in 1995, following the sarin attack by the Aum Shinrikyo sect on the Japanese subway.

26 June In Luxembourg, the Council of the European Union meeting at the level of health ministers, adopts a six-year EUR 312 million programme of action in the field of public health. An earlier conciliation committee between the Council and the European Parliament highlighted that the programme strengthens action and support measures for fighting health threats resulting from unforeseen events, including bioterrorism. Over lunch the ministers hold an exchange of views on bioterrorism.

26 June In the US House of Representatives, the Subcommittee on the District of Columbia of the Committee on

Government Reform conducts a hearing on *Spring Valley Revisited — The Status of the Clean-Up of Contaminated Sites in Spring Valley*.

26–27 June In Kananaskis, Canada, G8 leaders announce a partnership against the proliferation of weapons of mass destruction together with an initiative whereby Russia will receive up to \$20 billion over the next ten years to pay for the dismantling of its weapons of mass destruction. [see also 12–13 Jun]

The G8 leaders' statement reads: "In a major initiative to implement those principles [adopted today], we have also decided today to launch a new G8 Global Partnership against the spread of weapons and materials of mass destruction. Under this initiative, we will support specific cooperation projects, initially in Russia, to address non-proliferation, disarmament, counter-terrorism and nuclear safety issues. Among our priority concerns are the destruction of chemical weapons, the dismantlement of decommissioned nuclear submarines, the disposition of fissile materials and the employment of former weapons scientists. We will commit to raise up to \$20 billion to support such projects over the next ten years ... Recognizing that this Global Partnership will enhance international security and safety, we invite other countries that are prepared to adopt its common principles and guidelines to enter into discussions with us on participating in and contributing to this initiative. We will review progress on this Global Partnership at our next Summit in 2003. The G8 calls on all countries to join them in commitment to the following six principles to prevent terrorists or those that harbour them from acquiring or developing nuclear, chemical, radiological and biological weapons; missiles; and related materials, equipment and technology:

Promote the adoption, universalization, full implementation and, where necessary, strengthening of multilateral treaties and other international instruments whose aim is to prevent the proliferation or illicit acquisition of such items; strengthen the institutions designed to implement these instruments;

Develop and maintain appropriate effective measures to account for and secure such items in production, use, storage and domestic and international transport; provide assistance to states lacking sufficient resources to account for and secure these items.

Develop and maintain appropriate effective physical protection measures applied to facilities which house such items, including defence in depth; provide assistance to states lacking sufficient resources to protect their facilities.

Develop and maintain effective border controls, law enforcement efforts and international cooperation to detect, deter and interdict in cases of illicit trafficking in such items, for example through installation of detection systems, training of customs and law enforcement personnel and cooperation in tracking these items; provide assistance to states lacking sufficient expertise or resources to strengthen their capacity to detect, deter and interdict in cases of illicit trafficking in these items.

Develop, review and maintain effective national export and transshipment controls over items on multilateral export control lists, as well as items that are not identified on such lists but which may nevertheless contribute to the development, production or use of nuclear, chemical and biological weapons and missiles, with particular consideration of end-user, catch-all and brokering aspects; provide assistance to states lacking the legal and regulatory infrastructure, implementation experience and/or resources to develop their export and transshipment control systems in this regard.

Adopt and strengthen efforts to manage and dispose of stocks of fissile materials designated as no longer required for defence purposes, eliminate all chemical weapons, and mini-

mize holdings of dangerous biological pathogens and toxins, based on the recognition that the threat of terrorist acquisition is reduced as the overall quantity of such items is reduced. The G8 will work in partnership, bilaterally and multilaterally, to develop, coordinate, implement and finance, according to their respective means, new or expanded cooperation projects to address (i) non-proliferation, (ii) disarmament, (iii) counter-terrorism and (iv) nuclear safety (including environmental) issues, with a view to enhancing strategic stability, consonant with our international security objectives and in support of the multilateral non-proliferation regimes. Each country has primary responsibility for implementing its non-proliferation, disarmament, counter-terrorism and nuclear safety obligations and requirements and commits its full cooperation within the Partnership ..."

27 June In the US Senate, the Subcommittee on Central Asia and the South Caucasus of the Committee on Foreign Relations conducts a hearing into *Defense & Security Co-operation in Central Asia*. Testifying before the Committee, Assistant Secretary of Defense for International Security Policy, J D Crouch says — on the topic of halting the proliferation of weapons of mass destruction: "The Cooperative Threat Reduction programs in Kazakhstan are focussed on dismantling the former Soviet biological and chemical agent production facilities located in the country (including Stepnogorsk); upgrading security at biological institutes storing dangerous pathogens; safeguarding dangerous materials from biological research; and, securing radioactive and fissile material. In Uzbekistan, we have just completed two projects: demilitarizing the former Soviet chemical research and production institute Nukus and destroying residual anthrax buried in pits at Vozrozhdeniye Island [see 1 May]. Already our scientists and we are initiating projects to enhance security of dangerous pathogen collections at biological institutes."

28 June In the US, the Departments of Defense and of Health and Human Services announce details of a coordinated effort — together with other federal agencies — to react to possible, future anthrax incidents by vaccinating certain service members, and stockpiling both antibiotics and the anthrax vaccine for civilians. The announcement follows approval of the anthrax vaccine by the Food and Drug Administration. Announcing details of the scheme at a special briefing, Assistant Secretary of Defence for Health Affairs, Dr William Winkenwerder, says that only service members, essential civilians and contractor personnel going to or serving in high-threat areas will receive the vaccine. "We recognize there is a domestic need for access to the vaccine...we are reserving a portion of the anthrax vaccine for stockpiling... to use in the event of a domestic emergency", he said. He added that the new policy is "more targeted" than the previous plan to vaccinate the total force, and that in spite of the vaccination programme having been scaled back, the vaccine will nevertheless remain mandatory for troops in areas covered by the policy. Deputy Secretary of Defense, Paul Wolfowitz says: "Given the deadly events of last fall and what we know of the threat of anthrax as a bioweapon, we are taking action to provide protection to those service-members who are at greatest risk, and also to share available vaccine supplies with the Department of Health and Human Services and other federal agencies to address possible domestic use situations. This policy coordinates and balances both civil and military needs."

The new policy reverses an earlier plan [see 30 May] to vaccinate all military personnel. The Pentagon now intends to vaccinate those who are expected to spend at least fifteen days a year in regions where the threat of an anthrax attack is considered to be high. The Department of Health and Human Services will store the rest of the vaccine — about a half — in

secret warehouses around the country for use in the event of a domestic anthrax attack.

28 June In the US Senate, the Committee on Governmental Affairs conducts a hearing on *Homeland Security and Weapons of Mass Destruction*.

28 June–10 July In Durban, South Africa, various meetings, including the 38th Ordinary Session of the Assembly of Heads of State and Government of the Organisation of African Unity (OAU) and the Inaugural Session of the African Union (AU), take place. Two OPCW representatives attend the events, at which a proposed decision put forward by Sudan on the implementation and universality of the Chemical Weapons Convention is adopted by the OAU. Amongst other things, the decision acknowledges the conclusions and recommendations of the workshop on the CWC held in Khartoum, Sudan and welcomes the recommendation for effective implementation of the Convention in Africa through sustained technical assistance from the Secretariat. The Assembly encourages the call to achieve universality of the Convention in Africa and requests the Secretary-General of the OAU to inform the Council at its regular sessions of developments regarding implementation of the CWC and progress on the issue of universality.

30 June From Ramallah, Yasser Arafat accuses Israel of using — along with other fatal weapons — poisonous gas and depleted uranium against the Palestinian people [see 6 Jun]. The accusation comes in a letter written by the President of the Palestinian National Authority to the Crans Montana Forum in Switzerland.

30 June–3 July In Bergen, Norway, the International Union of Pure and Applied Chemistry (IUPAC) convenes a workshop on *The Impact of Scientific Developments on the Chemical Weapons Convention*. The report of the workshop will be provided to the OPCW, thus being made available for consideration by the states parties during the First CWC Review Conference in 2003.

1 July In Moscow, the head of the Swiss Federal Department of Foreign Affairs is in talks with Russian Foreign Minister Igor Ivanov. At a joint press conference following the meeting, Ivanov says: “We also welcome the intention of Switzerland to participate in financing programs to destroy the stockpiles of Russian chemical weapons.”

1 July The Statute for the International Criminal Court enters into force. In a statement marking its entry into force, UN Secretary-General, Kofi Annan makes the following statement: “The entry into force of the Rome Statute of the International Criminal Court is an historic occasion. It reaffirms the centrality of the rule of law in international relations. It holds the promise of a world in which the perpetrators of genocide, crimes against humanity and war crimes are prosecuted when individual States are unable or unwilling to bring them to justice. And it gives the world a potential deterrent to future atrocities. I congratulate all the States parties — currently 75 — on taking the lead in ratifying the Statute, and I appeal to all States that have not yet done so to ratify or accede to it as soon as possible. There must be no relenting in the fight against impunity or in our efforts to prevent genocide and the other horrendous crimes that fall under the Court’s jurisdiction.”

2 July In the UK House of Commons, responding to a question on the Government’s choice of the ‘Lister’ smallpox vaccine as opposed to that chosen by the US Government, Secretary of State for Health Mr Hutton states “[The advice of

the Joint Committee on Vaccination and Immunisation] was that there was no significant difference between the two strains on scientific grounds ... A dual approach, using a different strain for UK vaccination to that preferred by the US Government, as in the past, is considered to offer the best scope for successful new vaccine production, and provides a fall back mechanism if difficulties arise with the production of either vaccine.”

2 July From London, former OPCW Director-General, José Bustani gives an interview with *BBC Brasil*, relating to his recent removal from office [see 21–24 Apr]. He claims that since his departure from the Organization, it is — as he predicted — beginning to move in a direction that discriminates in favour of those states parties who make the largest financial contributions and whose chemical industrial bases are the largest. This, he says, explains why they are considering focusing their inspections on countries in the southern hemisphere where the chemical industry is not so important. Bustani continues that in his opinion the OPCW is dying due to the position adopted by the US. He claims that the US wants to discourage inspections taking place on US territory by disseminating information relating to other states parties; diminish the priority given by the Organization to developing countries; and, generally subjugate the staffing of the Organization to suit the US agenda. Rejecting claims that the reason for his dismissal was due to financial mismanagement on his part, he says that the financial crisis within the Organization was due only to the fact that the states obliged to make the highest financial contributions, i.e., the US, Germany and Japan, are serially bad-debtors. During the interview, Bustani also attacks the Brazilian Ministry of Foreign Affairs for not having pressed other Latin American states — which abstained in the vote — to vote in his favour. This he said resulted in the African and Asian states also abstaining because they did not consider it sensible to vote a different way to that of Latin America, of which Brazil is a part. He claims that his government was not prepared to stand up for him because it does not want to jeopardize its aspirations of becoming a permanent member of the UN Security Council.

3 July In Brussels, the European Commission appointed Research and Development (R&D) Expert Group on countering the effects of biological and chemical terrorism, submits its report to the Commission [see 13 May]. The Group’s mandate was to: prepare an inventory of the research activities in the member states and at EU level currently in progress for countering the effects of biological and chemical terrorism; examine how these existing research activities can best be mobilised and coordinated; and, identify the research gaps and what additional research is needed in the short and long term, taking account of the opportunities provided by the new Framework Programme for research, the activities and programmes of the Joint Research Centre (JRC), and the relevant initiatives in the member states.

The Group found that the R&D programmes and capabilities vary significantly between member states. Where some member states have specific research programmes on countering the effects of biological and chemical terrorism in place, these are generally linked to defence research, are publicly funded and undertaken in Government research institutions. Member states reported that there was substantially more research taking place to counter biological terrorism than chemical events. The majority of member states have sophisticated surveillance systems in place for monitoring the occurrence of naturally occurring infectious diseases. In most member states it is these existing systems that would be used to monitor a deliberate release of bio agents. In conjunction with this, member states are developing new diagnostics for rapid

detection and have expertise in risk analysis, which is used to prepare for outbreaks.

In addition the majority of member states have extensive research programmes aimed at protecting the population from naturally occurring infectious diseases and exposure to known chemical toxins present in the environment. Research programmes aimed at infectious diseases more generally, takes place in Government research institutes as well as academic institutes. There is also relevant research taking place in industry, notably by the pharmaceutical and biotechnology companies. Much of this research may also be relevant to deliberate release of bio and chemical agents and could be applied in these circumstances. There is less reported research on physical protection and decontamination than detection and biological countermeasures.

Also, the JRC's activities include two new prospective studies launched in January 2002 on: scientific aspects of biological and chemical terrorism; and social, economic and psychological vulnerabilities of modern society to terrorism. Initial results are expected in mid summer 2002 with final results available by the end of 2002. The JRC has established a Bioresponse Working Group including member states experts to assess possible scenarios involving the introduction of deliberately transformed organisms for terrorist purposes (e.g. agri-food chain) and to evaluate the potential consequences.

In research, member states identified several areas that would benefit from additional research effort at a European level as well as areas that would benefit from improved European co-ordination. member states suggested more research topics for countering bio agents than chemical agents. Research to strengthen surveillance activities was considered to be a high priority both for additional work and for coordination of existing national programmes. Risk assessment and research on physical protection methods were considered to be medium level priorities for improved collaboration. Rapid means of diagnosis and identification are of utmost importance for early detection and management of deliberate release of bio or chemical agents and new diagnostics were identified as a high priority for further research. Biological countermeasures were also considered a high priority including research on vaccines, therapeutics and underpinning basic research. New products and processes for decontamination were considered to be of medium level priority.

On the basis of the analysis, the Expert Group made the following recommendations:

The European Commission to stimulate reinforced coordination in appropriate areas of research. Examples of research topics identified by the Expert Group for improved coordination include, among others, research aspects to underpin surveillance and outbreak investigation, risk assessment and physical protection as well as training activities.

The European Commission, DG Research to consider, with others involved, these issues when developing the call for proposals for research to support European policy in the Framework Programme 6, particularly concerning issues related to civil protection, including biosecurity and crisis management; member states and the European Commission should examine the possibility of stimulating research within the Framework Programme 6 priority themes. Examples of research topics highlighted by the Expert Group for further long term research include, among others, new rapid diagnostics for identifying potential bio and chemical agents, new vaccines against potential bio agents and novel therapeutics.

The Expert Group should continue its work, on an ad hoc basis in order to provide the European Commission with a network and mechanism for determining the research efforts needed in the EU and in the context of ERA.

The European Commission's Joint Research Centre should keep in contact with the Expert Group, in order to inform it about its activities in this area.

The European Commission should ensure that all activities that relate to the Ghent Conclusions [see 19 Oct 01] continue to be coordinated.

3 July From Paris, *The International Herald Tribune* runs an article written jointly by the Foreign Minister of Sweden, Anna Lindh, and, Erkki Tuomioja the Foreign Minister of Finland. The article advocates the application of multilateral agreements to address the growing threat of weapons of mass destruction following the events of 11 September 2001. The two ministers refer specifically to the BWC, which in their opinion "should be strengthened when the treaty review conference resumes its work this autumn."

3 July In Washington, UK Ambassador Christopher Meyer, and the head of the US National Nuclear Security Administration, John Gordon, sign a bilateral agreement on CBW detection. The agreement will involve the collaboration of scientists from the US Government's Department of Energy's National Nuclear Security Administration and the UK Government's Ministry of Defence on ways to detect and combat the threat of biological and chemical weapons. The two countries have agreed to focus on several common areas of interest and expertise including biological and chemical agent detection and identification systems; computer modelling of agents released into the environment; decontamination of surfaces and materials; and fundamental characterization of chemical and biological agents. Specific research and development activities will be the subject of an implementing arrangement between the US Department of Energy and the UK Ministry of Defence.

4 July In the UK House of Commons, Parliamentary Under Secretary of State for Foreign and Commonwealth Affairs, Mike O'Brien, responds to questions concerning the former Director-General of the OPCW. He states: "The loss of confidence in the former Director-General by a significant number of members of the OPCW Executive Council we believe arose largely from... financial and administrative concerns. There was also a perception among many Executive Council members that the former Director-General took an unnecessarily confrontational approach in his dealings with the Executive Council, to the detriment of the effective functioning of the OPCW, and contrary to the supportive role envisaged in Article VIII of the [CWC]."

4-5 July In Vienna, UN Secretary-General Kofi Annan holds further talks [see 1-3 May] with Iraqi Foreign Minister Naji Sabri, however, the two sides fail to reach agreement on readmitting UN weapons inspectors. It has nevertheless been agreed that a further round of negotiations will take place next month, although a date for it has not yet been fixed. Following the meetings, Annan says: "There has been some movement, but obviously not enough." He disassociated himself from US President Bush's threats of action against Iraq, saying: "I was not here to stop an attack. I was here to get the inspectors back." Sabri called the two days of negotiations "constructive" and that technical meetings between Iraqi officials and Hans Blix Executive Chairman of UNMOVIC would continue. [see also 16 Jun]

5 July In Moscow, the Russian Munitions Agency Director-General Zinoviy Pak states — following a meeting with Germany's interim Charge d'Affaires Klaus Reinhart — that "the German government is disbursing funds to German companies

that will manufacture high technology lab equipment and control devices and supply them to Russia. They are necessary for setting up a chemical weapons recycling facility in the village of Gorny in Saratov Region." In addition to the establishment of the facility at Gorny, co-operation in building a similar facility at Kambark in Udmurtia was also discussed at the meeting discussing matters pertaining to the Russian stockpile of chemical weapons. [see 21 Jun]

5 July From Brazil, *BBC Brasil* reports that former OPCW Director-General José Bustani has been recalled from his temporary assignment as Consulate-General in London following his recent [see 2 Jul] criticism of the Brazilian Ministry of Foreign Affairs and of the direction that the OPCW is now taking subsequent to his departure. He will continue — at least for the time being — to receive remuneration from the Brazilian Government, but to all intents and purposes he is no longer in the employ of the Government.

6 July The US State Department says that it has information from a reliable source that the Armenian company Lysine — the head of which is Armen Sarkisyan, brother of Prime Minister Vazgen Sarkisyan who died in October 1999 during the Armenian Parliament shootings — has been involved in the sale of equipment to Iran that could be used in the production of weapons of mass destruction. It refers to the fact that the company sold fermenters to Iran, which gave the latter the opportunity to manufacture biological weapons. It says: "The Iranian people are not bad people, but the country's leadership is promoting international terrorism and taking measures to manufacture biological weapons." The US Government says that intends to work together calmly with the Armenian Government in a constructive manner. Sanctions against Armenia, it says, are not being considered [see also 9 May].

6 July In Chechnya, special services involved in the counter-terrorist operation in the North Caucasus claim to have information that the armed gangs are preparing to carry out terrorist acts in Grozny using poisonous substances. According to Colonel Ilya Shabalkin, commander of the regional Russian operation, a handful of Chechen mercenaries together with local fighters are intending to deliver consignments of quick-acting poisonous substances to Chechnya from Georgia's Pankisi Gorge, with a view thereafter to spreading them via food and water. The Republic's law enforcement agencies are taking measures to monitor all food and water quality in the relevant areas.

7 July US and UK intelligence claim to have discovered that a rail link opened in 2000 — from Aleppo in Syria to Mosul in Northern Iraq — is being used by Iraq to illegally import inter alia tanks, surface-to-air missiles and possibly biological, nuclear and chemical weapons components.

7 July *The New York Times* reports that the US Government is preparing to vaccinate approximately half-a-million (which could be increased) health care and emergency workers against small pox as a precaution against a bioterrorist attack. According to the Centers for Disease Control and Prevention, only around eleven thousand Americans, who work with the virus and its related diseases, have received such a vaccination since 1983. The revelation comes following the recommendation made by the Advisory Committee on Immunization Practices [see 19–20 June] for "ring vaccinations", which would amount to approximately fifteen thousand first responders being vaccinated. The plan envisaged that health workers would isolate infected patients and vaccinate people in close contact with them, thereby forming a

ring of immunization around an outbreak and a barrier to its being spread. The Government's more aggressive stance results from the fact that since the anthrax attacks last autumn, a vast stockpile of vaccine supplies has built up, i.e., currently 100 million doses (160 million if diluted). Dr Donald A Henderson, Senior Science Adviser to the Secretary of Health and Human Services, Tommy G Thompson, said: "Now we can act differently because we have more vaccine... Let me be clear, if there is an emergency, and if we have to vaccinate, we need to be ready for it. That's what we're doing". The Cato Institute have previously assessed the ring vaccination strategy to be "woefully inadequate for countering a direct attack" [see 7 Jun].

8 July In Tokyo, the 11th EU–Japan Summit is taking place. A subsequent joint press statement refers to the "co-operation in promoting disarmament of weapons of mass destruction..." that has taken place under the EU–Japan Action Plan thus far. It continues, that by the next EU–Japan Summit there should be support of "positive developments to strengthen the Biological and Toxin Weapons Convention".

8 July In Israel, former Director-General of the Health Ministry, Dan Michaeli, claims that Israel is stockpiling smallpox vaccine as a precaution against any future biological weapons attack by a foreign power or terrorist organization. "I know that decisions have been taken that have led to provisions for all residents of the country. If and when it is decided to vaccinate, I hope they will do so quickly". Meanwhile, a senior IDF officer claims that intelligence gathered by security forces points to the possibility that Palestinian terrorists will resort to the use of non-conventional weapons in the future. A few days later, a report issued for the first time by the Israeli Health Ministry says that it has been manufacturing its own smallpox vaccine in the Ministry's central laboratories for many years.

8 July In the US, Kaiser Permanente announces that it has commenced the vaccination of about 50 volunteers in a new study, which compares the safety and effectiveness of two versions of the smallpox vaccine: Dryvax (produced by Wyeth Laboratories Inc) and a vaccine produced during the 1950s by Aventis Pasteur [see 28 Mar]. The effect of diluting the vaccines will also be analysed. The National Institutes of Allergy and Infectious Diseases are sponsoring four institutions (Kaiser Permanente, the University of Iowa, Vanderbilt University, and Baylor College of Medicine) to undertake the study. A total of 330 individuals aged between 18 to 32 are predicted to participate in the study. The vaccinations are expected to have been completed by the end of the month, with safety data being passed on to the National Institutes of Health by the end of August.

8 July In the US, Edward Kaplan of Yale University, and David Craft and Lawrence Wein both of the Massachusetts Institute of Technology, release details of a study into the administration of the smallpox vaccine. The study uses a mathematical model to compare how four different vaccination strategies would fight a smallpox terror attack on a large city, infecting 1,000 people. A ring vaccination strategy resulted in 367,000 infections, 110,000 deaths and took 350 days to eradicate the virus. Mass vaccinations undertaken immediately following an attack (taking into account the roughly two-week incubation period of the virus) resulted in 1,830 infections and 560 deaths over a period of 115 days. If 40 per cent of the population were vaccinated in advance, followed up by wider mass vaccinations, 440 deaths would occur. In the event that the authorities decided belatedly to switch from ring vaccinations to mass vaccinations on the 33rd day of the crisis 15,570 infections would occur with 4,680 deaths. In this final scenario, if the mass vaccinations were

replaced by ring vaccinations, 40,000 deaths would occur. The best strategy resulted in 440 deaths and the worst 110,000 deaths. The authors conclude that the US Government should give serious consideration should be given to dropping the proposals for ring vaccinations.

9 July In Chechnya, residents of the Chechen village of Alkhan-Yurt (12 km west of Dzhokhar) claim that Russian helicopters recently sprayed white powder around the outskirts of the village, where the villagers' cattle graze. About three to four days later, several villagers started to die. None of the four dead villagers referred to are believed to have previously had any health problems. Two apparently passed away on the same night, whilst the other two passed away during the day after suddenly losing consciousness. Moreover, approximately fifty of the village's cattle have also died over a two-day period.

9 July In London, Barry Kellman of DePaul University addresses a meeting at the Royal United Services Institute for Defence Studies on *Bio-Chem Terrorism and International Law and Law Enforcement*. Attending the meeting are a number of UK governmental, academic and NGO experts and representatives from a number of London-based international organizations. The meeting is intended to encourage understanding and support for a concept of bio-criminalization and to propose a package of measures to be adopted by the resumed session of the Fifth BWC Review Conference in November. This package would include the establishment of two expert groups to study bio-criminalization issues; one under the aegis of the BWC and one under the UN General Assembly Sixth (Legal) Committee.

9 July The US Department of Defense announces an expansion of the Project SHAD investigation [see 24 Jun]. A team of investigators will travel to Dugway Proving Ground in mid-August to review Deseret Test Center records. "DoD has an obligation to all service members — past and present — to keep them informed of any event during their military career that might threaten their health," said William Winkenwerder, Assistant Secretary of Defense for Health Affairs. "We are committed to providing the Veterans Administration with the medically relevant information as quickly and efficiently as possible." He says the declassification of ship and personnel information for an additional 17 SHAD tests is under way; completion and publication of additional fact sheets is expected in early autumn. The work to be done at Dugway in August will complete the investigation of all Project 112 tests conducted by the Deseret Test Center. "We plan to augment staff as needed to finish this task efficiently and quickly," he said. "We owe our SHAD veterans resolution to events that took place four decades ago."

9 July In the US, the Government announces sanctions under the *Iran-Iraq Arms Non-Proliferation Act of 1992* and the *Chemical and Biological Weapons Control and Warfare Elimination Act of 1991* on nine Chinese entities and one Indian entity. Eight of the ten entities — all in China — are sanctioned under both acts: Jiangsu Yongli Chemicals and Technology Import and Export Corporation, QC Chen; China Machinery and Equipment Import Export Corporation; China National Machinery and Equipment Import Export Corporation; CMEC Machinery and Electric Equipment Import and Export Company Ltd; CMEC Machinery and Electrical Import Export Company, Ltd; China Machinery and Electric Equipment Import and Export Company; and the Wha Cheong Tai Company Ltd. A further two entities are sanctioned only under the Iran-Iraq Arms Non-Proliferation Act: China Shipbuilding Trading Company; and Hans Raj Shiv (previously residing in India, and last believed to be in the Middle East). Speaking at a later press

briefing, State Department press spokesman Richard Boucher says: "Two entities' sanctions — and they're also being sanctioned under the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 for knowingly and materially contributing to Iran's chemical weapons program. Two of the entities sanctioned only under the Iran-Iraq Arms Nonproliferation Act for transfers to Iran or Iraq of goods or technology that contribute to their efforts to acquire chemical weapons or destabilizing numbers and types of advanced conventional weapons." This is the first time that sanctions have been imposed under the *Iran-Iraq Arms Non-Proliferation Act* since it became law.

10 July In Kazakhstan, Kazakh Commercial TV runs a report to the effect that both the UK and the US administrations are pushing for Kazakhstan to become a member of the BWC. The report says that the UK and US are particularly concerned with Kazakhstan (Azerbaijan and Tajikistan also have not ratified the Convention) since they believe that it still has the capacity for producing biological weapons.

10 July The CIA warns the Turkish authorities that a poisonous biological or chemical substance has been sent from Georgia to Turkey with a view to its being used against US or Russian officials. The CIA discovered that a Georgian national sent the substance, that apparently looks like an ointment, to someone in Turkey who uses the code-name "Musab". The Turkish authorities are stepping up security in shopping centres, hotels, sports centres, stadia, bus stations, airports, and US and Russian buildings in Turkey. Speculation is also spreading that "Musab" may also have sent the same substance to Georgia, Afghanistan and Saudi Arabia.

10 July In the UK, former Soviet Union President Mikhail Gorbachev addresses a meeting in the House of Commons. As President of Green Cross International, Gorbachev calls for the acceleration of the destruction of weapons of mass destruction in Russia; and more generally, increased European and US support for non-proliferation of such weapons, measures to counter terrorism. In his address, Gorbachev says: "I have expressed my concern to President Bush about recent US congressional and White House actions to withhold funds which have been budgeted for destruction of chemical weapons in Russia. With a concerted US and international effort to help Russia destroy its 40,000 tons of nerve, mustard, and other deadly chemical agents, Russian adherence to the [CWC] will be in serious jeopardy. I have also spoken to President Putin and have received his personal assurance that Russia will increase its own financial commitment to chemical weapons destruction and show complete transparency and accountability in its destruction process, as demanded by the US and the G8."

He continues: "The US estimates that it will cost some \$25 billion to destroy their arsenal. Russian estimates are in the \$6–10 billion range — just for chemical weapons, not including nuclear and biological warfare threats... Russia's economic situation today, however, cannot bear this large burden as you, I'm sure, well understand. Russia very much needs western support... Unfortunately, this program has recently fallen victim to American politics. For the past 3 years, the US House of Representatives — more specifically, the Armed Services Committee — has sought to close this program down, arguing that it would 'achieve less national security benefit for the United States than originally anticipated.' This was before September 11th, and though today it is clear that 'these are highly desirable weapons for terrorists and rogue states and represent a serious proliferation threat,' the US has not yet released these funds — in spite of the announcement of the G8 summit [see 26–27 Jun]

and the positive statements of President Bush to ‘accelerate US–Russian cooperation in chemical weapons destruction.’”

He adds: “And all the European countries and Canada together so far only have committed some \$120 million. While I applaud this commitment, I believe these sums to be too little, short-sighted, and potentially harmful to US and European security interests. Russian chemical weapons, many small enough to fit into a backpack yet powerful enough to wreak havoc and kill thousands of innocent people, are very susceptible to theft, diversion, and wider proliferation. It also concerns me that Russia has been unable to pay its soldiers, including those guarding its chemical weapons arsenals, for months at a time. This is not a good, secure situation today for any of us. And the sooner the G8 decision comes into force, the better. We from Green Cross are ready for expanded mediation and coordination to help with these efforts.”

10 July In the US Senate, the Veterans’ Affairs Committee conducts a hearing in to Project SHAD. The hearing is taking place as a result of last month’s release of information on the potential exposure of veterans to hazardous agents during the Project SHAD [see 9 Jul] tests in the 1960s. It is claimed that many veterans may not have been made fully aware of the potential threat to their health in participating in the tests. Currently, many veterans face obstacles in obtaining information as to whether they were exposed to hazardous agents whilst participating in the tests. The Chairman of the Committee, Senator Jay Rockefeller said during the hearing: “Veterans have had to struggle to learn about the consequences of exposures that were, in many cases, kept secret from them... I don’t want to hear about difficulties in sorting and declassifying records, I want to hear about how we can streamline that process so that veterans do not have to wait years for answers... Our veterans need medical attention if they have been exposed to hazardous materials. They cannot wait until the military decides that it is safe to share the information.” Responding to a question put by the Chairman as to why it took the Department of Defense three years to start investigating claims relating to Project SHAD, given that the Veteran’s Administration had first contacted the Department about Project SHAD back in 1997, Assistant Secretary of Defense for Health Affairs William Wickenwerder stated: “I cannot give you an explanation for why in 1997 or between 1997 and 2000 there wasn’t a more prompt, expedient response on the part of the department.” Referring to the statement issued yesterday [see 9 Jul] by the Pentagon to send a team to Dugway Proving Ground in Utah to review Project 112 records, Rockefeller said: “How do you insult us with something like that? You could have done better not to have even put this out.”

11 July In India, scientists at the Research and Development Organization (DRDO) — an umbrella organization for 51 military laboratories in India — have developed an integrated field shelter that can provide military personnel collective from nuclear, biological and chemical agents. R Swamy Chief Controller of the Defence says: “The scientists of [DRDO] have developed the shelter under qualitative requirements of the Indian Army having multifarious uses... We have tested some biological and chemical agents,” said Swamy. He continued that India has “small amounts for testing. There is no large scale manufacture of biological agents.” The scientists at DRDO are also in the process of developing an antidote for mustard gas by the name of “DRDO-7”. Tests are currently underway on the orally administered drug and patenting of it is almost complete.

11 July In the US, researchers at State University of New York report that they have achieved the chemical synthesis of the poliovirus, in a project funded by the US Department of Defense.

It is the first time an infectious virus has been synthesized *in vitro*, based exclusively on the virus’ known genome and without a natural template or use of any living organisms. A transcript of RNA derived from sPV1(M)cDNA was incubated in a cell-free extract of HeLa cells devoid of nuclei, mitochondria and other cellular organelles. The products of translation and proteolytic processing resembled those generated using the wild form of PV1(M). Plaques were prevented from forming in the cultured HeLa cells by pre-treating the cells with a poliovirus receptor-specific monoclonal antibody and by PV1-specific hyperimmune serum. To demonstrate that the virus was active, mice — transgenic for the human PV receptor — were injected with the virus. This resulted first in flaccid paralysis and/or death.

Eckard Wimmer leader of the biomedical research team and co-author of the study published in the journal *Science*, says that the same technique could make synthesis “easy for many viruses,” including yellow fever, hepatitis B, and influenza. “I think it would also be possible to generate Ebola virus particles”, he added. He explained that 27 nucleotide changes were inserted to differentiate the engineered virus from potential laboratory contaminants. “It was fortuitous that these markers affected viral pathogenesis and lowered its neurovirulence,” he noted. “We are currently studying the molecular basis of that attenuation. It could be that this kind of methodology could lead to the development of new methods to make vaccines.”

The creation of the virus has not generally come as much of a surprise in the scientific community, since much of the technology needed for this experiment is said to have been around for more than a decade. “Conceptually, it’s not a surprise,” says Eric Rubin from Harvard’s School of Public Health. Dr C Peters Director for the Center for Biodefense at the University of Texas Medical Center at Galveston says: “We’ve known this could be done. We’ve known it was just a matter of time before it was done”.

11 July In the US, television channel PBS runs a report — “Saddam’s Ultimate Solution” — about the Iraqi use of chemical weapons on the Kurdish town of Halabja. The programme begins with a film by Gwynne Roberts, which includes footage of, amongst others, the first attack on the town in April 1987. The film follows the work of four Kurdish doctors who were following the case of the use of chemical agents against the Kurds. The film concludes that approximately 100,000 people were affected by the attacks and that around 250 villages had been the subject of attack. Ground and water samples were taken from most of the contaminated areas of Halabja. The Department of Agriculture at the University of Sulaimaniya in northern Iraq collected water samples (in triplicate) from nine different sites. The samples were taken from various wells and other water sources. Of these samples, one batch was returned to the University of Sulaimaniya; the other two were smuggled out of the country, but for one reason or another were never used.

12 July In Moscow, the State Duma expresses concern that it may find it impossible to honour its commitments under the CW Convention. Deputy Chairman of the Duma Defence Committee Nikolay Bezborodov of the Russian Regions Group said: “We view as non-constructive the position of the US Congress on providing the earlier agreed free assistance on constructing a facility for the destruction of chemical weapons in the community of Shchuchye in Kurgan Region, as it threatens the implementation of an already adjusted programme...the US Congress promised to allot 286.5 million Dollars on the Russian programme of chemical disarmament, and in reality, it has provided only 35.67 million Dollars.” As to Congress’ blocking of the financing of the facility’s construction in 1999 unless six requirements were met, Bezborodov says: “We met these

requirements a long time ago, and in particular we made public precise information on the amount of chemical weapons stockpiled in Russia. Therefore we see no objective reasons for the Congress to pursue such a policy". He continues: "Out of the 70,000 tonnes of chemical weapons stockpiled in the world, 40,000 tonnes are in Russia".

12 July The London *Times* claims that an Iraqi defector by the name of Adnan Saeed al-Haideri, a civil engineer who maintained biological and chemical "clean rooms" for the Iraqi Government has played a key role in hardening Washington's policy towards Iraq. He is believed to have first-hand knowledge of more than 30 secret biological weapons laboratories inside Iraq. al-Haideri is now believed to be in a safe house in the Washington area — after having been debriefed by the Defence Intelligence Agency — giving details of secret biological and chemical weapons work taking place in at least 8 locations in Iraq.

12 July The Monterey Institute's Center for Nonproliferation Studies releases *The 1971 Smallpox Epidemic in Aralsk, Kazakhstan, and the Soviet Biological Warfare Program*, the first authoritative translation of an official Soviet report describing a previously unknown outbreak of smallpox in 1971 in the city of Aralsk, Kazakhstan. In violation of the World Health Organization's regulations at the time, the Soviet Union failed to report the matter. The paper also includes an analysis of the Aralsk outbreak by Alan Zelicoff, a biological warfare expert at Sandia National Laboratories. Zelicoff concludes that the Aralsk epidemic originated in an open-air test of a smallpox biological weapon by the Soviet Union on Vozrozhdeniye Island [see 15 Jun].

To stimulate informed discussion of the implications of the Aralsk smallpox outbreak for public health preparedness, including smallpox vaccination policy, the editors of the paper (Johnathan Tucker and Raymond Zilinskas) subsequently invited several leading microbiologists and public health experts to comment on Zelicoff's analysis. The following questions were asked by the editors: "Is Zelicoff's analysis correct in concluding that the etiology of the Aralsk smallpox outbreak was a field test of a smallpox biological weapon on Vozrozhdeniye Island? Do the data presented in the Soviet report indicate that the smallpox virus strain was weaponized to be particularly virulent and/or vaccine-resistant? Does the Aralsk outbreak and the likelihood that it resulted from a biological weapons field test have implications for the development of a US national smallpox vaccine strategy? If so, should the nation develop an alternative containment strategy for ring vaccination or develop a new vaccine using advanced molecular biology techniques?"

Peter Jahrling, a US Army medical scientist specializing in smallpox research, endorses Zelicoff's conclusion that the Aralsk outbreak originated in a biological weapons test on Vozrozhdeniye Island. Sergui Popov, who once did research at Soviet biological weapons laboratories in Obolensk and Koltsovo, finds Zelicoff's analysis consistent with the goals of the offensive Soviet biological weapons program. Janet Gilsdorf, chair of the Department of Pediatrics and Infectious Diseases at the University of Michigan Medical Center, agrees with the interpretation of the data and raises concerns about the adequacy of the existing smallpox vaccine.

Ronald Atlas an environmental microbiologist and president of the American Society for Microbiology, Richard Clover, a physician specializing in family and community medicine, and D A Henderson, who led the World Health Organization's successful campaign to eradicate smallpox, all find Zelicoff's analysis of the cause of the Aralsk outbreak convincing but doubt his contention that the strain of the smallpox virus involved was particularly virulent or resistant. They also argue that the

"ring vaccination" strategy used during the global campaign to eradicate smallpox remains the best approach should smallpox reappear, and that vaccinating the US population in advance of an actual outbreak would pose more risks than benefits. Jack Woodall, the guiding force behind the ProMED reporting network on emerging infectious diseases, objects to Zelicoff's analysis on several important points.

13 July In Washington, the US–India Joint Working Group on Counter-Terrorism issue a joint statement — following its 5th meeting — stating that both sides agree to extend their counter-terrorism co-operation to, encompass protection from weapons of mass destruction. The delegates discussed "the nexus between weapons of mass destruction, proliferation and terrorism". The intelligence and military experts from the two sides will work on the preventive as well as protective aspects of possible acquisition of such weapons by terrorist groups.

14 July The London *Sunday Times* reports that a former colonel in Saddam Hussein's Fedayeen — one of Iraq's most brutal militias — claims that he trained together with members of al-Qaeda in secret camps near Baghdad. Colonel "Abu Mohammed" — whose real name is being withheld — who fled to Turkey 3 years ago, says that as far back as 1997 and 1998 Islamic extremists were being taught how to use chemical and biological weapons. The instructors, he claims, were from a military intelligence organization known as Unit 999, which ran a six month course for foreigners, including the Iranian opposition organization Mojahedin-e Khalq, the Turkish-Kurdish PKK rebel movement, as well as al-Qaeda. He says that the US officials who debriefed him in 1999 showed little interest in his accounts on the matter. Abu Mohammed — who was recruited into Saddam's Fedayeen in 1997 — trained at two secret facilities: Salman Pak, south-east of Baghdad, and at Unit 999 north-west of the Iraqi capital. During one of his periods of training at the camps he claims that members of al-Qaeda and other groups were "trained to put materials into small containers and study the biological effects. In the training areas there is a field especially for weapons of mass destruction. Here, experts hold lectures and conduct biological experiments — theoretical experiments, of course — on how to place explosives or how to pollute specific areas, water and public places and ventilation systems as well as power stations. They had maps of the USA, Britain, Turkey, Iran and Saudi Arabia."

This latest revelation of Iraq's dabbling with weapons of mass destruction, follows a claim last week by Abbas al-Janabi — who spent 15 years as assistant to Uday, Saddam's son, before fleeing to the West in 1998 — that he had learnt that Iraqi officials had visited Afghanistan and Sudan with a view to strengthening ties with al-Qaeda. He also knew of a top-secret centre near Baghdad where "foreigners" trained with Iraqis. "This was a sort of factory for turning out instructors... They trained both Iraqis and foreign nationals. Suicide squads were trained in sabotage techniques using weapons of mass destruction," he said. He predicted that in the event of war with the West, Iraq would deploy biological weapons, including smallpox.

14 July In Switzerland, the pharmaceutical industry is reported to have drawn up guidelines with a view to preventing dangerous chemicals falling into the hands of terrorists. The charter — entitled *Principles to Avoid the Abusive Use of Biologically Dangerous Substances or Materials* — will regulate access to laboratories and ban the use of certain substances. The set of best practice principles has been signed by three of the industry's biggest names, Novartis, Roche and Serono. The aim of the charter is to reduce the risk of products stored or made by the three companies from ending up as raw material

for the illegal production of biological weapons. Thomas Cueni General Secretary of Interpharma — the association of Swiss pharmaceutical companies — said other countries could benefit from Switzerland's expertise in handling chemicals. "What you want to make sure is that there are very firm rules about who is allowed to deal with biological materials, how you stock them and how you control them," he said. The new guidelines are based on a US initiative. The hope is that they will serve as a model for the pharmaceutical industry worldwide. The idea was first proposed [see 2 Feb] at the World Economic Forum summit in New York in this year. A number of other Swiss companies have been following the charter for some time. Notwithstanding this achievement, the Swiss pharmaceutical industry says that the guidelines should not be regarded as a substitute for international efforts to strengthen the BWC. "As a core part of society dealing with the risk of abuse of biological materials, you need internationally binding agreements and enforcement mechanisms," said Cueni.

15 July In Uzbekistan, a US team — consisting of 10 military experts — have commenced giving a two-week training course for 31 Uzbek military, security and emergency service officers, on methods for dealing with incidents involving weapons of mass destruction. The course forms a part of the joint US Department of Defense-FBI counter-proliferation programme — formed in 1995 — aimed at Eastern Europe and countries comprising the former Soviet Union.

15 July In the UK House of Commons, Secretary of State for Defence Geoff Hoon, is asked if Government policy stated during the Gulf War [see 6–9 Jan 91] — ruling out the use of nuclear weapons against Iraq even in response to a chemical or biological attack — had changed. He replies: "The British Government's policy in that respect has not changed. We remain committed to a range of international agreements that have been supported by successive Governments. That remains the position, but may I make it clear to him that that position has always been within the wider remit of international law. I have made it clear to him and the House that the British Government would only use nuclear weapons consistent with our obligations under international law." [see 17 Jun].

15 July In Salt Lake City, four workers from the Tooele Chemical Agent Disposal Facility have been put under medical observation for several hours after air monitors detected residual traces of sarin in a room where the four were carrying out repairs. None of the workers concerned have exhibited any symptoms. Blood tests confirmed that three of the four workers had not been exposed to the agent, whilst the fourth one had subsequently been discharged following an earlier blood test that showed he/she had been subjected to exposure. The Army's chemical weapons incinerator destroyed its last batch of sarin on 15 March and is due to commence destruction of VX stocks shortly. First, however, the residue of the 6,000 tons of sarin handled by the incinerator — which was detected during agent changeover operations — and storage depot will have to be removed. The depot has to date destroyed 44 per cent of its quota of chemical weapons.

16 July Russian TV channel 'NTV' runs a report claiming that environmentalists have uncovered "an excessive level of toxic chemicals" in and around a deserted Satan missile silo in the Ivanovo Region. Attempts to establish the origin of the chemicals has thus far failed, although scientists have said that that some kind of chemical munitions had been destroyed there. Samples of surface water in and around the silo indicate the presence of insecticides, however it is not known what may be present at a depth of say 80 metres. Local residents claim that

the toxic chemicals from the silo are leaking into wells and into the River Nerl; high temperatures are being recorded among the population; a general feeling of weakness has emerged; many people have lost their teeth; and, new-born babies tend to be very weak. The regional public health service has sent a letter to the Defence Ministry and Federal Security Service requesting them to take measures, however, as of today no reply has been received.

16 July At a White House press briefing, US President George Bush launches the *National Strategy for Homeland Security* [see 6 Jun]. In relation to 'defending against catastrophic threats', the Strategy states: "Currently, chemical, biological, radiological, and nuclear detection capabilities are modest and response capabilities are dispersed throughout the country at every level of government. Responsibility for chemical, biological, radiological, and nuclear surveillance as well as for initial response efforts often rests with state and local hospitals and public health agencies... While the government's collaborative arrangements have proven adequate for a variety of natural disasters, the threat of terrorist attacks using chemical, biological, radiological, or nuclear weapons with potentially catastrophic consequences demands new approaches, a focused strategy, and a new organization."

With regard to the detection of chemical and biological attacks, the Strategy states: "The federal government, with due attention to constraints such as the need for low operating costs, will develop sensitive and highly selective systems that detect the release of biological or chemical agents. The Environmental Protection Agency, for example, is evaluating the upgrading of air monitoring stations to allow for the detection of certain chemical, biological, or radiological substances. The federal government will also explore systems that can detect whether an individual has been immunized against a threat pathogen or has recently handled threat materials... The Department of Homeland Security under the President's proposal, will improve infectious disease and chemical terrorism surveillance by working with the Centers for Disease Control and Prevention (CDC) and the Department of Veterans Affairs in concert with local and state public health jurisdictions. These entities will work to develop a national system to detect biological and chemical attacks. This system will include a public health surveillance system to monitor public and private databases for indicators of biological or chemical attack. National research efforts will pay particular attention to recognizing harmful dual-use industrial chemicals. The CDC will continue its vital role in detecting, diagnosing, and addressing bioterrorist threats. Its Epidemic Intelligence Service will be expanded and modernized to better train local and state officials in recognizing biological attacks... The Department of Homeland Security, working with the Department of Agriculture, would also strengthen our parallel system for monitoring agricultural outbreaks. Since animals can serve as important sentinels signaling a biological attack against humans or be targets themselves, the Department of Homeland Security would collaborate closely with the Department of Agriculture and the Food and Drug Administration's Food and Animal Health program".

In relation to improving chemical sensors and decontamination techniques, the Strategy states: "The Department of Homeland Security would ... fund and coordinate a national research program to develop, test, and field detection devices and networks that provide immediate and accurate warnings. The Department would also support research into decontamination technologies and procedures... The Department of Homeland Security and the Environmental Protection Agency would require assessment technologies to determine when to permit individuals to re-enter buildings and areas." With regard to the development of vaccines, it states: "In many cases, our

medical countermeasures cannot address all possible biological agents or may not be suitable for use by the general population. The Departments of Health and Human Services and Homeland Security, and other government and private research entities, will pursue new defenses that will increase efficacy while reducing side effects. For example, they will explore the utility of attenuated smallpox vaccines and of existing antivirals modified to render those vaccines more effective and safe. Furthermore, the federal government, in collaboration with the private sector, will research and work toward development of broad spectrum antivirals to meet the threat of engineered pathogens aimed at both humans and livestock. Short-and long-term efforts will expand the inventory of diagnostics, vaccines, and other therapies such as antimicrobials and antidotes that can mitigate the consequences of a chemical, biological, radiological, or nuclear attack."

The Strategy further states: "The President has proposed a National Biological Weapons Analysis Center in the Department of Homeland Security to address some of these issues and conduct risk assessments. This Center, with input from the public health sector, will identify the highest priority threat agents to determine which countermeasures require priority research and development. The federal government will also consider and address the potential impact of genetic engineering on the biological threat... Research laboratories can also counter bioterrorism through prevention, and by tracking and securing dangerous biological agents. Under the President's proposal, the Department of Homeland Security will oversee the Select Agent Program to regulate the shipment of certain hazardous biological organisms and toxins. Through the registration of more than 300 laboratories, the Select Agent Program has significantly increased oversight and security of pathogens that could be used for bioterrorism. The CDC is also training public health officials in every state to assist in accurately interpreting biosafety containment provisions and select agent procedures.

In relation to emergency preparedness and response, the Strategy states: "Under the President's proposal, the Department of Homeland Security will consolidate existing federal government emergency response plans into one genuinely all-discipline, all-hazard plan — the Federal Incident Management Plan — and thereby eliminate the "crisis management" and "consequence management" distinction. This plan would cover all incidents of national significance, including acts of bioterrorism and agroterrorism, and clarify roles and expected contributions of various emergency response bodies at different levels of government in the wake of a terrorist attack. The Department of Homeland Security would provide a direct line of authority from the President through the Secretary of Homeland Security to a single on-site federal coordinator. The single federal coordinator would be responsible to the President for coordinating the entire federal response. Lead agencies would maintain operational control over their functions (for example, the FBI will remain the lead agency for federal law enforcement) in coordination with the single on-site federal official. The Department would direct the Domestic Emergency Support Team, nuclear incident response teams, National Pharmaceutical Stockpile, and National Disaster Medical System, as well as other assets."

With regard to increasing the US's stockpiles of vaccine, the Strategy states: "The National Pharmaceutical Stockpile already contains a sufficient antibiotic supply to begin treatment for 20 million persons exposed to anthrax and should contain enough smallpox vaccine for every American by the end of 2002. The Department of Homeland Security, working with the Department of Health and Human Services, would provide grants to state and local governments to plan for the receipt and distribution of medicines from the Stockpile. In addition, the Departments of Homeland Security and Health and Human Services would

pursue accelerated FDA approval of safe and effective products to add to the Stockpile and the development of procedures to accelerate the availability of investigational drugs during a public health emergency."

16–17 July In Tokyo, there is a workshop for private experts on possible measures that could be employed to reinforce the BWC. Experts from Australia, UK, Canada, France, Germany, Japan, Russia, South Africa and the US are attending the workshop.

17 July Germany has signalled that it is ready to finance the construction of the third chemical weapons scrapping installation in the village of Kambarka, in Udmurtia, according to the advisor to the Chairman of the State Commission on Chemical Disarmament, Alexander Kharichev. "The case concerns \$84 million. At present 6,349 tonnes of lewisite are stockpiled in tank cars in Kambarka. The installation is planned to be put in operation in 2005", said Kharichev[see also 5 Jul].

17 July In the US, it is reported that researchers are investigating novel weapons that could be used to disable chemical and biological weapons. One such weapon includes a missile that would isolate weapons storage sites by coating them in impenetrable hard and sticky foam instead of blowing them up. Another idea has been to create a non-exploding warhead that spreads flammable materials to incinerate biological agents. Director of the Defense Threat Reduction Agency Stephen Younger, explained that if the chemical or biological facility in question was large enough that a decision was reached to destroy, rather than temporarily neutralize it, then a deep-penetrating nuclear weapon might be used. The Pentagon has asked Congress for \$15 million in its 2003 budget to study such a weapon — also known as the Robust Nuclear Earth Penetrator. The weapon would burrow itself into the earth and detonate, transmitting a large fraction of the energy from the nuclear explosion to the ground. The explosion would create a strong seismic shock wave that could destroy or damage the target. Controversy still, however, surrounds the issue as to whether potentially harmful radioactive fallout could result from use of the weapon. Younger adds, that the Agency is also developing devices that could detect the presence of chemical and biological agents at longer distances, so as to enable US troops to know in advance whether an area they intend to attack is contaminated. The Pentagon, he said, is also considering the option of putting conventional warheads on intercontinental-range ballistic missiles, thus departing from the current protocol of arming such missiles only with nuclear warheads [see also 11 Apr].

17 July In Hermiston, the Oregon Department of Environmental Quality (DEQ) has authorized the US Army to start surrogate testing operations at the Umatilla Chemical Agent Disposal Facility (UMCDF). The UMCDF is a hazardous waste treatment facility that will use four incinerators/furnaces to destroy a stockpile of chemical warfare agents that have been stored at the Umatilla Chemical Depot since 1962. Since January, the DEQ has conducted a rigorous assessment of the disposal facility's environmental compliance status. Due to the nature of the chemical agents stored at the UMCDF, a test of each of the incineration systems must be performed with surrogate waste feeds prior to beginning operations with actual chemical agents. The test materials to be used are 1, 2, 4-Trichlorobenzene and Perchloroethylene. The DEQ will continue to monitor and evaluate all activities at the UMCDF to ensure the public and the environment are protected from the trial burn activities.

18 July In Prague, a can labelled 'Mustard Gas' (measuring fourteen by ten centimetres) discovered by a woman whilst at work in the centre of Prague, did in fact contain mustard gas according to the Director of the Institute for Nuclear, Chemical and Biological Protection, Stanislav Bradek. He says that the agent was "still active".

18 July In the UK, the Ministry of Defence publishes *The Strategic Defence Review: A New Chapter*. The "New Chapter" has come about as a direct result of the terrorist attacks on the US last September, as well as military campaigns undertaken since the last Review, such as those in the Balkans, Sierra Leone, East Timor, and Afghanistan. It is a "New Chapter" as supposed to a "new review", because of the "firm foundation" already provided by the Strategic Defence Review of 1998. Among the additional methods and approaches to be adopted by the military, are more detailed strategies to counter terrorism, use of new technology, e.g., uncrewed air vehicles, and an enhanced role for reservists in the military.

18 July In Alabama, five of the M55 sarin rockets stored at Anniston Army Depot have been confirmed as having leaks, following routine monitoring in one of the earthen storage bunkers. Cathy Coleman of the Anniston Chemical Activity Office, said that no workers had been exposed to the nerve agents and that the health of the local community is not at risk. All 661,529 rockets, artillery and mines stored in the bunkers are to be burned at the Army's new chemical weapons incinerator at Anniston. Destruction of the weapons is expected to commence later this year.

19 July In the UK, the Government publishes its fifth [see 20 Jul 01] annual report on Strategic Export Controls, covering calendar year 2001. The report records that 122 Standard Individual Export Licences (SIELs) and Standard Individual Transshipment Licences (SITLs) were denied or revoked during the year (compared to 109 in 2000) because they risked "contributing to proliferation of weapons of mass destruction or ballistic missiles". The total number of SIELs and SITLs denied or revoked for all reasons was 245 (11 revocations and 234 refusals). A total of 106 licences were refused or revoked under WMD catch-all controls for exports to China, Egypt, India, Iran, Libya, Pakistan and Syria. Unlike previous annual reports, the 2001 report does not provide export control classification numbers for specific items, a change which is not explained.

Among the many other details presented is the information that export licences for "toxic chemical precursors" (a term not defined in the report) were issued for destinations in at least 50 countries, among them Burma, China, Egypt, Iran, Israel, Libya, Sudan and Syria. Among the 12 importers of what the report variously describes as "CS hand grenades", "tear gas/riot control agents" or "tear gas/irritant ammunition" during 2001 were Kuwait, Singapore and the UAE. Licences for the export of items of, or components for, British NBC defence equipment were issued for destinations in at least 28 countries. Licences were issued in 2001 for the export of "corrosion resistant chemical manufacturing equipment" to 18 countries, among them China, Egypt, Iran, Israel and Taiwan while licences for the export of human pathogens were issued for Argentina, Ethiopia, Hong Kong, Singapore, South Africa, South Korea and Turkey.

22 July In Moscow, at an international seminar in Golitsyno US Ambassador to Russia, Alexander Vershbow, urges Russia to refrain from commercial contacts with Iran, Iraq and North Korea, "which all seek to obtain chemical, biological and nuclear weapons." He also expressed concern that China has built up large arsenals of weapons sold to it by Russia for commercial purposes.

22 July In the US, Under Secretary of State for Arms Control and International Security John Bolton writes to Congressman Lincoln Diaz-Balart on Cuba's BW programme. The letter says that while there is no "smoking gun", the US continues to have "major" and "legitimate" concerns that Cuba is developing BWs for offensive purposes. Bolton says that these concerns are based on reports from defectors, émigrés and other intelligence sources. The letter goes on to say that Cuba's advanced biotechnology infrastructure and its research into various biological pathogens "are inconsistent with and exceed their declared applications". There was "sufficient information to alert the American public and Congress" to a "potential threat" to the US, he says.

22-24 July At Wood's Hole in Massachusetts, the National Academy of Sciences project on Tools for Tracking Chemical/Biological/Nuclear Releases in the Atmosphere: Implications for Homeland Security holds a meeting on "Modeling the Atmospheric Dispersion of Chem/Bio/Nuclear Agents".

23 July In the UK House of Commons, the Defence Committee publishes its report on *Defence and Security in the UK*. The report examines what has been done across Government and beyond, since 11 September. The report is in two parts, the first on Prevention and Protection includes sections on: air defence, protection of UK waters, counter-terrorism, intelligence, aviation security, port security, and security of electronic networks and systems; the second, on Preparedness and Consequence Management, looks at how central government manages disasters, and in particular the role of the Civil Contingencies Secretariat, at how the emergency services have prepared for the possibility of a catastrophic attack on the scale of 11 September, and at what the role of the Armed Forces should be. It also looks at emergency planning in the Health Service against the threat of a chemical, biological or radiological attack. The Committee concludes: "There has been inadequate central co-ordination and direction. The Government has not taken the opportunity to conduct a proper and comprehensive examination of how the UK would manage the consequences of a disaster on the scale of 11 September. In many areas the Government has confused activity with achievement. A strong central authority is needed to lay down clear criteria for the work of individual government departments and to co-ordinate the efforts of other agencies. We believe that our recommendations would go some way to creating such an authority. We will closely monitor developments and we encourage other parliamentary committees to do so as well. We intend to return to these issues as appropriate."

24 July In the UK, questioned on how the Government plans to hold to account countries that have reneged on their ratification of treaties relating to weapons of mass destruction, the Parliamentary Under Secretary of State for Foreign and Commonwealth Affairs, Mike O'Brien, responds: "When a country ratifies an international treaty, it places itself under the obligations of that treaty once it is in force. The global treaties dealing with weapons of mass destruction, such as the existing chemical weapons convention and the treaty on the non-proliferation of nuclear weapons, have mechanisms aimed at ensuring compliance with their provisions. While the biological and toxin weapons convention has no comparable mechanisms, procedures exist for clarifying concerns. The UK routinely monitors the proliferation of weapons of mass destruction and is a strong supporter of the effective functioning of treaty compliance mechanisms. We also work with the OPCW and IAEA to ensure that the verification and inspection mechanisms are as effective as possible. Other methods may

also be employed as appropriate, including bilateral discussions. We have to be ready to make full use of all instruments to deter and uncover those who do not comply with their international obligations.”

24 July In the UK, the *Export Control Act 2002* [see 26 Jun 01] receives Royal Assent. When it comes into force, the Act will replace entirely the export control provisions of the *Import, Export and Customs Powers (Defence) Act 1939* — on which most national export controls are based. The Act will give the Government new powers allowing controls to be imposed on intangible transfers of military and other sensitive technology, trade in controlled goods between overseas countries and the provision of technical assistance overseas. The Government is planning a 12-week public consultation later in the year on draft versions of the secondary legislation that will give effect to the new controls under the Act. It is expected that the Act and the new controls will enter into force in the second half of 2003.

24 July In the UK, the Security and Defence Forum and the British–Kurdish Friendship Society give a seminar at the House of Commons to launch the “chemical weapons campaign”, with particular focus on the 1988 massacre in Halabjah. The Forum’s chairperson, Lady Olga Maitland, expresses her feelings of “shame” over the Western silence on the massacre.

25 July In Moscow, the Russian State Commission on Chemical Disarmament meets to consider matters relating to the construction of the chemical weapons destruction facility at Gorny. Head of the Commission, Sergey Kiriyyenko, says after the meeting: “The program that we evaluated assumes total chemical demilitarization by the year 2012. According to the Convention for Chemical Demilitarization a five-year prolongation is possible — it’s a sovereign right of every participant country. We are completely on schedule, confirmed by the President and the Government. Last year we have completed the disposal from 3rd category weapons — blackpowder charges. By this year — ahead of schedule we also completed the disposal from 2nd category weapons — phosgene artillery munitions. And we are on schedule for the plant in Gorny. We expect that in August the State Commission will be able to accept work on the first line disposal plant (Lewisite), and we expect to have the second line (Mustard gas) running by December. So with the plant fully operational we’ll be able to realize Russia obligations to dispose of 1% of the amount of Chemical weapons. So we can say that we are on schedule... The US planned 50 million dollars help for this year, but we haven’t yet received a cent. The situation is ambivalent. On one hand we have G-8 assurances [see 26–27 Jun] about 20 billion dollars aid for Russia for the needs of nuclear and chemical disarmament, but on the other hand the US didn’t even start its part of the work in Shchuch’ye Kurgan Oblast, although the Russian part of the job is already finished. So we have an alternative plan ready in case the US compromises on the deal: we will complete the Shchuch’ye plant by ourselves. But still, if they’ll help us we’ll be on schedule.” [see also 21 Jun]

25 July In the UK House of Lords, Baroness Crawley responds for the government to a question as to whether she agrees that there should be “convincing evidence” that military action against Iraq would be required before any decision to use such action is taken. She responds by saying: “[The Government’s detailed studies show that Iraq has not accounted for] 3,000 tonnes of precursor chemicals, approximately 300 tonnes of which in the Iraqi chemical weapons programmes were unique to the production of VX nerve agent; up to 360 tonnes of bulk chemical weapon agent, including 1.5 tonnes of VX nerve agent; and over 3,000 special

munitions for the delivery of chemical and biological agents. [Note: The last figure given of “3,000 special munitions” contradicts an earlier statement given in the House of Commons by the Secretary of State for Foreign and Commonwealth Affairs [see 2 May] in which the number of special munitions unaccounted for was said to be 30,000.]

25 July In the US House of Representatives, the Committee on International Relations conducts a hearing on *Loose Nukes, Biological Terrorism, and Chemical Warfare and Russia*.

25 July At OPCW headquarters, the first special session of the OPCW Conference of the States Parties reconvenes [see 24 Apr] to consider the Executive Council’s recommendation of Rogelio Pfirter as the new Director-General. The Conference decides unanimously to endorse the Executive Council’s decision. The US State Department’s spokesperson, Richard Boucher, says: “Ambassador Pfirter is a lawyer and career diplomat with a distinguished career in the Ministry of Foreign Affairs of Argentina... He has an outstanding record on non-proliferation and we believe he will do an excellent job in leading the OPCW to carry out its essential role in the overall global effort against weapons of mass destruction.” [see Progress in The Hague]

26 July In Annapolis, Maryland, the eighth meeting of the US–Russia Working Group on Counterterrorism is taking place, chaired by US Deputy Secretary of State Richard Armitage and Russian First Deputy Foreign Minister Trubnikov. On the agenda will be a discussion on combating nuclear, biological and chemical terrorism.

26–28 July In Stockholm, the Environmental Conference on Cambodia, Laos and Vietnam — organized by the ‘Living Future Society’, a Swedish non-profit organization — commences. The Conference — attended by around 50 scientists — aims to review the long-term environmental consequences of the Vietnam War in terms of the inter-related effects on ecosystems, public health and economic activity. The Conference hears that during the ten years 1961–71, US forces sprayed more than 72 million litres of toxic chemicals over the three countries. Less than 0.1 per cent of this amount was deposited over Cambodia; 2 per cent over Laos; a negligible amount over North Vietnam; and, the remainder, nearly 98 per cent, over South Vietnam. Altogether about 10 per cent of South Vietnam’s total land area was subjected to herbicidal attacks, although some reports put this figure at 24–27 per cent. One of the major chemical anti-plant agents employed was Agent Orange, which contains trace amounts of the highly toxic substance dioxin. In total around 44 million litres of Agent Orange — which constituted around 170 kilograms of dioxin — were dispersed over South Vietnam during the conflict, with a view to denying communist guerrillas food and cover from jungle vegetation during the war. The Conference also heard that the US herbicidal attacks constituted a breach of *inter alia* the 1925 Geneva Protocol on Chemical and Biological Warfare. The US was not a party to the Protocol at the time, although there may be a case that the terms of the Protocol had by that time crystallized into customary international law. At the time the US claimed that use of the herbicides was not unlawful because they were not lethal to human beings. During the Conference it is said that the US now favours “humanitarian aid” for any Vietnamese victims who can prove that their suffering is a direct result of the US’s use of Agent Orange. They expressed concern at this particular policy of the US, given that about 7,500 US war veterans, who have campaigned on behalf of both themselves and the Vietnamese victims, receive monthly, receive state benefits for diseases that are associated with Agent Orange. The US Government refuses

to consider Vietnam's long sought claim for compensation for the victims of Agent Orange on the grounds that any such claims are nullified as a result of the normalization of relations of the two states in 1995. Many Vietnamese children are claimed as continuing to be born with debilitating birth defects as a result of the use of Agent Orange by the US.

29 July In the US Senate, the International Security, Proliferation and Federal Services Subcommittee of the Committee on Governmental Affairs conducts a hearing on Strengthening Multilateral Non-Proliferation Regimes. Testifying are Deputy Assistant Secretary of Defense Marshall Billingslea and Deputy Assistant Secretary of State Vann Van Diepen. Billingslea states that one limitation of export control regimes is that several countries such as Iran, Iraq, Libya and Cuba "seem able to violate their obligations under treaties such as the Biological Weapons Convention with relative impunity". He adds that Russian and Chinese firms continue to sell missile technology and dual-use materials to states of concern "which is enabling those nations to overcome developmental hurdles and to build more sophisticated longer-range missile systems". Moving on to the Middle East, he refers to the Department of State's *Patterns of Global Terrorism Annual Assessment for 2001* [see 22 May], which indicates that "countries such as Iran and Syria continue to support terror groups such as Hamas, Hizballah, and Palestinian Islamic Jihad, as well as other groups such as the PFLP-GC [Popular Front for the Liberation of Palestine-General Command]. Some of the groups, like Hamas, are exploring ways to utilize WMD. Hamas is working with poisons and chemicals and an effort to coat suicide bomber fragments. At the same time, both Iran and Syria themselves have robust chemical warfare programs, and both are exploring biological weapons. Both countries can deliver these weapons by a variety of means, such as via short-range missile systems such as SCUDS, or artillery shells, and Iran is making strides in developing the Shahab-3 and longer-range missiles." He then briefly refers to similar concerns with regard to Cuba and Iraq. "The very success of non-proliferation regimes over the last 50 years has had the unintended consequence of creating a lucrative 'black market' in WMD technology. Some key supplier countries, such as China and North Korea, operate outside of multilateral export regimes. Moreover, states of concern, such as Iran, are becoming more and more self-reliant and becoming suppliers themselves... There is also the new trend of 'secondary proliferation', i.e., former importers are now becoming exporters to other states of concern. And, most troubling of all, is the nexus that I have described between WMD, state-sponsors of terrorism, and terrorists seeking WMD capabilities." In referring to the need to enforce the CWC and BWC (and other relevant conventions), he says that: "'Naming names' is a powerful diplomatic tool and we will continue to 'name names' at Review Conferences for these treaties as well as publicly [see also 19 Nov 01 and 6 May]."

Vann van Diepen in his testimony makes reference to all relevant international arms control agreements and what their aims and objectives are/have been. In relation to the BWC, he says that the Convention has "no mechanism for checking compliance as it is inherently unverifiable", and that the US "could not support the approach embodied in the draft protocol and that the protocol's flaws could not be fixed... The US proposed 'alternative measures' to strengthen the Convention before the November 2001 BWC Review Conference with the goal of highlighting compliance concerns and attempting to gain support from States Parties for the US package and other measures that would address the BWC threat of today and the future. We hope that the BWC parties can agree on measures that will effectively do so... [The US 'alternatives'] include promotion of standards for biosafety and biosecurity, scientific

and industrial codes of conduct and improved disease surveillance. The nature of developing threats is such that effective implementation of the BWC requires agreement on more specific measures addressing those threats." Countering this threat, he says, "will require a full range of measures — tightened export controls, intensified nonproliferation dialogue, increased domestic preparedness and controls, enhanced biodefence and counterterrorism capabilities, and innovative measures against disease outbreaks as well as full compliance with the BWC by all States Parties." In relation to the CWC, he says: "We are stressing the importance of addressing concerns with compliance, using bilateral and other appropriate mechanisms provided by the Convention, possibly including challenge inspection. The five-year Review Conference for the CWC is slated to commence in April 2003; we are actively examining ways to use this opportunity to refine and strengthen implementation."

30 July In Japan, Yoshio Shinozuka a former Imperial Army soldier says that the Japanese court should look to its conscience when it rules next month on the biological experiments undertaken at Unit 731 during World War Two [see 20 Mar]. "I was a member of Unit 731 and I have done what no human being should ever do", says Shinozuka. He has already testified [see 15 Nov 00] on behalf of 180 Chinese citizens who are suing the Japanese Government for compensation and an official apology. Some 3,000 Chinese are believed to have died in experiments to mass-produce diseases such as cholera bubonic plague and anthrax, with a view to weaponizing them; in addition around 250,000 are believed to have died as a result of the experiments conducted. Shinozuka does not believe that the claimants will succeed based on past court decisions. Claims against the Government for acts committed during World War Two have been rejected on the basis that the 1951 San Francisco Treaty, which officially ended the war, also put an end to claims for compensation against Japan. The court's ruling is due on 27 August.

30 July In Moscow, Russian Deputy Foreign Minister Georgiy Mamedov, and US Under-Secretary for Arms Control and International Security John Bolton, discuss specific issues relating to the implementation of the accords reached in Moscow between Presidents Putin and Bush [see 24 May], and at the G8 Summit in Kananaskis [see 26–27 Jun]. A Russian Foreign Ministry statement says that particular attention was given to "the allocation of fresh funds for the destruction of chemical weapon stocks and the scrapping of written-off nuclear submarines in Russia."

30 July From Moscow, the Head of the Directorate for Environmental Safety of the Russian Ministry of Natural Resources, Viktor Kutsenko, says at a news conference that Russia stores some 40,000 tonnes of chemical weapons, distributing them among seven of its military sites, which "observe all the necessary security measures and which are being thoroughly guarded". He added further, that Russia currently also stores some 150,000 tonnes of toxic components of missile fuel, for which the Ministry of Natural Resources and the Ministry of Defence are taking measures so as to enable it to be recycled. Concern has nevertheless been expressed that the possibility of corrosion and leakages occurring cannot be ruled given the quantity of chemicals involved.

30 July In the UK, the Government's choice of smallpox vaccine is the subject of further comment [see 2 Jul]. Steve Prior from the Potomac Institute in the US claims that the Government's choice of the Lister strain smallpox vaccine [see 16 May] is the wrong choice to protect the country from the

threat of bioterrorism. In his opinion the decision to opt for the Lister strain is "indefensible". The Department of Health, however, insists that the decision had been taken only after full consultation with medical and scientific experts; and, moreover, it is the same vaccine as that chosen by other European countries. Stanley Plotkin, a vaccine specialist at the University of Pennsylvania, says: "It is very hard to distinguish between the vaccine strains, and it is a matter of opinion which is better." John Oxford, of St Bartholomew's and the Royal London School of Medicine, said the choice of vaccine by the Government made "complete and utter sense".

31 July–1 Aug In the US Senate, the Foreign Relations Committee begins two days of hearings on Iraq. Among those testifying is Robert Gallucci, former Deputy Executive Director of UNSCOM, who says: "If Iraq can be prevented from acquiring

WMD — particularly viral biological weapons or nuclear weapons — then Iraq poses no special threat to America or her allies. If Iraq does acquire WMD, the threat still does not rise to a critical level because our deterrent, our threat to retaliate in the event of Iraqi use of WMD, is credible and effective. However, if Iraq acquires and clandestinely transfers WMD to a terrorist group, or if the United States should move to overthrow Saddam Hussein, then we should not expect our deterrent to be effective, either in preventing terrorist use of WMD against us, or Iraqi use against us in an effort to prevent regime change."

This Chronology was compiled by Daniel Feakes and Nicholas Dragffy from information supplied through HSP's network of correspondents and literature scanners.

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Bartlett, John, Tara O'Toole, Thomas Inglesby and Michael Mair (eds). *Bioterrorism and Public Health: an Internet Resource Guide*, Montvale NJ: Thomson Medical Economics, 2002, 305 pp.

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Forthcoming events

2–6 December, Singapore — Third *Singapore International Symposium on Protection Against Toxic Substances* (SISPAT), details on www.dso.org.sg/sispat

11–12 November, Moscow — Fourth National Dialogue Forum on Russian implementation of the Chemical Weapons Convention, details on www.greencross.ch

10–13 December, The Hague — Thirty-First session, OPCW Executive Council. Further sessions — EC-32: 18-21 March; EC-33: 24-27 June; EC-34: 23-26 September; and EC-35: 2-5 December.

16–20 December, Wiston House, Sussex — Wilton Park conference on *Reinforcing Efforts to Prevent Nuclear Proliferation*, details on www.wiltonpark.org.uk

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