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THE CWC: VERIFICATION IN ACTION

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More than one year after the entry into force of the Chemical Weapons Convention (CWC) many commentators have attempted to assess its achievements so far. Most observers have their own ideas of the assumptions upon which the CWC was negotiated, but those assumptions differ from person to person, as they differed from delegation to delegation during the negotiations in Geneva. Each national delegation had its own position on the shape of the CWC and it was not clear until the very end of the negotiating process what the final package would consist of.

However, the negotiating phase is now a long way behind us, and, while some unresolved issues are still being resolved through practice, the Organization for the Prohibition of Chemical Weapons (OPCW) in The Hague is well advanced in the implementation of the CWC. Over the past year, the OPCW has been widely accepted by the international community and the arrival of its inspectors has become a routine event in many countries. Besides proving that multilateral disarmament agreements can be made to work, the activities of the OPCW during the past year have also demonstrated that the ideas of the negotiators in Geneva have finally borne fruit.

The question of whether the OPCW Technical Secretariat can deliver on the technical requirements of CWC implementation was raised in an article entitled "The Chemical Weapons Convention Today" which appeared in the March 1998 issue of *The CBW Conventions Bulletin*. It was never anticipated that the CWC could provide a 100 per cent guarantee against clandestine production of chemical weapons. Such an assumption in relation to any arms control treaty would be unrealistic. However, the tide has been turned and the possession of chemical weapons is no longer seen as acceptable in the majority of countries around the world. As we progress towards universal adherence to the Convention the unacceptability of chemical weapons will grow to the point where their use will no longer be seen as a viable option. Chemical munitions and their production facilities are being destroyed under international supervi-

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THE BWC: CHALLENGE INVESTIGATION VOTING PROCEDURES

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There are two general procedures, dubbed red-light and green-light, under consideration for approving or denying requests for challenge investigations under a compliance regime for the Biological and Toxin Weapons Convention (BWC). In most procedures under discussion, the vote percentages required to approve or deny a challenge investigation are based on the whole Executive Council. Thus, the outcome could be determined by abstentions.

In either procedure, a state party requests a challenge investigation. Under red-light procedures, the investigation goes forward unless the BWC Executive Council votes to deny the request. The CWC employs a red-light procedure with three-quarters of the whole Executive Council needed to deny a request. The identical procedure has been proposed for the BWC compliance regime.

In green-light procedures, the investigation does not proceed unless the Executive Council votes to approve the request. A green-light procedure proposed for the BWC compliance regime requires that three-quarters of the whole Executive Council approve an investigation request.

Red-light and green-light procedures can be very far apart philosophically and politically, particularly if abstentions are taken into account in decisions of the Executive

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sion. It is not being overly optimistic to believe that all the declared stockpiles of chemical weapons can be destroyed within the specified ten year period. In fact, the destruction of chemical weapons under OPCW supervision is already proceeding at a satisfactory rate. OPCW inspectors have been overseeing destruction activities in the USA since 1 June 1997, and will soon be doing so in other countries too.

Rather than casting doubts on the implementation of the CWC, the fact that eight states have come forward and declared past or existing chemical weapons capabilities is one of the most significant achievements in international disarmament of the past year. It demonstrates that even those states with regional security concerns are prepared to take the bold decision to declare national programmes which they might previously have kept hidden. This has led to much greater transparency about the location and quantities of chemical weapons and their related facilities around the world, a fact which has frequently been stressed in meetings of the Executive Council, and particularly by the OPCW's Director-General, Jose Bustani.

A number of states have included declarations when depositing their instruments of ratification to the CWC. However, none of the declarations submitted go against the main articles of the CWC, although some, such as those related to sampling, go against the CWC's intended verification regime. Issues raised by these declarations have been dealt with through national implementing legislation and through understandings which have been reached between the Technical Secretariat and member states. The fact that such issues can be discussed, and in some cases resolved, points to the spirit of accommodation which prevails within the OPCW.

Another concern expressed in the same article was that the OPCW has too few inspectors to satisfactorily carry out its tasks. It is true that the number of declared possessors of chemical weapons and the number of facilities declared exceeded the planning assumptions used by the Technical Secretariat prior to entry into force. However, the fact is that during 1997 the Technical Secretariat did indeed complete 126 inspections including all chemical weapons related and Schedule 1 inspections within the deadlines laid down in the CWC, despite operating with a depleted inspectorate of only 126 inspectors and inspection assistants. During 1998 the strength of the inspectorate has been augmented by new recruits, bringing the current total to 206 inspectors and inspection assistants. All of these personnel have been through the rigorous twenty-week training course organized by the Technical Secretariat and member states. During 1998, in addition to follow-on inspections to chemical weapons related facilities which received initial inspections last year, the OPCW is also undertaking inspections of Schedule 2 and Schedule 3 facilities within the chemical industries of member states.

It is true that the rate of submission of initial and annual declarations was not completely satisfactory. A number of factors contributed to this, including lack of implementing legislation and the complexity of the declaration requirements. However, more than 80 states parties have submitted their declarations and those which have not submitted,

or have submitted only partial declarations, are being helped through various programmes organised by the Technical Secretariat. These include the provision of on-site assistance by experts and the convening of workshops, either regionally or in The Hague. To make declarations and to allow inspections on their territory is the sovereign right of states parties. The fact that 117 states have so far chosen to exercise this right by joining the CWC points to the confidence which states parties have in the Convention. It is therefore perhaps unwise for the article to point to delayed or incomplete declarations so early in the Organization's life as amounting to a failure of the CWC. In the main, the slow rate of submission of full declarations is not due to political problems, but most often for administrative or legislative reasons. Additionally, in a number of cases, states parties were unaware of the precise requirements and timelines for the national implementation of the CWC. Active efforts are being made to remedy all of these situations. Many governments have made it clear that they do want their national legislation to be in compliance with the CWC, for example the US Secretary of State who urged Congress not to incorporate legislative provisions which are "not consistent with the Convention and would diminish its effectiveness".

Technical issues which have remained unresolved from the days of the Preparatory Commission, such as aggregate national data and low concentrations, are being actively tackled through broad-based informal consultations. Decisions on aspects of some of these issues have already been approved by the Executive Council during 1998, and intensive work is continuing. For example, agreement has recently been reached at the eleventh session of the Executive Council on two long-standing issues: costs of verification for Article IV and V inspections, and a model facility agreement for Schedule 2 facilities. Some issues of a technical nature have also been referred to the recently established Scientific Advisory Board, which has a mandate to provide advice on such issues and which will hold its first meeting during 21–25 September 1998.

It is also not correct to presume that a clearer picture of global chemical activities has not emerged due to the efforts of the OPCW. The improving accuracy of the planning assumptions in the OPCW budgets for 1997, 1998 and 1999 demonstrates that a clearer picture is indeed emerging. In monitoring worldwide chemical activities, the Technical Secretariat also works closely with a variety of international organisations.

The universality of the CWC is, of course, especially important. Who could deny that 117 ratifications and accessions and 52 signatures a year and a half after entry into force is a significant achievement for a disarmament agreement of this nature? However, the effort must continue, particularly in the Middle East. The Technical Secretariat and the members states are working together to increase the membership of the OPCW. For its part, the Technical Secretariat has so far convened two regional seminars in 1998 with more planned, and has initiated programmes for those states which do not have delegations based in The Hague. These include providing written information, organising seminars and conducting bilateral visits. In addition, pro-

grammes of assistance have been elaborated for those states which have not yet signed or ratified the CWC.

In summary, although some problems are inevitable in the formative phase of such an endeavour, the future of the CWC is bright. In addition, none of the problems so far encountered are being neglected, negotiations are ongoing to resolve them as quickly as possible. Observers of the OPCW should look at the progress which has been achieved since the entry into force of the CWC. Both the USA and the Russian Federation are now member states of the OPCW, something which was uncertain prior to entry

into force, and have both received multiple inspections by OPCW inspectors. In less than 18 months, the OPCW has achieved a membership of 117, a fair result in so short a time. When commenting on the status of the CWC today, its positive achievements should not be neglected. These include the revelation of previously unknown chemical weapons possessors, the beginning of the monitoring of destruction activities in possessor countries and the successful conduct of around 250 inspections, often in countries with no previous experience of international verification arrangements.

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Council. For example, under a 75 per cent green-light procedure, a challenge investigation would not be approved if 26 per cent of the Executive Council were to abstain from voting. Similarly, under a 75 per cent red-light procedure, a challenge investigation would be approved if 26 per cent of the Executive Council were to abstain. In the red-light procedure, an abstention is the same as a vote to approve a request for an investigation. In contrast, in the green-light procedure, an abstention is the same as a vote to deny the request.

Whatever the procedure for launching challenge investigations, it should deter frivolous requests and at the same time prevent reasonable requests from being blocked. It ought to investigate well-founded suspicions and avoid inconveniencing institutions that comply.

The Problem with Abstentions

Both red-light and green-light procedures that take account of abstentions are especially vulnerable to distortion. For 75 per cent green-light, for example, if only 15 per cent of the Executive Council abstain due to uncertainties in the evidence and 15 per cent abstain because they are allied with the challenged state party, a request of high merit would be denied. For 75 per cent red-light, if only 15 per cent of the Executive Council abstain due to uncertainties in the evidence and 15 per cent abstain because they are adversaries of the challenged state party, a request of little merit would be approved. In some situations, Executive Council members can avoid responsibility simply by not responding. This option can be eliminated in both red- and green-light procedures by basing vote percentages only on those members of the Executive Council who actually vote, taking no account of abstentions.

Advantages of Basing Percentages on Those Present and Voting

Based on recent United Nations General Assembly resolutions, abstentions range from 0 per cent to 50 per cent, averaging approximately 20 per cent. Abstentions tend to be particularly frequent for resolutions that criticize a nation or a group of nations.

Because challenge investigations are likely to be politically sensitive and because of time pressure, abstentions may be considerably higher than the averages for resolu-

tions in the General Assembly. The data on abstentions in recent UN votes, the possibility that abstentions may be even higher in challenge investigation voting, and the opposite effect of abstentions on red-light or green-light voting procedures all argue for adopting a voting procedure that minimizes the effect of abstentions.

When percentages are based only on those members of the Executive Council who actually vote, any green-light procedure is equivalent to its complementary red-light procedure. For example, a 30 per cent green-light procedure is equivalent to a 70 per cent red-light procedure, a 40 per cent green-light procedure is equivalent to a 60 per cent red-light procedure, a 50 per cent green-light procedure is equivalent to a 50 per cent red-light procedure, etc. Thus, uncertainties in the difference between red-light and green-light procedures are eliminated. Furthermore, basing percentages only on those who vote should encourage voting since abstentions have no effect on the outcome. As a result, investigations based on strong evidence are more likely to be approved and investigations based on weak evidence are more likely to be denied.

Computer simulations reveal additional advantages of basing percentages only on those who actually vote. We have performed simulations of challenges and hypothetical Executive Councils. The computer model utilized in the simulations and detailed results and lessons learned from the simulations will be published elsewhere. Meanwhile, the Excel and Visual Basic computer programs developed for this project are available from Lynn Klotz (e-mail: lynnklotz@compuserve.com).

In conclusion, the above analysis indicates that all red-light and green-light procedures, regardless of the percentage chosen to approve or deny an investigation, are more responsive to the evidence when abstentions are ignored. That is, it is more likely that requests for investigations based on strong evidence of a violation will be approved, and it is more likely that requests based on weak evidence will be denied.

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FINAL STATEMENT OF THE INTERNATIONAL CONFERENCE ON PEACEFUL USE OF BIOTECHNOLOGY AND THE CONVENTION ON BIOLOGICAL WEAPONS

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Secretary General LNCV and Department of Physics University of Milano

Decio Ripandelli

Programme and Administrative Coordinator ICGEB

An International Conference on *Peaceful Use of Biotechnology and Convention on Biological Weapons (BWC)* was held at Trieste, Italy, from 26 to 27 June 1998, organized by the International Centre for Genetic Engineering and Biotechnology (ICGEB) and by the Landau Network–Centro Volta (LNCV) under the auspices of the Italian Ministry of Foreign Affairs.

The main purposes and topics of the Conference were:

- i) the focusing, at the institutional level, on confidence-building and transparency measures related to the BWC;
- ii) the contrasting of the hazards of producing biological weapons with the benefits for mankind of the peaceful use of biotechnology;
- iii) the implementation of BWC Article X, which binds member countries to co-operate in applied microbiology.

The participants in Trieste were joined in video-conference from the United Nations in Geneva by several members of the delegations participating at the eleventh session of the Ad Hoc Group of BWC states parties. On that occasion, a roundtable chaired by Ambassador Tibor Toth, Chairman of the Ad Hoc Group, addressed a wide range of issues, focusing on the aspects related to international co-operation.

The Conference has involved over 70 participants from 25 countries, the UN Department for Disarmament Affairs and the World Health Organization and has been attended by many distinguished representatives of international and governmental institutions, as well as by prominent scientists and arms-control experts. The programme of the Conference and some of the presentations can be found in the respective websites of the LNCV [<http://www.mi.infn.it/~landnet>] and of the ICGEB [<http://www.icgeb.trieste.it>].

The main output is that the ICGEB may have something really worthwhile to offer for enhancing the implementation of Article X of the BWC, while the LNCV should be in a position of assisting ICGEB in the development of a philosophy aimed at the peaceful use of biotechnology, through dedicated meetings and courses. The conclusions and recommendations of the *Final Statement* of the Conference (reproduced below) are based on the belief that, in the specific context of the objectives of the BWC, scientific isolation within the biological community is to be avoided by all means. As the community of nuclear scientists has shown in the framework of nuclear weapons disarmament, scientific co-operation and exchange of information can be concrete and practical tools for the full implementation of the BWC.

Final Statement

The Biological and Toxin Weapons Convention (BWC), which bans the development, production, acquisition, stockpiling and retention of biological or toxin weapons, entered into force on 26 March 1975. Up to now the BWC has been ratified by 140 states and signed by another 18 states.

The states parties of the BWC, following the VEREX evaluation of possible verification measures, agreed in September 1994 to establish an Ad Hoc Group which is considering a legally binding text for the strengthening of the BWC. The likely elements of a future regime include:

- a) mandatory declarations of the most relevant facilities
- b) infrequent non-challenge visits to declared facilities
- c) field and facilities investigations of compliance concerns
- d) measures to achieve effective implementation of Article X (peaceful cooperation) of the Convention

...

The Conference addressed a wide range of issues relating to the BWC and particularly focused on the implementation of Article X of the Convention.

The work of the ICGEB was reviewed. This has some 42 member states with 18 other states still pending ratification

or accession. It has two research centres — one in Trieste, Italy and the other in New Delhi, India. The ICGEB is an “international, intergovernmental organization offering a centre of excellence for research and training in genetic engineering and biotechnology with special attention to the needs of the developing world”. It has some 32 affiliated centres located in the member states. The ICGEB has been given the mandate by its Board of Governors to collaborate with the Ad Hoc Group in devising measures to enhance the implementation of Article X of the Convention.

The Conference noted that the activities of the ICGEB in conjunction with its affiliated centres collaborate to the implementation of Article X, as it facilitates technology transfer in a way which increases transparency and builds confidence in compliance with the Convention. The ICGEB also contributes to the wider promotion of biotechnology, notably through activities relating to Chapter 16 of UNCED’s Agenda 21 focused on the environmentally sound management of biotechnology.

The Conference concluded that:

- an important contribution to achieving universality of adherence to both the Convention and to the future Pro-

TOCOL is the clear identification of incentives for states to join the Convention and the Protocol;

- measures can indeed be identified which will both implement Article X and contribute to increasing transparency and building confidence in compliance with the BWC;
- the ICGEB and the Landau Network–Centro Volta are in a position to collaborate in order to enhance a “philosophy for the peaceful use of biotechnology”, through meetings, working groups and symposia;
- the work of the ICGEB with its affiliated centres can and does contribute to increasing transparency and building confidence in compliance with the BWC.

The Conference therefore recommended that:

- the ICGEB organize a workshop in Geneva for the Ad Hoc Group delegations on technical and scientific issues relating to the strengthening of the BWC;
- the ICGEB offer its expertise to the Ad Hoc Group in devising effective measures to implement Article X of the Convention;
- specific measures to implement Article X are incorporated in the draft Protocol as they will provide tangible benefits for trade, prosperity and technological development as well as security for States Parties, including both developing and developed countries.

The Ad Hoc Group and the ICGEB Board of Governors may wish to consider the above recommendations, aimed at the implementation of Article X of the BWC.

CWC SIGNATURES, RATIFICATIONS AND ACCESSIONS

As of 10 September 1998, 169 states have made CWC commitments: 165 have signed the treaty (of which 113 have deposited ratifications) plus 4 have acceded to it. States that ratify or accede after entry into force [29 April 1997] become states parties 30 days after the date of the deposit of the relevant instrument. Therefore, as of this date, there are 113 states parties with 4 more impending.

For ease of reference, states that have ratified or acceded are marked “†”. States are listed in the alphabetical order used in United Nations documents.

Afghanistan signed 14 January 1993
† *Albania* signed 14 January 1993 and ratified 11 May 1994
† *Algeria* signed 13 January 1993 and ratified 14 August 1995
† *Argentina* signed 13 January 1993 and ratified 2 October 1995
† *Armenia* signed 19 March 1993 and ratified 27 January 1995
† *Australia* signed 13 January 1993 and ratified 6 May 1994
† *Austria* signed 13 January 1993 and ratified 17 August 1995
Azerbaijan signed 13 January 1993
Bahamas signed 2 March 1994
† *Bahrain* signed 24 February 1993 and ratified 28 April 1997
† *Bangladesh* signed 14 January 1993 and ratified 25 April 1997
† *Belarus* signed 14 January 1993 and ratified 11 July 1996
† *Belgium* signed 13 January 1993 and ratified on 27 January 1997
† *Benin* signed 14 January 1993 and ratified 14 May 1998
Bhutan signed 23 April 1997
† *Bolivia* signed 14 January 1993 and ratified 14 August 1998
† *Bosnia and Herzegovina* signed on 16 January 1997 and ratified 25 February 1997
† *Botswana* acceded 31 August 1998
† *Brazil* signed 13 January 1993 and ratified 13 March 1996
† *Brunei Darussalam* signed 13 January 1993 and ratified 28 July 1997
† *Bulgaria* signed 13 January 1993 and ratified 10 August 1994
† *Burkina Faso* signed 14 January 1993 and ratified 8 July 1997
† *Burundi* signed 15 January 1993 and ratified 4 September 1998
Cambodia signed 15 January 1993
† *Cameroon* signed 14 January 1993 and ratified 16 September 1996
† *Canada* signed 13 January 1993 and ratified 26 September 1995
Cape Verde signed 15 January 1993
Central African Republic signed 14 January 1993
Chad signed 11 October 1994
† *Chile* signed 14 January 1993 and ratified 11 July 1996
† *China* signed 13 January 1993 and ratified 25 April 1997
Colombia signed 13 January 1993
Comoros signed 13 January 1993
Congo signed 15 January 1993
† *Cook Islands* signed 14 January 1993 and ratified 15 July 1994
† *Costa Rica* signed 14 January 1993 and ratified 31 May 1996

† *Côte d’Ivoire* signed 13 January 1993 and ratified 18 December 1995
† *Croatia* signed 13 January 1993 and ratified 25 May 1995
† *Cuba* signed 13 January 1993 and ratified 29 April 1997
† *Cyprus* signed 13 January 1993 and ratified 28 August 1998
† *Czech Republic* signed 14 January 1993 and ratified 6 March 1996
† *Denmark* signed 14 January 1993 and ratified 13 July 1995
Djibouti signed 28 September 1993
Dominica signed 2 August 1993
Dominican Republic signed 13 January 1993
† *Ecuador* signed 14 January 1993 and ratified 6 September 1995
† *El Salvador* signed 14 January 1993 and ratified 30 October 1995
† *Equatorial Guinea* signed 14 January 1993 and ratified 25 April 1997
Estonia signed 14 January 1993
† *Ethiopia* signed 14 January 1993 and ratified 13 May 1996
† *Fiji* signed 20 January 1993 and ratified 20 January 1993
† *Finland* signed 14 January 1993 and ratified 7 February 1995
† *France* signed 13 January 1993 and ratified 2 March 1995
Gabon signed 13 January 1993
† *Gambia* signed 13 January 1993 and ratified 19 May 1998
† *Georgia* signed 14 January 1993 and ratified 27 November 1995
† *Germany* signed 13 January 1993 and ratified 12 August 1994
† *Ghana* signed 14 January 1993 and ratified 9 July 1997
† *Greece* signed 13 January 1993 and ratified 22 December 1994
Grenada signed 9 April 1997
Guatemala signed 14 January 1993
† *Guinea* signed 14 January 1993 and ratified 9 June 1997
Guinea-Bissau signed 14 January 1993
† *Guyana* signed 6 October 1993 and ratified 12 September 1997
Haiti signed 14 January 1993
Holy See signed 14 January 1993
Honduras signed 13 January 1993
† *Hungary* signed 13 January 1993 and ratified 31 October 1996
† *Iceland* signed 13 January 1993 and ratified 28 April 1997
† *India* signed 14 January 1993 and ratified 3 September 1996
Indonesia signed 13 January 1993
† *Iran (Islamic Republic of)* signed 13 January 1993 and ratified 3 November 1997
† *Ireland* signed 14 January 1993 and ratified 24 June 1996
Israel signed 13 January 1993
† *Italy* signed 13 January 1993 and ratified 8 December 1995
Jamaica signed 18 April 1997
† *Japan* signed 13 January 1993 and ratified 15 September 1995
† *Jordan* acceded 29 October 1997
Kazakhstan signed 14 January 1993
† *Kenya* signed 15 January 1993 and ratified 25 April 1997
† *Kuwait* signed 27 January 1993 and ratified 28 May 1997
Kyrgyzstan signed 22 February 1993
† *Lao People’s Democratic Republic* signed 12 May 1993 and ratified 25 February 1997
† *Latvia* signed 6 May 1993 and ratified 23 July 1996

- † Lesotho signed 7 December 1994 and ratified 7 December 1994
 Liberia signed 15 January 1993
 Liechtenstein signed 21 July 1993
 † Lithuania signed 13 January 1993 and ratified 15 April 1998
 † Luxembourg signed 13 January 1993 and ratified 15 April 1997
 Madagascar signed 15 January 1993
 † Malawi signed 14 January 1993 and ratified 11 June 1998
 Malaysia signed 13 January 1993
 † Maldives signed 1 October 1993 and ratified 31 May 1994
 † Mali signed 13 January 1993 and ratified 28 April 1997
 † Malta signed 13 January 1993 and ratified 28 April 1997
 Marshall Islands signed 13 January 1993
 † Mauritania signed 13 January 1993 and ratified 9 February 1998
 † Mauritius signed 14 January 1993 and ratified 9 February 1993
 † Mexico signed 13 January 1993 and ratified 29 August 1994
 Micronesia (Federated States of) signed 13 January 1993
 † Monaco signed 13 January 1993 and ratified 1 June 1995
 † Mongolia signed 14 January 1993 and ratified 17 January 1995
 † Morocco signed 13 January 1993 and ratified 28 December 1995
 Myanmar signed 14 January 1993
 † Namibia signed 13 January 1993 and ratified 27 November 1995
 Nauru signed 13 January 1993
 † Nepal signed 19 January 1993 and ratified 18 November 1997
 † Netherlands signed 14 January 1993 and ratified 30 June 1995
 † New Zealand signed 14 January 1993 and ratified 15 July 1996
 Nicaragua signed 9 March 1993
 † Niger signed 14 January 1993 and ratified 9 April 1997
 Nigeria signed 13 January 1993
 † Norway signed 13 January 1993 and ratified 7 April 1994
 † Oman signed 2 February 1993 and ratified 8 February 1995
 † Pakistan signed 13 January 1993 and ratified 28 October 1997
 Panama signed 16 June 1993
 † Papua New Guinea signed 14 January 1993 and ratified 17 April 1996
 † Paraguay signed 14 January 1993 and ratified 1 December 1994
 † Peru signed 14 January 1993 and ratified 20 July 1995
 † Philippines signed 13 January 1993 and ratified 11 December 1996
 † Poland signed 13 January 1993 and ratified 23 August 1995
 † Portugal signed 13 January 1993 and ratified 10 September 1996
 † Qatar signed 1 February 1993 and ratified 3 September 1997
 † Republic of Korea signed 14 January 1993 and ratified 28 April 1997
 † Republic of Moldova signed 13 January 1993 and ratified 8 July 1996
 † Romania signed 13 January 1993 and ratified 15 February 1995
 † Russian Federation signed 13 January 1993 and ratified 5 November 1997
 Rwanda signed 17 May 1993
 Saint Kitts and Nevis signed 16 March 1994
 † Saint Lucia signed 29 March 1993 and ratified 9 April 1997
 Saint Vincent and the Grenadines signed 20 September 1993
 Samoa signed 14 January 1993
 San Marino signed 13 January 1993
 † Saudi Arabia signed 20 January 1993 and ratified 9 August 1996
 † Senegal signed 13 January 1993 and ratified 20 July 1998
 † Seychelles signed 15 January 1993 and ratified 7 April 1993
 Sierra Leone signed 15 January 1993
 † Singapore signed 14 January 1993 and ratified 21 May 1997
 † Slovak Republic signed 14 January 1993 and ratified 27 October 1995
 † Slovenia signed 14 January 1993 and ratified 11 June 1997
 † South Africa signed 14 January 1993 and ratified 13 September 1995
 † Spain signed 13 January 1993 and ratified 3 August 1994
 † Sri Lanka signed 14 January 1993 and ratified 19 August 1994
 † Suriname signed 28 April 1997 and ratified 28 April 1997
 † Swaziland signed 23 September 1993 and ratified 20 November 1996
 † Sweden signed 13 January 1993 and ratified 17 June 1993
 † Switzerland signed 14 January 1993 and ratified 10 March 1995
 † Tajikistan signed 14 January 1993 and ratified 11 January 1995
 Thailand signed 14 January 1993
 † The former Yugoslav Republic of Macedonia acceded 20 June 1997
 † Togo signed 13 January 1993 and ratified 23 April 1997
 † Trinidad and Tobago acceded 24 June 1997
 † Tunisia signed 13 January 1993 and ratified 15 April 1997
 † Turkey signed 14 January 1993 and ratified 12 May 1997
 † Turkmenistan signed 12 October 1993 and ratified 29 September 1994
 Uganda signed 14 January 1993
 Ukraine signed 13 January 1993
 United Arab Emirates signed 2 February 1993
 † United Kingdom of Great Britain and Northern Ireland signed 13 January 1993 and ratified 13 May 1996
 † United Republic of Tanzania signed 25 February 1994 and ratified 25 June 1998
 † United States of America signed 13 January 1993 and ratified 25 April 1997
 † Uruguay signed 15 January 1993 and ratified 6 October 1994
 † Uzbekistan signed 24 November 1995 and ratified 23 July 1996
 † Venezuela signed 14 January 1993 and ratified 3 December 1997
 Viet Nam signed 13 January 1993
 Yemen signed 8 February 1993
 Zaire signed 14 January 1993
 Zambia signed 13 January 1993
 † Zimbabwe signed 13 January 1993 and ratified 25 April 1997

Developments in the Organization for the Prohibition of Chemical Weapons

The period under review, from mid-June to early September, has witnessed further progress in the implementation of the Chemical Weapons Convention and the evolution of the Organization for the Prohibition of Chemical Weapons. Much attention is currently focused on preparations for the third session of the Conference of the States Parties (CSP), and on negotiations for the draft budget for 1999. In terms of institution-building, the period under review saw the establishment of the Scientific Advisory Board, which will hold its first meeting during 21–25 September, and a classification review of posts within the Technical Secretariat. In relation to verification activities, the Organization conducted the first Schedule Three inspection at the beginning of September.

Seven states have ratified or acceded to the Convention during the period under review. In chronological order they

are: Malawi, Tanzania, Senegal, Bolivia, Cyprus, Botswana and Burundi. At the time of writing, therefore, there were 117 ratifying and acceding states and 52 signatory states. Regional seminars aimed at increasing the universality of the Convention have taken place in Amman and Beijing.

Much attention has recently been focused on the need to find resolutions to the remaining unresolved issues inherited from the Preparatory Commission (PrepCom) before the third session of the CSP, which will be held on 16–20 November. Agreement was reached on two of these issues, namely the costs of verification under Articles IV and V to be attributed to the “possessor states” and a model facility agreement for Schedule Two facilities. Agreement on these issues was especially significant as they have particularly long negotiating histories within the Organization. The agreement on costs of verification paves the way for sub-

stantive negotiations to begin on the draft budget for 1999 and on long-term financial planning. The negotiation of a model facility agreement means that all Schedule Two facilities will be subject to a uniform verification regime and that the momentum gained during the negotiations can now be turned to securing a similar agreement for Schedule One facilities. Intensive consultations on the other remaining unresolved issues will continue in the period leading up to the third session of the CSP.

On a less positive note, the national implementation of the Convention is happening at a rather uneven pace. While many states parties have submitted the required declarations and notifications, a substantial number are in technical non-compliance with the Convention, having failed to submit, for example, initial declarations, or having submitted incomplete declarations. In addition, it appears that there are wide differences in the ways in which states parties have implemented the Convention nationally. The need for action to tackle these problems is likely to become more urgent as implementation proceeds.

Executive Council

The Executive Council met for two sessions during the period under review, its tenth on 16–19 June, and its eleventh during 1–4 September. As reported in the previous quarterly review, the tenth session of the Council was the first since the annual rotation of members and also the first to be held in the Executive Council chamber of the Organization's new headquarters, the Ieper Room. Both sessions had busy agendas, dealing with issues arising from the routine implementation of the Convention, in addition to considering two major unresolved issues, the costs of verification under Articles IV and V and a model facility agreement for Schedule Two facilities.

The twelfth session of the Council will meet in just over a month's time, on 6–9 October, when attention will focus primarily on negotiations for the budget for 1999 and on substantive preparations for the third session of the CSP. The last meeting of the Council in 1998, its thirteenth session, will be held on 8–11 December, and should return to other matters related to the implementation of the Convention. The Director-General suggested that in 1999 the regular sessions of the Council should be held quarterly, but a final decision has not been taken.

Receipt of declarations and notifications The Director-General again updated the Council on the submission of initial and annual declarations and notifications. Despite 16 months having passed since entry into force, a substantial minority of states parties are in technical non-compliance with the Convention as they had either not submitted their initial declarations (which were due 30 days after the Convention entered into force for them), or had submitted incomplete declarations. Since the last quarterly review only one further state party (Albania) had submitted its initial declaration, bringing the total submitted since entry into force to 82. This means that, as of 15 July, 29 states parties had yet to submit declarations. Speaking to a press briefing held after the eleventh session of the Council, the Deputy Director-General announced that Iran had submitted a pre-

liminary overview of its declaration, and would submit its complete declaration prior to the third session of the CSP. The status of notifications submitted by states parties to the Technical Secretariat is also an issue of concern. As of 15 July, the Technical Secretariat had received the following notifications: 61 notifications of points of entry for inspection teams; 51 notifications of standing diplomatic clearance numbers for non-scheduled aircraft; 77 notifications of national authorities; and 35 notifications of implementing legislation.

The unsatisfactory situation pertaining to declarations and notifications is being addressed on two levels by the Organization. Politically, the Executive Council and the Director-General have both repeatedly urged states parties to fulfil their requirements under the Convention. Since entry into force, the Director-General has written to certain states parties on at least four occasions requesting them to comply with the requirements of the Convention and to inform the Technical Secretariat of the reasons for any delay. Likewise, the Council has expressed its grave concern at the situation in eight of its reports over a thirteen month period, from its second session onwards.

Practically, the Technical Secretariat has attempted to remedy the situation through the establishment of a declaration assistance and support programme. This programme currently has two main elements. The "declaration assistance network" mentioned in the last quarterly review is made up of 12 experts, from states parties and the Technical Secretariat, who are experienced in the preparation of declarations and the use of the *Declaration Handbook*. More experts are expected to join the network later in the year. To date four formal requests for assistance with declarations have been received and two on-site missions have been completed. A new element of the declaration assistance and support programme is the convening of a series of regional declaration assistance workshops. These workshops are designed to facilitate the exchange of practical experiences and to create regional centres of expertise on implementation matters. The first workshop is to be held in Rio de Janeiro, Brazil, for members of the Latin American and Caribbean group during 14–18 September, while the second, for members of the African group, will be held in The Hague during 10–13 November.

During the period under review, both sessions of the Council again urged states parties to submit complete initial declarations. The tenth session noted that some states parties had neglected to respond at all to the repeated requests by the Council to redress the unsatisfactory state of affairs. The Council decided that, at its twelfth session in October, it would consider a recommendation that the third session of the CSP should decide what action would be necessary to deal with this situation. In future, the Council authorised the Technical Secretariat to identify by name those states parties which have not fulfilled their declaration and notification obligations. However, as reported in the previous quarterly review, the status of submissions by members of the Council themselves somewhat undermines its political efforts. As of 15 July, two members had not yet submitted their initial declarations. Concerning notifications, three members had failed to identify their national authorities, 21 had not submitted their implementing legislation, eight had

not provided information on points of entry for inspection teams, 11 had not provided information on standing diplomatic clearance numbers for non-scheduled aircraft and 18 had provided no information on assistance.

Transparency and confidentiality The Director-General reported to the tenth session of the Council that the responses from member states to his request to provide more detailed information in the *Status of Implementation Report* (SIR) and the *Verification Implementation Report* (VIR) had been uninspiring. Only a few states parties demonstrated their commitment to transparency by agreeing to be named in the SIR and VIR. Nevertheless, a revised version of the VIR was distributed during the tenth session which identified by name those few states parties which had responded positively to the Director-General's request.

The Director-General reported to both the tenth and eleventh sessions of the Council on the classification of documents by states parties. As of 15 July, 82 per cent of the 23,607 pages of declaration-related information provided by states parties since entry into force had been classified. In addition, 78 per cent of all 232 final inspection reports had been classified as either Highly Protected or Protected. The Director-General again stressed the implications which the over-classification of documents had for the Technical Secretariat in terms of personnel resources, time and budget and urged states parties to reconsider their classification levels.

The Director-General also informed the Council on events within the Technical Secretariat relating to the confidentiality regime and to the development of an information security culture. Those units of the Technical Secretariat which process and store confidential information have conducted confidentiality audits of their holdings of confidential material. These audits uncovered some minor administrative lapses which highlighted the need for further staff training, but no breaches of confidentiality or serious violations of confidentiality procedures were encountered. All staff members listed in the Confidential Information Clearance Register have recently attended additional confidentiality workshops to maintain their awareness of the importance of confidentiality. The experience gained since entry into force has demonstrated the need for a thorough review of the confidentiality regime to introduce greater simplicity, uniformity and clarity to the handling procedures. The Director-General announced that a Confidentiality Review Group has been established within the Technical Secretariat for this purpose. This group will consider in detail the implementation of the OPCW Confidentiality Policy and the Manual of Confidentiality Procedure.

Facility agreements The Director-General reported to the Council on the backlog of facility agreements. As of 15 July, the Executive Council had approved 30 facility agreements: 14 for Chemical Weapons Storage Facilities (CWSFs); nine for Chemical Weapons Production Facilities (CWPFs); one for a Part IV(B) facility; and six for Schedule One facilities. However, the Director-General also reported that at least 128 facilities which require facility agreements have been inspected, and more will be inspected on a continuous basis. Therefore, without any

remedial action the backlog of facility agreements could grow still larger.

For this reason, a number of steps have been taken during the period under review. As reported in the previous quarterly review, one factor contributing to the current backlog of facility agreements is the lack of model facility agreements. Such models are required by Part III.8 of the Verification Annex and are intended to maintain the uniformity of the verification regime. In addition, the use of model agreements would enable resources in the Technical Secretariat to be used more efficiently as each agreement would not have to be negotiated on a case-by-case basis. Against this background, the tenth session of the Council decided to actively encourage the Committee of the Whole to find a solution to this unresolved issue. Dr Ali Asghar Soltanieh (Iran) was appointed as facilitator on the unresolved issue of a model facility agreement specifically for Schedule Two facilities. The Schedule Two agreement was addressed first as it was the closest to being agreed under the PrepCom and also because the establishment of a uniform verification regime for Schedule Two facilities is important, considering the number of states parties which have declared such facilities and the number of facilities themselves. As of 13 August, 45 Schedule Two initial inspections had been conducted, most of which required the drafting of facility agreements.

Between the tenth and eleventh sessions of the Council, the facilitator convened intensive informal consultations on this issue. A draft decision was prepared and submitted to the eleventh session of the Council and approved by the same session. In accordance with the procedure for addressing unresolved issues {C-II/DEC.3}, this decision has been immediately implemented, subject to confirmation by the CSP. In the meantime, consultations moved on to the issue of a model agreement for Schedule One facilities immediately after the eleventh session of the Council.

Six facility agreements were submitted to the tenth session of the Council, but only one, an agreement with Canada for a single small-scale facility, was approved. The eleventh session approved four of the five outstanding agreements: one with the USA for a CWPF; two with Finland for a single small-scale facility and a facility for research, medical and pharmaceutical purposes; and one with the UK for a single small-scale facility. An agreement with the USA for a Chemical Weapons Destruction Facility (CWDF) was deferred until the Council's next session. A further 12 agreements have been negotiated with states parties for CWSFs, CWDFs and industrial sites. Once clearance has been obtained from the relevant states parties the Technical Secretariat will also submit these agreements to the Council.

Costs of verification This issue was on the Council's agenda because the tenth session had been mandated, by the second session of the CSP, to address and resolve it. Like the model facility agreement described above, the reimbursement criteria for the costs of verification under Articles IV and V had been a long-standing unresolved issue.

The basic principle in Article IV.16 and Article V.19 of the Convention, that the possessor pays the costs of verification of their chemical weapons and chemical weapons fa-

cilities and of their destruction is accepted by all states parties, possessors and non-possessors alike. However, before entry into force the PrepCom was unable to decide upon the criteria under which the possessor states would reimburse the Organization, in other words what the actual "costs" were. In the absence of a bilateral agreement between the USA and the Russian Federation, and with the revelation that two additional member states had chemical weapons programmes at entry into force, not to speak of four others which declared past activities related to chemical weapons, this issue has become crucial, as without resolution budgeting for verification activities in future years cannot be done accurately. As reported in the quarterly review in CBWCB 38, the Organization has been utilising interim criteria until a final agreement could be reached. However, in the absence of any finally agreed criteria, only two of the eight states parties invoiced have so far paid anything towards their reimbursements.

During the negotiations, non-possessors were determined to uphold the "possessor pays" principle, while the chemical weapons possessors were keen to keep the total costs of verification as low as possible by keeping additional costs to a minimum. All states parties also had an interest in ensuring the overall cost-effectiveness of verification activities. While some costs, such as transportation to and from The Hague, were widely accepted even amongst possessor states, the issue of inspectors' salaries proved to be the most contentious in the negotiations. Salaries are particularly important because salary costs account for most of the costs of verification under Articles IV and V. For example, the USA reported that, of its bills for reimbursement to the Organization for 1997, 61 per cent was due to salaries alone. The costs accruing to states parties increase dramatically when continuous destruction activities begin and inspectors have to be permanently present. For example, 90 per cent of the USA's total salary bill is for inspector salaries at CWDFs.

The tenth session of the Council, as directed by the second session of the CSP, considered costs of verification, but could not reach agreement. It requested the Technical Secretariat and states parties to submit documentation on four key issues relating to the cost effectiveness of inspections: logistical arrangements for inspections including sequential inspections; the use of on-site monitoring equipment at CWDFs; uses of advances in science and technology; and any other options consistent with the Convention. In its response, the Technical Secretariat demonstrated that substantial savings had already been made in regard to inspections under Articles IV and V in 1997 compared to the assumptions contained in the 1997 budget. According to the Technical Secretariat, these savings were made possible through the use of sequential inspections and discounted airfares and also because inspections teams to CWPFs were 34 per cent smaller than was assumed in the budget. A number of states parties also submitted papers on ways to increase the cost effectiveness of inspections under Articles IV and V. Proposals included the implementation of a bilateral or multilateral verification arrangement between possessor states or the more controversial suggestion of the secondment of national inspectors to the Organization specifically for Article IV and V inspections.

The eleventh session of the Council continued consideration of the costs of verification, aided by these contributions from the Technical Secretariat and states parties. After intensive negotiations, an agreement which was acceptable to all sides was finally reached. The agreed reimbursement criteria do include the salaries of inspectors when on missions. Furthermore, the criteria also includes the salaries of a certain number of inspectors for a certain number of days for planning and debriefing purposes, with the exact figures depending on the type of facility inspected. However, as understood in the criteria, the term "salary" does not include common staff costs, which include extra benefits, such as hiring costs, contributions to medical insurance and education grants. For its part, the Technical Secretariat was tasked to explore ways to increase the cost-effectiveness of inspections under Articles IV and V and to increase the use of monitoring equipment at CWDFs. The decision was approved *ad referendum*, and subject to confirmation at the twelfth session of the Council in October. It is unlikely, however, that any state party will choose to reopen the issue.

Transfers of saxitoxin As reported in previous quarterly reviews, the issue of the transfer of saxitoxin for medical and diagnostic purposes has been on the Council's agenda for some time. At the tenth session of the Council, the delegations of Chile, Ecuador, Mexico, Peru and Venezuela presented a joint declaration on the implications for the health and well-being of their populations, and urged that the Council adopt an interim solution facilitating transfers of saxitoxin among states parties. Despite this declaration being strongly supported by other Council members, the tenth session of the Council was also unable to reach consensus on any interim measures, merely agreeing to keep the issue on its agenda as a matter of urgency.

A number of delegations requested a legal opinion from the Technical Secretariat on whether it is within the Council's remit to decide on a procedural clarification of the Convention's Schedule One transfer provision (Part VI.5 of the Verification Annex) providing for an interim or long-term solution to the problem. The requested legal opinion was submitted to the eleventh session of the Council. The opinion stated that although the Council has the general power to bring about the change, it lacks sufficient power to effect such a change because in doing so, it would have to exercise legislative authority, which only the CSP can do. Also, because Part VI.5 of the Verification Annex contains both procedural and substantive aspects it cannot be changed by the Council under Article XV.4 and 5, which allow only for changes of an administrative or technical nature to the annexes to the Convention. The opinion concluded by suggesting that the CSP consider amending Article XV specifically to cover emergency situations. Whereas changes to the annexes can be approved by the Council, amendments to the main articles of the Convention must be submitted to a specially convened amendment conference.

The Council noted that a seminar on the legitimate uses of saxitoxin is to be held in The Hague during 22-24 September.

Receipt of destruction plans During the period under review, two combined plans for destruction and verification were submitted to the Council. The Director-General recommended to the tenth session of the Council, that the detailed destruction plan submitted by the government of Japan for the Satian No 7 CWPF should also serve as the combined plans for destruction and verification. The tenth session of the Council deferred consideration, but the plans were approved by the eleventh session. The combined partial plans for the destruction and verification of a CWPF in the USA were submitted to the eleventh session, but consideration was deferred until the twelfth session.

Reporting to the eleventh session, the Director-General stated that the Technical Secretariat had received general destruction plans from all four declared possessors of chemical weapons, as well as destruction plans for Old/Abandoned Chemical Weapons (O/ACW) from two states parties. As of 15 July, the Technical Secretariat had received, with respect to CWPFs, twelve general plans for destruction, four annual plans, two detailed plans and five annual reports of destruction. The Director-General also stated that he had issued certificates confirming the destruction of ten CWPFs in five states parties, and that a further nine CWPFs in four states parties might, subject to further clarification, also qualify for destruction certificates.

Further, reporting to the eleventh session of the Council, the Director-General drew its attention to two issues which had arisen in relation to the ongoing destruction of chemical weapons. The first issue related to the problem of chemical weapons destruction processes which generate a Schedule Two chemical, in this case thiodiglycol, as one of the reaction products, while the second issue concerned the point at which a chemical weapon is considered to be destroyed. Both of these matters remain on the list of unresolved issues inherited from the PrepCom. The destruction process in question involves the hydrolysis of a Schedule One chemical, sulphur mustard. This could be the first of many similar cases as states parties examine ways other than incineration to destroy their chemical weapons. At the time of writing, the state party concerned has agreed that the hydrolysis product can remain under OPCW seal pending a decision by the Council. The state party submitted a draft decision on the end-point of destruction to the eleventh session of the Council. To allow for expert discussion, further consideration of the issues was deferred to a future session of the Council.

Acknowledging that issues relating to the destruction of chemical weapons and CWPFs are likely to become major items on the Council's agenda, the eleventh session of the Council encouraged the Technical Secretariat and states parties to enter into informal consultations on the status of the six general destruction plans submitted for chemical weapons and O/ACW and also on the combined plans for destruction and verification.

Requests for the conversion of CWPFs

Consideration of a request for the conversion of a CWPF for purposes not prohibited by the Convention was deferred by the eleventh session of the Council. The Director-General informed the Council that the government of the Russian Federation had submitted nine requests for the

conversion of CWPFs, which would soon be submitted to the Council.

Chemical industry issues As more inspections of industrial facilities are conducted and more information is received from states parties in the form of annual declarations and reports, the amount of time spent by the Council on chemical industry issues has increased. In addition to issues arising from the ongoing implementation of the Convention, the Council is also involved, along with the Committee of the Whole, in attempts to find solutions to two industry-related unresolved issues, namely the need for guidelines regarding scheduled chemicals in low concentrations and the method of reporting aggregate national data (AND) for Schedule Two and Three chemicals.

Both low concentrations and the reporting of AND were addressed by the second session of the CSP, but not enough information was available for the substantial resolution of these issues, so only procedural decisions were taken {C-II/DEC.7 and C-II/DEC.8}. Pending a final resolution of these issues, and in the interests of transparency, the Council has also taken procedural decisions requesting states parties to submit information to the Technical Secretariat on what, if any, limits they have applied and on how they collate and report AND. From the few responses received so far, it is clear that the lack of uniform guidelines means that there are large differences between the limits and methodologies used by individual states parties.

Of the 27 states parties to have submitted information on their application, or non-application, of low concentration limits, most have opted for limits of between 0 and 30 per cent. Concerning AND, enquiries by the Technical Secretariat have revealed major differences between the methodologies used by states parties to collate and report AND. While some states parties aggregate production data only from Schedule Two and Three sites producing above declaration thresholds, others also include production data from sites producing below the declaration thresholds. States parties also differ on whether they have applied the same principles to their aggregation of import-export data and whether any low concentration limits are applied to AND compilations. This lack of uniformity in the regimes for low concentrations and AND makes it especially hard for the Technical Secretariat to gain an accurate picture of Schedule Two and Three activities. Another result is that states parties with apparently similar chemical industries have declared different numbers of facilities and that the number of Schedule Two facilities, especially processors, appears to have been underestimated. The Technical Secretariat has also experienced problems matching the imports and exports of Schedule Two and Three chemicals and the few responses received from states parties seem to indicate that there are serious problems with the practical implementation of the Convention regarding transfers.

Because of these problems, the Council has, during the period under review, urged more states parties to submit the requested information to the Technical Secretariat. Importing and exporting states parties were encouraged to hold bilateral consultations to reconcile the discrepancies in their import/export declarations. Once sufficient information has been submitted, it should be possible for the Committee

of the Whole or the Executive Council to begin consideration of the substantive aspects of these two issues, namely the drafting of guidelines for low concentrations and criteria for collating and reporting AND.

In order to conduct industrial inspections as cost-effectively as possible, the Technical Secretariat is considering the use of sequential inspections, both within states parties and also between states parties in the same region. The use of sequential inspections for chemical weapons facilities has already resulted in substantial savings for member states, and their use for industrial inspections could achieve similarly large savings for the Organization. However, some states parties have concerns related to the protection of confidential business information on sequential inspections. For this reason, the Director-General wrote to the 34 states parties which had made declarations under Article VI requesting their opinions on sequential industry inspections. By the eleventh session of the Council, responses had been received from 19 states parties and it was not possible with so few responses to gain a clear overall sense of states parties' views. The Director-General also submitted a report to the eleventh session of the Council on the frequency of re-inspection of industrial facilities.

Draft 1999 OPCW budget The draft programme and budget for 1999 was distributed to states parties at the beginning of August and was formally submitted to the eleventh session of the Council, where a general discussion took place. It will be discussed in informal consultations during September and will be considered in detail by the twelfth session of the Council, for referral to the third session of the CSP in November.

As it currently stands the 1999 draft budget amounts to approximately NLG 145 million, an increase of around NLG 4.2 million on the 1998 budget, most of which consists of the salaries of new staff members. The draft budget also provides for 18 additional professional and general service posts, which would bring the total number of approved posts to 506 for 1999.

Draft Report of the Organization for 1997 The *Draft Report of the Organization on the Implementation of the Convention (29 April–31 December 1997)* was submitted to the eleventh session of the Council. This report builds upon the annual report submitted to the second session of the CSP in December 1997 {C-II/2/Rev.2}, but which only covered the period from entry into force until 28 October 1997. The current report covers the period from entry into force until 31 December 1997. Following further consideration at the twelfth session of the Council, the draft report for 1997 will be submitted to the third session of the CSP.

Financial issues The Director-General reported to the Council on the status of contributions to the 1998 budget and the Working Capital Fund. Despite a sharp rise in the number of contributions received between the ninth and tenth sessions of the Council, as of 15 July, only 71.1 per cent of the total assessments of NLG 122,542,207 for the 1998 budget had been collected from member states. Of the then 111 member states, 46 had paid in full, 24 had partially paid, and 41 had not paid anything at all. Contributions to

the Working Capital Fund stood at 98.3 per cent, but 32 members had not paid their contributions, and 5 had only paid partially. Collections for the 1997 budget totalled 98.7 per cent with 67 member states having paid in full, 7 having paid partially and 31 having not paid anything. Collection rates for the PrepCom remain almost the same as reported in the previous quarterly review, only that contributions for the 1994–97 period had increased from 98.7 per cent to 98.8 per cent.

At its eleventh session the Council observed that some states parties had not paid their contributions for 1997 and 1998, in whole or in part. The Council asked states parties to remedy this situation before its thirteenth session, at which all outstanding contributions from 1997 and 1998 will be carefully reviewed. In accordance with Article VIII.8 member states lose their voting rights if their arrears equal or exceed their contribution from the preceding two years. However, many members of the Council have themselves not set a good precedent in regard to the status of contributions. In relation to contributions to the 1998 budget, of the 41 members of the Council only 21 had paid in full, 14 had paid partially and 6 had contributed nothing at all.

The Advisory Body on Administrative and Financial Matters (ABAF) met for its third session during 27 July–1 August. At this session the ABAF elected Mr Arnold Cals (Netherlands) as its Chairman and Mr BN Jha (India) as its Vice-Chairman. The ABAF reviewed the report by the Director-General on the implementation of the 1998 budget and also reviewed the final financial statements relating to the closing accounts of the PrepCom. The ABAF then spent much of its time examining the draft budget for 1999 and made extensive comments on the draft. The tenth session of the Executive Council noted the rules of procedure of the ABAF and appointed the nominees listed in the previous quarterly review as members of the ABAF, with the addition of Mr Michal Szlezak (Poland). The ABAF will hold its fourth session during 21–23 September when the main items on its agenda will be the interim staff regulations and the provident fund.

UN draft relationship agreement As reported in the previous quarterly review, the Council mandated the Director-General to negotiate a relationship agreement with the UN on the basis of the draft text approved at the ninth session. The Director-General updated the tenth session of the Council on the ongoing negotiations between the Technical Secretariat and the UN Secretariat, reporting that agreement was almost within reach. Accordingly, he informed the eleventh session of the Council that a final text had been formally cleared by both secretariats and would be submitted to its twelfth session for recommendation to the third session of the CSP.

As negotiated, the draft agreement consists of sixteen articles. Much of the agreement is concerned with cooperation between the two organizations in cases of particular gravity and urgency, as provided for in Articles VIII and XII of the Convention. Within their respective mandates, the organizations are required to cooperate on issues related to the provision of assistance to states parties and to the fostering of economic and technological development. The

agreement stipulates that when the Organization decides to provide assistance under Article X or to implement collective measures under Article XII, it should inform the Secretary-General. The agreement also allows for reciprocal representation by the Secretary-General and Director-General within the policy-making organs of the two organizations. On a practical level, the agreement allows staff members of the Organization to use a UN laissez-passer as a travel document and provides for the protection of confidential information by both organizations.

Following approval by the CSP, the agreement will be submitted to the UN General Assembly and will enter into force once both organizations have informed each other that their internal requirements have been met.

Guidelines for the use of the Voluntary Fund for Assistance The tenth session of the Council mandated an open-ended drafting group to draft guidelines for the use of the resources in the Voluntary Fund for Assistance. This group met three times and submitted a draft decision to the eleventh session of the Council.

The draft guidelines state that the fund is to be administered in accordance with Article VIII.39(c) and the relevant financial regulations. The resources of the fund are to be used to provide and deliver emergency or supplementary assistance in case of the use or threat of use of chemical weapons. Such assistance to states parties could include the provision of experts, financing for training and the provision of protection equipment and medical supplies. The fund is to be administered by the Technical Secretariat and supervised by the Executive Council. Decisions on the use of the fund can be taken by either the Council voting by simple majority within 48 hours of receiving an investigation report (in accordance with Article X.10), or, in cases where immediate action is indispensable, by the Director-General himself (in accordance with Article X.11).

At its eleventh session the Council deferred consideration of the draft guidelines to its next regular session.

Confidentiality Commission As reported in a previous quarterly review, the CSP at its second session approved the recommendation of the Confidentiality Commission that the International Bureau of the Permanent Court of Arbitration (PCA) serve as its registry. The PCA will be the depository of all original documents relating to the Commission and will also distribute copies of documents to the Commission and the involved parties. The Technical Secretariat entered into negotiations with the International Bureau of the PCA on the text of a draft registry agreement. This draft was submitted to the eleventh session of the Council, but consideration was deferred to the next session as a number of states parties requested more time to study the draft agreement. This would also allow the Confidentiality Commission to comment on the draft agreement.

Draft agreements on privileges and immunities Two draft agreements on privileges and immunities, as required by Article VIII.50, were submitted to the tenth session of the Council. These agreements, with Denmark and Ghana, were recommended for approval to the third session of the CSP by the Council at its eleventh session.

Actions by Member States

Ratifications During the period under review, seven states deposited instruments of ratification or accession with the UN Secretary-General, who is the depository of the Convention. They were: Malawi, which ratified on 11 June (entry into force on 11 July); Tanzania, which ratified on 25 June (entry into force on 25 July); Senegal, which ratified on 20 July (entry into force on 19 August); Bolivia, which ratified on 14 August (entry into force on 13 September); Cyprus, which ratified on 28 August (entry into force on 27 September); Botswana, which acceded on 31 August (entry into force on 30 September); and Burundi, which ratified on 4 September (entry into force on 4 October). These ratifications and accessions bring the total number of member states to 117 and the number of signatory states to 52.

Offers of assistance under Article X States parties can elect to take one or more of three measures to fulfil their obligations under Article X.7: to make a contribution to the Voluntary Fund for Assistance; to conclude a bilateral agreement with the Organization on the procurement of assistance; or to make a unilateral declaration of the assistance they would be willing to provide if required.

As of 15 July, nineteen states parties (Belgium, Canada, Chile, Denmark, Finland, Ireland, Italy, Kenya, Luxembourg, Mauritius, Netherlands, New Zealand, Norway, Oman, Peru, South Korea, Sweden, Switzerland and Turkey) had made contributions to the Voluntary Fund for Assistance. The total amount held in the fund as of that date stood at NLG 944,195.23. Three states parties (Philippines, Poland and Spain) had negotiated bilateral agreements with the Organization. As of 15 July, 20 states parties (Australia, Austria, Bulgaria, Cuba, Czech Republic, France, Germany, India, Iran, Mongolia, Poland, Romania, Slovakia, Singapore, South Africa, Spain, Sweden, Switzerland, UK and USA) had made unilateral declarations of assistance.

Staff from the Technical Secretariat visited Poland in January and Austria, Slovakia and the Czech Republic in July to discuss details of each of their offers of assistance. As a part of its offer of assistance, the Swiss government will conduct a training course on chemical weapons protection and the use of its personal protective equipment for forty chief inspectors from member states. The course will be held during 23–27 November. For more details, see the Organization's website {S/68/98}.

Technical Secretariat

Declaration processing The Technical Secretariat is currently uploading declaration data on to the Electronic Document Management System (EDMS) in preparation for the full audit of the system which is expected to begin later in September. The declaration data of eight states parties, which have given their approval, is being loaded on to the system to allow the audit team to review the processing of real declaration data. The names of the auditors have been circulated to the involved states parties, as the nature of their job means that they might have occasional access to confidential information. The audit itself is expected to take about two weeks, after which the team will draw up its

final report and the Technical Secretariat will undertake any corrective action, if necessary. Once confirmed as secure, the EDMS will be used for the electronic processing of all state party related information.

Inspections As of 13 August, the Technical Secretariat had conducted 259 inspections in 26 states parties. The breakdown of these inspections was as follows: 8 to ACW sites; 71 to CWPFS; 35 to CWSFs; 19 to OCW facilities; 26 to Schedule One facilities; and 45 to Schedule Two facilities. Inspectors had also spent 10,577 inspector days at the 5 CWDFs in the USA, three of which are operating continuously. Between entry into force and 30 June 1998, inspectors had witnessed the destruction of approximately 1,470 metric tonnes of nerve agent, 0.152 metric tonnes of blister agent and 1,477 items of declared Category 3 chemical weapons. The Director-General reported to the eleventh session of the Executive Council that he had ordered the inclusion of some Schedule Three sites in the inspection schedule for the coming months and that the first Schedule Three inspection was underway at that time.

International Cooperation and Assistance For the first time, the *Status of Implementation Report* (SIR) to the eleventh session of the Executive Council was issued in two parts, the second of which dealt with the implementation of Articles X and XI.

One course for personnel of national authorities involved in the implementation of the Convention has just taken place at the Netherlands Defence College in Ypenburg, the Netherlands. A further course has been scheduled for 7–15 December, again in Ypenburg. This course will follow the same format as the September course, which was outlined in the previous quarterly review. An invitation to the course is available on the Organization's website {S/70/98}.

The second meeting to coordinate assistance was held in The Hague on 15 June. The meeting, opened by the Deputy Director-General, was attended by the delegates of thirty member states. A prime concern of the meeting was to gather more details on the often general offers already made by states parties so that, if requested, assistance could be more effectively provided. By reviewing offers made, the Technical Secretariat is better able to identify gaps in the assistance offered.

At the meeting, a number of delegations emphasised that an important initial step for states parties was the provision to the Technical Secretariat of information on their national protective purposes programmes, as required by Article X.4. Only once this information was received would it be possible to assess what forms of assistance member states required. However, as of 15 July, only six states parties (Belarus, Czech Republic, France, Sweden, Switzerland and UK) had submitted the required information on their national protective programmes. In addition, and perhaps partially explaining this very low rate of submissions, guidelines for the submission of this information have not yet been approved by the CSP and remain on the list of unresolved issues.

The meeting considered the establishment of a "protection network" (similar to the existing "declaration assis-

tance network") to implement the second paragraph of Article X.5. The need to provide expert advice to states parties on the improvement of their national protection plans is urgent, as two states parties have informed the Technical Secretariat that they are considering requesting such assistance.

The meeting also discussed the need for training in the use of personal protective equipment, insurance for personnel and equipment during assistance operations and liaison with other relevant international organizations, such as the International Committee of the Red Cross. A report of the meeting is available on the Organization's website.

The Bulgarian government has offered to host an assistance coordination workshop for central and eastern European countries in Sofia on 28–30 September. In addition, the Technical Secretariat is to co-sponsor the First Singapore International Symposium on Protection Against Toxic Chemicals (SISPAT-I), to be held in December.

Fourth Official Proficiency Test The fourth official proficiency test took place during June, with the evaluation being provided by the VERIFIN laboratory in Finland. The Technical Secretariat is holding a meeting on 22 September to discuss the results of the test. The tests are open to all laboratories in members states seeking to become designated by the Organization. The fifth inter-laboratory test is due to take place during November or December and will be the final test in the first series.

Official visits The Director-General has made a number of official visits and spoken at a number of conferences during the period under review. On 23 June he delivered a keynote speech to the International Chemical Weapons Demilitarisation Conference at Bournemouth in the UK. A day later he made a welcoming speech to the opening ceremony of the regional seminar held in Jordan. Following these presentations the Director-General travelled to central Europe. During 29 June–1 July he visited the Slovak Republic where he met with the minister of foreign affairs, the minister of economics and other senior officials. He also visited the Nitra laboratory, which forms a part of the Slovak offer of assistance under Article X of the Convention. During 1–3 July he visited Slovenia where he was received by the president and also met with the minister of defence, the minister of health, the minister of foreign affairs and various other senior officials.

Later in the year the Director-General is due to conduct an official visit to China. During October he will address the First Committee of the United Nations General Assembly and also meet with representatives of members of the Security Council and representatives of various signatory and non-signatory states. The Deputy Director-General is due to travel to Kazakhstan and Uzbekistan during 22–26 September and to open the declaration assistance workshop in Brazil in mid-September.

Outreach activities The Secretariat has continued to arrange outreach activities aimed at encouraging the effective implementation and universality of the Convention. A regional seminar on the Convention was held in Amman, Jordan on 24–25 June, preceded by a one-day course for

personnel of the Jordanian national authority. This seminar was attended by representatives of ten states parties (Bahrain, Brunei Darussalam, Jordan, Kuwait, Oman, Pakistan, the Philippines, Saudi Arabia, Turkey and Turkmenistan), three signatory states (Indonesia, Israel and Kyrgyzstan), one non-signatory state (Sudan) and two non-governmental organizations (the National Centre for Middle East Studies and the International Criminal Justice and Weapons Control Center, DePaul University College of Law). Staff members from the Technical Secretariat made presentations on the current status of implementation of the Convention and on the preparations required of national authorities. Staff of the Jordanian national authority presented their experiences of the implementation of the Convention and other participants also shared their views, problems and experiences.

Another such seminar is currently underway in Beijing, China and the next seminar will be held in Saint Lucia during 4–5 November for states in the region.

During 1–2 October, the Technical Secretariat will host a twenty-five member group of the 1998 UN Disarmament Fellowship Programme at the Organization's headquarters.

The "Brussels Project" has been reorganised and it is proposed to recast it as the participation support project in the future, reflecting the fact that delegations based outside of The Hague are based not only in Brussels, but also in Geneva, London, Bonn and New York. As part of this project, officials from the Technical Secretariat have made frequent visits to Brussels, with trips to other cities planned for later in the year. On 8 July the Chairman of the Executive Council, Mr Krzysztof Patulej, also travelled to Brussels with staff of the Technical Secretariat, and announced his intention to continue to do so after future sessions of the Council. On 2 October a workshop for delegations based in Brussels will be held at the Organization's headquarters, bringing non-Hague based delegations together to discuss implementation-related issues and to hear presentations on activities within the Organization.

Staffing The number of fixed-term staff members is edging towards the number of 491 approved in the 1998 budget. As of 14 August, 474 of the 491 authorised posts had been filled, representing 96 per cent of the total authorised fixed-term posts. Of these, 326 are in the professional and higher categories, and 148 are in the general service category. The Inspectorate currently has 206 inspectors and inspection assistants. There are an additional 30 staff members on temporary assistance contracts, usually of one year's duration. The regional breakdown of staff in the professional and higher categories is as follows: Africa 8 per cent; Asia 24 per cent; Eastern Europe 22 per cent; Latin America and the Caribbean 12 per cent; and Western Europe and Others 34 per cent.

Mr Per Runn (Sweden) has been appointed as Head of the Inspectorate Management Branch, and Ms Ruth Möhlenkamp (Germany) has been appointed as Head of the Policy Review Branch.

Over the past months a consultant has been undertaking a classification review of posts within the Organization. This review, based on the UN classification system, was completed and distributed to all states parties at the beginning of August. In his note to all member states the Direc-

tor-General informed them of his intention to implement the consultant's recommendations as of 1 January 1999. However, given the financial implications of the review, the Director-General announced to the eleventh session of the Executive Council that he would be guided by member states on the modalities and timing of actual implementation.

Subsidiary bodies

Scientific Advisory Board In response to the Director-General's request at the ninth session of the Council, more nominations to the Scientific Advisory Board (SAB) were received from states parties. By 22 July, 108 nominations had been received from 44 states parties and the Director-General announced the selection of 20 nominees to serve three-year terms as the first members of the SAB [see *News Chronology* 24 July].

The first meeting of the SAB is to be held during 21–25 September in The Hague. At this meeting the SAB will agree on its rules of procedure and organise its programme of work, in addition to beginning work on those issues which have already been referred to it on the request of the CSP and the Council. At the time of writing, it is not clear if the SAB meetings will be open or private.

Confidentiality Commission The Confidentiality Commission met for its second session on 7–10 September. At this meeting, the Commission elected Mr Kim Sung-Chul (South Korea) as its new Chairman. He will be supported by four vice-chairs:

- Africa — Prof Mohammed Mokhtar Dridi (Algeria)
- Eastern Europe — Dr György Molnár (Hungary)
- Latin American and Caribbean — Prof José Luz González Chávez (Mexico)
- WEOG — Prof Herbert de Bisschop (Belgium)

The Commission also made a number of comments on the draft text of the registry agreement with the PCA. Members of the Commission participated in confidentiality training provided by the Technical Secretariat and also attended a day-long workshop on dispute resolution. The Commission will meet for its next session in 1999 at a reasonable time prior to the fourth regular session of the CSP.

Ongoing and future work

Unresolved issues As the third session of the CSP in November draws closer, solutions to the remaining unresolved issues are becoming more urgent. The chairman of the Committee of the Whole, Ambassador Bjørn Barth (Norway), expressed his hope that a large number of the approximately 40 issues which are currently under facilitation could be resolved by November. Some of the unresolved issues have lost their previous political dimensions thanks to practical experience gained through the implementation of the Convention. The decision taken at the second session of the CSP on addressing unresolved issues {C-II/DEC.3} only applies to the current intersessional period which expires at the third session. For this reason, and to maintain the credibility of the Organization while ensuring the effective implementation of the Convention, efforts to address the unresolved issues have been stepped up.

The apparent resolution of two major unresolved issues (costs of verification and a Schedule Two model facility agreement) during the period under review has given some extra momentum to the consideration of the remaining unresolved issues. Much attention will now focus, in particular, on the negotiation of a model facility agreement for Schedule One facilities.

Unresolved issues relating to Articles X and XI are often highly political and therefore finding consensus has proved difficult in the past. However, a new facilitator has been appointed, who has launched into consultations with states parties. Of immediate importance, is the agreement of guidelines on the submission of information on national protection programmes under Article X.4.

As reported in the last quarterly review, there are several unresolved issues relating to the chemical industry. In addition to the issues of low concentrations and AND, aspects of which are already being addressed by the Executive Council, the Committee of the Whole also has responsibility for facilitating the resolution of issues relating to the production of unscheduled discrete organic chemicals. The present facilitator is leaving The Hague, and has recently submitted his final report on the issues assigned to him.

Another round of consultations on the subject of the usability of OCW have been scheduled by the facilitator for later in September. A resolution of this issue is also particularly important as the Technical Secretariat has already undertaken 19 inspections of OCW facilities and, as reported in the previous quarterly review, the lack of a resolution could have budgetary implications for states parties.

In the time before the twelfth session of the Executive Council the Committee of the Whole is scheduled to meet twice, on 30 September and 5 October, in order to survey the progress of the facilitators. Any draft decisions which may have been prepared in informal consultations will be forwarded to the Council for immediate implementation and later confirmation by the third session of the CSP. At the third session of the CSP issues which have been resolved will be removed from the list of unresolved issues. A decision will also have to be taken on future arrangements for addressing any remaining unresolved issues. If the issues continue to remain unresolved they will not only impact on the practical implementation of the Convention, but might also undermine the Organization's credibility.

This review was written by Daniel Feakes, the HSP researcher in The Hague

Progress in Geneva

Quarterly Review no 4

Strengthening the Biological and Toxin Weapons Convention

A three week meeting, the eleventh session, of the Ad Hoc Group to consider a legally binding instrument, or protocol, to strengthen the Biological and Toxin Weapons Convention (BWC) was held in Geneva from 22 June to 10 July. As in the previous three-week sessions, negotiations focused on the rolling text of the Protocol.

Fifty states parties and 2 signatory states participated at the eleventh session; a net total of one more state party than in March 1998 as 3 States (Iraq, Peru and Sri Lanka) participated in June/July 1998 whilst 2 states (Mauritius and Slovenia) which had participated in the one-week session in March did not in June/July. One signatory state (Morocco) which had participated in March did not in June/July.

Twenty-two new Working Papers (WP. 275 to WP. 296) were presented in June/July 1998, some 11 less than in the previous three week meeting in January 1998. As usual these were presented both by states parties (South Africa 5, United Kingdom 4, Russia 3, United States 2, China 1, and a group of States Parties 1) and by the Friends of the Chair (4) or the Chairman (2).

Further progress was made in the June/July meeting with clear signs of engagement by all participants with serious negotiations seeking to resolve language currently within square brackets. A revised version of the Protocol was produced and attached to the procedural report of the June/July meeting (BWC/AD HOC GROUP/41, August 1998). This was thus the fifth version of the rolling text — previous versions having been produced in June 1997 (BWC/AD

HOC GROUP/35), July 1997 (36), October 1997 (38) and February 1998 (39). Although this was the longest version so far produced comprising 251 pages (with previous versions having totalled 113, 167, 241, and 241 pages), there was a clear sense that the AHG has turned the corner from adding reams of new text to reducing down and focusing on key issues. There was also evidence that text is now being consolidated and developed with a move towards production by the Friends of the Chair of clean texts in which language without square brackets was being prepared. An indication of this is provided by the working paper (WP.293) prepared by the Friend of the Chair on the Investigations Annex which noted that the Ad Hoc Group had concluded three readings of the General Provisions part of that Annex and that were only a few issues which could be identified as fundamental. The working paper proposes language changes to address those issues which could be resolved at this stage of the negotiations and thus moves forward this section of the Protocol towards a clean text with square brackets around the more fundamental issues. This shows a welcome step forward in a process that should lead to clean texts prepared by the Friends of the Chair which after a couple of readings could in turn lead to the preparation of a clean text prepared by the Chairman and thus to the final agreed text of the Protocol.

Of the 28 meetings held, 6 were devoted to compliance measures, 4.5 to Article X measures, 6 to definitions, 1.5 meetings to legal issues, 5 to the investigations Annex, 2 to

organization/implementational arrangements, 2 to confidentiality and 1 to national implementation and assistance. There was no change in the Friends of the Chair who were the same as in January and March 1998; the Chairman, Ambassador Tibor Toth, acted as Friend of the Chair for organization/implementational issues.

The AHG meeting also saw various NGO meetings at which briefings were given for the AHG delegations. The Federation of American Scientists had two presentations — one on the cost and structure of a BWC Organization which provided a spreadsheet model enabling costs of various options to be estimated using a baseline organization of 236 staff and costing \$30 million a year and the other on the development by the WHO of a network of early warning sites (NEWS) for monitoring emerging infectious diseases which might be supported by the states parties to the BWC. The University of Bradford Department of Peace Studies presented and distributed copies of a further four Briefing Papers [see *News Chronology*, 2 July, Geneva].

There was much uncertainty during the June/July AHG meeting about the precise dates for the Sept/Oct AHG because the UN General Assembly (UNGA) has decided to bring forward the date of its meeting by a week. This meant that much political and diplomatic capital had to be spent in addressing when the next AHG should be. The three alternatives were four weeks starting a week earlier than originally planned (on 14 September), four weeks in November/December after the UNGA and two weeks before and two weeks after the UNGA. The decision on this went, as always, right to the wire with agreement being reached on the last day, 10 July, of the AHG that their next meeting would be for four weeks starting 14 September ending 9 October. Further progress in developing and removing square brackets from the Protocol text can be expected at that meeting.

Away from Geneva there have been further political developments including statements by world leaders recognizing the importance of the early strengthening of the BWC, notably the G-8 foreign ministers [see *News Chronology* 8–9 May], the Non-Aligned Movement foreign ministers [19–20 May], President Clinton [22 May], and from the US–China summit [27 June] and the US–Russia summit of 2 September urging completion at the earliest possible date.

The Eleventh Session of the AHG

The opening day saw an address by UK Foreign Minister Tony Lloyd speaking on behalf of the EU entitled “Time to Accept the Realities of the Control of Biological Weapons” which stressed that the reality is that such a regime can be achieved. The minister went on to urge that the impetus towards the early and successful conclusion of the negotiations should be sustained. He noted:

the great importance attached by many Delegations to the provisions foreseen under Article VII of the Protocol [Measures to implement Article X of the BWC]. I recognise that it will be important to ensure that agreement be reached between the divergent positions on this *crucial* element of the eventual regime. I feel sure that it will be possible to identify measures that will address real needs. [Emphasis added].

That *crucial* echoed the May NAM foreign ministers’ statement. He also offered London as the venue for the eventual signing ceremony of the Protocol at a date which he trusted would not be too distant.

The final day of the AHG meeting, 10 July, saw two political statements. One by Argentina, Brazil, Chile, Colombia, Mexico and Peru as the signatories of the 1991 Mendoza Commitment or of the Cartagena Declaration, stated:

they attach great importance to and remain fully committed to participate constructively in the negotiations of the Ad Hoc Group of States Parties to the BTWC.

They went on to say:

They share the view that efforts should be intensified in order to bring to a satisfactory conclusion, at the earliest possible date, negotiations of a legally binding instrument aimed at strengthening the effectiveness and improving the implementation of the BTWC.

The other statement by some 29 Western and Eastern States (ranging from Argentina to Canada, the Czech Republic, the EU States, Japan and the United States) stated that:

the international community must pursue the early and successful conclusion of the Ad Hoc Group negotiations as a matter of urgency. The above States Parties *reaffirm their commitment to redouble their efforts* in order to achieve this goal. [Emphasis added]

Furthermore, they considered that :

measures to strengthen compliance should include, inter alia, the following elements ...

- Declarations of a range of facilities and activities of potential relevance ...
- Provisions for visits to facilities in order to promote accurate and complete declarations ...
- Provision for rapid and effective investigations into concerns over non-compliance ...
- A cost-effective and independent organisation, including a small permanent staff ...

In addition they reaffirmed their commitment:

to actively promote and engage in international cooperation and exchanges in the field of biotechnology for peaceful purposes under the BWC ... Further, they look forward to the development of specific measures in Article VII of the Protocol to take full advantage of the opportunities for cooperation, which the Protocol will create among its States Parties. Such measures should also address needs for assistance to ensure the protocol’s implementation.

This statement both endorses the central elements of the future Protocol as being declarations, visits, investigations and an independent organization and addresses the concerns understandably expressed by the NAM at the end of the March AHG meeting following the moves taken at that meeting to constrain the scope of Article VII of the draft Protocol. The reference in both the Sino–US Joint Presidential Statement and the statement by 29 States to further accelerating the AHG efforts to complete the negotiation of the Protocol further demonstrates the growing political will to achieve a strengthened BWC.

The Emerging Regime

Compliance Measures The June/July meeting focused on Declarations as well as taking forward the language relating to Investigations.

Declarations Three working papers (by China, South Africa and the UK on behalf of the EU) addressed declarations and declaration formats demonstrating a useful focusing on the detail of a key element of the future regime. The UK/EU paper proposed language for the following declaration triggers — past offensive/defensive programmes, current defensive programmes, vaccine production facilities, maximum biological containment laboratories (BL4), work with listed agents (production, modification, transfer of sequences, aerosolisation), non-vaccine production facilities, and national legislation and regulations — whilst the Chinese paper proposed declaration formats for Appendices A to D (biological defence programmes, biological defence facilities, past offensive/defensive programmes and other triggered facilities) and the South African paper (WP.292) proposed a detailed format for declarations by non biological defence facilities. The latest draft of the Protocol in *Article III Compliance Measures D. Declarations* has incorporated much more detail both on the triggers for declarations and on what should be declared. This elaboration has occurred particularly in respect of past offensive/defensive programmes, vaccine production facilities, maximum biological containment facilities, work with listed agents, non-vaccine production facilities and national legislation and regulations.

Investigations The March meeting had developed replacement language for paragraphs 1 to 19 of *Article III Compliance Measures F Visits and Investigations III Investigations*. The June/July meeting took forward the language of paragraphs 16 to 30 and reordered much of the remaining material of III Investigations.

A working paper by the US issued on the penultimate day of the AHG meeting addressed clarification visits proposing that such visits to declared sites would be initiated by the future Technical Secretariat and visits to undeclared facilities by the future Technical Secretariat or by a state party. The US proposes that clarification visits to undeclared facilities should be reviewed by the Executive Council under “a red light silence procedure”.

Annex D on Investigations As already mentioned, the Friend of the Chair on the Investigations Annex had provided a working paper which noted that the Ad Hoc Group had concluded three readings of the General Provisions part of this Annex and that were only a few issues which could be identified as fundamental: these included the characterization of the Technical Secretariat; Privileges and Immunities; Confidentiality; Access and Conduct of Investigations involving States other than the State Party to be investigated; National Authority; Approved inspection equipment and its accessibility; and how an investigation is to be initiated. The working paper proposes language changes to address those issues which could be resolved at this stage of the negotiations and thus moves forward this

section of the Protocol towards a clean text with square brackets around the more fundamental issues.

The language in *Section II [Field] Investigations [of Alleged Use of BW] (A) Investigation Request* was further developed and reordered and various elements in *(D) Conduct of Investigation* from “visual observation” onwards to the end of Section II have been developed with the removal of most of the previous square brackets. Similar progress towards a clean text has been made in the first two paragraphs of *Section III [Facility Investigations][Investigations of any other breach of obligations under the provisions of the Convention]*.

Definitions The language in Article II Definitions was taken forward by the addition of additional alternative definitions for high biological containment (Biosafety level 3), diagnostic facility, facility, genetic modification, and site). Two introductory paragraphs were introduced onto the previously blank pages dealing with *A. Lists and Criteria (Agents and Toxins)* and *B. List of Equipment in Article III Compliance Measures*.

Likewise in *Annex A Declarations I. Definitions*, the same additional alternative definitions that were added to Article II have also been added to this section. In section II *Lists and Criteria (Agents and Toxins)* of Annex A, the chapeau paragraph preceding the lists of human, animal and plant pathogens has been modified to read:

The following list of human pathogens and toxins was discussed by the Group and recognized to be relevant for developing a list or lists of bacteriological (biological) agents and toxins [for specific measures in particular][for initiating or triggering declarations and to supply information in declaration formats]to strengthen the Convention.

The animal and plant chapeaux have closely similar wording although both include the word “future” in front of “list or lists”. The lists of human, animal and plant pathogens were all developed with the addition of new agents and the removal of some square brackets; thus, for example, the list of human pathogens now includes [Sin Nombre virus], [Hantaan virus] and monkeypox virus, *Brucella abortus*, *melitensis* and *suis* are listed instead of *Brucella* spp. and the list of toxins has been reordered and seven new toxins added.

Section III Lists of Equipment of Annex A had the detailed language added from a UK/EU working paper proposing information on equipment to be provided in declaration formats and relating to 18 types of equipment ranging from aerosol chambers through to cabinets/chambers designed, intended or used for rearing insects; this language now appears within square brackets throughout Section III.

BWC Article X Measures A little progress was made in respect of the language for Article VII of the Protocol with the removal of some square brackets, notably from those previously surrounding the whole of *Section E Cooperative Relationships with Other International Organizations*, the cleaning up of some subparagraphs and the insertion of some new language and some new square brackets. A point of contention related to whether the benefits of these measures to implement Article X of the Con-

vention should be available only to the states parties to the Protocol or to all states parties to the Convention; the general view is that only states parties to the Protocol could benefit from the Protocol. The progress did not yet appear to reflect the political recognition given to the importance of identifying specific measures for Article VII of the Protocol. A working paper by the Friend of the Chair sets out some proposals for moving the language of Article VII forward.

Confidentiality A few changes were made to the language in Article IV. *Annex E Confidentiality Provisions* saw a development of the language and the removal of square brackets in Sections I General principles, II Conditions of staff employment, IV Procedures in case of breaches and V Procedures to protect confidential information.

National Implementation & Assistance The language for both *Article X National Implementation Measures* and for *Article VI Assistance and Protection against Biological and Toxin Weapons* progressed with the removal of several square brackets. None of the paragraphs in Article X are within square brackets and in Article VI the number of paragraphs within square brackets reduced from 7 to 3. The outstanding point of substance in Article X that remains within square brackets is that relating to the requirement for the enactment of penal legislation.

Organization/Implementational Aspects The language in *Article IX The Organization and Implementational Arrangements* was further developed with the removal of some square brackets as well as the reordering of some of the text. Language has been introduced for a new option for the composition of the Executive/Consultative Council which is based on:

States Parties from [Africa, Asia, Eastern Europe, Latin America and Western European and Other States] to be designated by States Parties located in this region. As a basis for designation from ... it is understood that, out of these ... States Parties, ... members shall, as a rule, be the States Parties with the most significant national pharmaceutical and biotechnology in the region as determined by internationally reported and published data; in addition, the regional group shall agree also to take into account other regional factors in designating these ... members.

Prospects

The June/July meeting also saw the agreement of the programme of work for the four week twelfth session to be held on 14 September to 9 October. This made the following allocation of the 40 meetings to the various topics:

Compliance measures	9.5
Legal issues	1
Definitions	7.5
Organization	1
Investigations annex	10
National implementation	1
Article X	6
Ad Hoc Group	2.5
Confidentiality	1.5
<i>Total</i>	<i>40</i>

During the period under review, there have been further meetings at which the importance of the strengthening of the BWC has been emphasised. A conference entitled “Peaceful Uses of Biotechnology and the Convention on Biological Weapons” was held in Trieste on 26–27 June 1998 by the International Centre for Genetic Engineering and Biotechnology (ICGEB) and the Landau Network–Centro Volta (LCNV) with the support of the Italian Ministry of Foreign Affairs. The Conference involved over 70 participants from 25 countries and addressed a wide range of issues relating to the BWC with particular emphasis on the implementation of Article X of the Convention. It became clear that measures can indeed be identified which will both implement Article X and contribute to increasing transparency and building confidence in compliance with the BWC. Such measures could assist states parties in their national implementation of the Protocol, in strengthening national elements of the WHO, FAO and OIE disease surveillance networks and in establishing national health and safety and medicinal product regulatory systems. It was also recognized that in order to achieve universality, States need to perceive that they will receive particular benefits over a long period of time through acceding to the Protocol (and the Convention). A short document of conclusions and recommendations from the Conference was subsequently circulated to the AHG [see pages 4–5, above].

A rather different Conference which addressed broader philosophical and ethical issues rather than issues directly related to the Protocol organised by United Nations Institute for Disarmament Research (UNIDIR) was held in Geneva from 5 to 8 July. This brought together some 39 individuals from some 12 countries to consider a wide range of topics which fell within the title of “Biological Warfare and Disarmament: Problems, Perspectives and Possible Solutions”. A benefit came from bringing together those with disparate views and widely different knowledge of the biological weapons arms control scene — on the one side those concerned with the realities of strengthening the BWC through a legally binding Protocol in the current window of opportunity, and on the other those whose concern was much more philosophical. The significant level of participation from India, Iran and Pakistan provided the greatest benefit of the Conference as it enabled the perceptions and concerns of both the South and the North to be better appreciated and understood. It was heartening in the two sessions related to the strengthening of the BWC through a Protocol to find both South and North advocating an integrated regime based on declarations, on-sites visits, investigations, information sharing, notification of transfers, cooperation and enactment of strong domestic laws to implement the BWC and its Protocol.

The continuing attention being given to the strengthening of the BWC in international meetings is welcomed as it extends the debate about how best to achieve an effective Protocol and underpins the increased political attention being given to achieving this.

This review was written by Graham S. Pearson, HSP Advisory Board

What follows is taken from the Harvard Sussex Program CBW Events Database which provides a fuller chronology and identification of sources, all of which are held in hard copy in the Sussex Harvard Information Bank. The intervals covered in successive Bulletins have a one-month overlap to accommodate late-received information. For access to the Database, apply to its compiler, Julian Perry Robinson.

1 May In Tokyo, the Inter-Ministry Coordination Conference on Chemical Weapon Disposal convenes for its first meeting. It is the high-level government task force set up last year [see 26 Aug 97] to resolve the problem of the chemical weapons abandoned in China by the Imperial Japanese Army. It agrees that its experts should now study the private-sector proposals on chemdemil technology thus far submitted and produce an interim report in September, aiming for decision by Spring 1999. {Kyodo from Tokyo 24 Apr, Jiji Tokyo 1 May} Seven consortia of Japanese and foreign firms have made proposals {Kyodo from Tokyo 19 Apr}.

1 May In Russia, the 1979 outbreak of anthrax in Sverdlovsk (Yekaterinburg) continues [see 18 Mar] to be the subject of reporting in the news media. *Komsomolskaya Pravda* {30 Apr in FBIS-SOV 8 Jun} has yesterday reported interviews with the former chief physician at Hospital 24, Dr Margarita Ilyenko; with an unidentified former senior technician at the scientific research institute in Military Compound 19; with the former head of the 6th Section of the Urals Military District, General Mironyuk [see 23 Nov 91]; with family members of anthrax victims; with the former head (though not at the time of the epidemic) of the ecological department of the Sverdlovsk city administration, Sergey Volkov [see 18 Feb]; and with the president of the Union for Chemical Safety, Lev Fedorov [see 18 Feb]. The Sverdlovsk-19 technician relates how a neighbour of his, Lt Khalyavko, had told him, shortly before being "killed under mysterious circumstances", how he had been responsible for the epidemic: "At night his group had been conducting a test, there was an emission into the atmosphere, the filters did not work". Volkov has given an account of the epidemic in a book he has written called *Yekaterinburg: Man and City*, in which he says: "I am certain that there was no accidental emission and there was no accidental leak. There was an explosion of a cassette munition, which a very small circle of people knows about. And there is direct proof of this. The territory of Military Compound 19 was not in the affected zone, although the living quarters were in the wind rose from the laboratory ventilation systems. That is, the explosion occurred in the tunnel which connects military camps 19 and 32, part of the underground space which was used to load cassettes and for transport." [Note: but six fatal cases in Compound 19 are listed in *Science* 266: 1202–8, 1994.]

Some of these same people have evidently also been interviewed for an article on the epidemic in the April issue of *Sovershenno Sekretno*. Others have been interviewed, too, including the former head of the personnel division at Sverdlovsk-19 from early 1978 onwards, Lt-Col Yevgeniy Tulykin [see 18 Feb]: "We began to guess that something terrible was going on only after the sudden death of a member of the material technical support division of Sverdlovsk-19, Nikolayev, exactly in the beginning of April [1979]. This division was headed by Colonel Tikhonravov. It was from him personally that I found out that his subordinate had died. Nikolayev had a short stay in the hospital located right on the territory of Sverdlovsk-19 (a 75-bed ca-

capacity). He was buried in a closed coffin using special disinfectants. We had no information about what was going on beyond the fence of Sverdlovsk-19. ... Immediately after the death of Nikolayev, a large commission came from Moscow ... under the leadership of the head of the USSR Ministry of Defense's 15th Administration, Colonel-General Yefim Ivanovich Smirnov. ... At this time another employee of the material technical division of Sverdlovsk-19 also fell ill, Gryaznova, but they managed to save her." The article states that more than the official figure of 64 residents of Sverdlovsk died during the epidemic, but it also states that there was only one death inside Compound 19, that of Nikolayev, adding: "According to our information, Nikolayev loved dogs. In his warehouse he fed a whole pack of mongrels. Through the fur of his pets he caught the lethal strain [see also 27 May 92]. The dogs were later shot by guards. Every one." The article offers a new explanation of the anthrax emission: "According to our data, the leak of anthrax occurred on the morning of 3 April 1979, during adjustment of new equipment in the drying shop. The cause was worker errors in assembly. An accident occurred and the infection passed into the atmosphere through cracks in the ventilation system. In the process of investigation three openings were discovered through which biological weapons entered the city." At least two types of filled BW munition, both of them described in the article, are said to have been produced at Sverdlovsk-19, for shipment to one of two special sites in the USSR, one at Usolye-Sibirskoye in Irkutsk Oblast near Lake Baikal, the other near Makhachkala.

The *Sovershenno Sekretno* article sets its account of the anthrax outbreak within a larger account of the Soviet BW programme, back to its origins: "Komsomolsk and Vozrozhdeniye Islands in the Aral Sea have been the cradle of Soviet bacteriological weapons since the 1930s. The secret developments of the Japanese in the area of bacteriological weapons which fell into the hands of intelligence after the defeat of Japan in the Second World War were a good gift to the Soviet military." Sverdlovsk-19 had been established in 1949. In the early 1970s, the party leadership is said to have been ready to close down the programme because of the ready availability of cheap nuclear weapons, but the military resisted this and, the article says, a new goal was set for the programme: "to create disease agents which would breach human immunity and the action of existing vaccines and antibiotics ... [but which] were not to harm the soldiers of the victor's army". The article continues: "In 1972, the Central Committee of the Communist Party of the Soviet Union and the government issued a secret resolution on the creation of an advanced military technology which would, in turn, require the solution of a number of fundamental scientific problems. Immediately, the closed Interdepartmental Scientific and Technical Council on Molecular Biology and Genetics was formed. Among the council's functions were the development of scientific programs, the distribution of gigantic monetary resources and, the key thing, coordination functions, because the solution of the 'fifth problem' would involve not only the Ministry of Defense of the USSR and the military industrial complex, but also the Academy of Sciences, the Ministry of Public Health,

and even the Ministry of Agriculture. The organization was called Post Office Box A-1063 [see 15 Oct 97] ... or 'the Ogarkov farm' [see 19 Sep 92] for the name of the general who headed the post office box for many years. On the USSR Ministry of Defense side, the 15th Administration [see 3 Mar] ... headed by a bosom buddy of Brezhnev, Yefim Smirnov, was tasked with tracking the military biologists' successes and failures." The article goes on to relate further particulars of the programme as it developed, including the use in Afghanistan of antimateriel BW weapons. The article does not always indicate its sources of information, still less their reliability, but one source is evidently the memoirs which a senior scientific figure in the programme, Academician Domaradskiy [see 15 Oct 97], published in an edition of 100 copies in 1995.

Meditsinskaya Gazeta {24 Jun in FBIS-TAC 1 Sep} later publishes a lengthy article about the anthrax outbreak. In it, Academician P N Burgasov [see 10 Jun 92] is quoted describing, among other things, the investigations he had performed in Sverdlovsk at the time on instructions from Public Health Minister B Petrovskiy, and also his reasons for continuing to believe that consumption of infected meat had been responsible for the outbreak.

1 May Alleged Bosnian Serb use of chemical weapons in July 1995 at Srebrenica had been the subject of a field investigation by Human Rights Watch in 1996 [see 31 Mar] which is now reported in detail in *Medicine, Conflict and Survival*. Dr Alastair Hay, Reader in Chemical Pathology at the University of Leeds, England, and the principal investigator, reports on what was one of several hundred alleged occurrences of chemical warfare during the Bosnian War. During July/August 1996, he and HRW staff had conducted interviews in Bosnia with 35 survivors, including 3 doctors, from which interviews he relates an account of what happened to a column of some 15,000 people who had assembled in the village of Jaglici, 15 km from Srebrenica, and had from there begun, at midnight on 11/12 July 1995, to march into the mountains, seeking to break through Serb encirclement, but in fact, over the coming days, encountering ambush and recurrent artillery bombardment, from which it is now estimated that no more than one-third escaped capture or death. That the bombardment included artillery shell disseminating a disabling chemical such as agent BZ had been suggested by the hallucinations experienced by many survivors, by the unusual appearance of some of the shell-bursts, and by the gas-masks which, according to one witness, a group of encountered Bosnian Serb forces were wearing. Dr Hay then compares and contrasts this evidence, considering especially the physical condition and psychological state of the marchers, with what is known about agent BZ and about stress as a cause of hallucination. He concludes: "Thorough investigation of the scientific and medical literature published to date contains a good deal of information to support a suggestion that causes other than the use of a chemical warfare agent, such as BZ, led to most of the aberrant behaviour, and the occurrence of visions, seen among those on the journey". He also writes: "A chemical agent cannot be ruled out as one of the causes of hallucinations which individuals suffered, but it is also highly likely that many of the psychotic episodes could be attributed to the stress affecting the marchers". And he says: "Other avenues of investigation may help. BZ might be found in soil samples, or in clothing or footwear from those who perished in the area. The existence of transcripts of messages relayed between Serbian forces and available to intelligence agencies might be investigated. At present, however, more evidence will be required before it can be shown that chemical agents were part of the arsenal used against those who endured such appalling conditions."

1 May President Clinton signs into law the 1998 Supplemental Appropriations and Rescissions Act. This includes provision for the funding of a US broadcast service to Iraq, support for the democratic opposition in Iraq, and the compiling of information to support the indictment of Iraqi officials for war crimes.

1 May The US Army re-awards its contract for the Pine Bluff Chemical Agent Disposal Facility to Raytheon Demilitarization Company of Philadelphia. The original award [see 25 Jul 97] of the \$512 million contract had been protested by Chemical Demilitarization Associates of Wellesley, Massachusetts, which is a joint venture of EG&G Inc and Morrison Knudsen, whereupon the award was reviewed by the US General Accounting Office, which sustained the protest. The contract is for construction, installation of equipment, systematization, operation, and then closure of the facility. Construction will not begin until the Arkansas Department of Pollution Control and Ecology has issued the requisite environmental permits, which the Army anticipates happening later in the year. {PMCD release 1 May}

6 May In Tel Aviv, District Court judges approve publication of testimony given by Nahum Manbar, who is awaiting the verdict after a trial in which he has been accused of selling chemical-weapons-related materials to Iran [see 5 May 97]. The released transcript indicates that the defendant admitted that he had undertaken "to supply the Iranians know-how and equipment for the establishment of chemical plants in Iran" but that he claimed not to know "the nature of the material and the equipment to be sold to the Iranians ... and that they could be used for military purposes". Moreover, although he had signed the undertaking, he "claimed that it had been a fiction and that he had had no intention of implementing these commitments ... [H]is actions and ties with the Iranians were carried out with the knowledge of the authorities in Israel and with their permission, and that he did not hide anything from anyone." {Tel Aviv *Ma'ariv* 7 May in FBIS-TAC 7 May}

6 May US Defense Secretary William Cohen transmits to the Congress the report it had called for reviewing and assessing the Cuban threat to US national security [see 31 Mar]. The report has been prepared by the Defense Intelligence Agency in coördination with the Central Intelligence Agency, the State Department Bureau of Intelligence and Research, the National Security Agency and the US Southern Command Joint Intelligence Center. On CBW capabilities, its unclassified version says only: "Cuba's current scientific facilities and expertise could support an offensive BW program in at least the research and development stage. Cuba's biotechnology industry is one of the most advanced in emerging countries and would be capable of producing BW agents." The report concludes: "At present, Cuba does not pose a significant threat to the US or to other countries in the region. Cuba has little motivation to engage in military activity beyond defense of its territory and political system. Nonetheless, Cuba has a limited capability to engage in some military and intelligence activities which would be detrimental to US interests and which could pose a danger to US citizens under some circumstances." {DoD release 6 May}

7 May In Bonn, OPCW Deputy Director-General John Gee speaks at the Friedrich-Ebert-Stiftung about the experience of the first year's implementation of the CWC. The distributed text of his remarks provides an account of OPCW work which adds greatly to the information publicly available [see 20 Mar and 29 Apr]. An amended text is subsequently distributed which modifies some of the quantitative information presented so as to reflect certain reassessments as of 20 May.

7 May In Washington, *Deterring Chemical and Biological Weapons* is the subject of a Proliferation Roundtable convened by the Carnegie Endowment for International Peace. The principal speakers are Michael Moodie, President of CBACI, and Elisa Harris, US National Security Council Director for Non-Proliferation and Export Controls. Moodie presents a framework for analysis of the topic in which nuclear weapons are considered. Harris speaks about the nature of CBW proliferation. She disagrees with the view that this threat has grown worse since the end of the cold war, observing: "In fact if you look at the CBW proliferators club, most of these programs date back to the 1970s, 1980s, some of them even go back to the 1960s. In fact it's hard for me to think of a single CBW program that has emerged since the end of the cold war and I can think of several that have been terminated." Speaking of nonmilitary anti-proliferation measures, she says: "One of the revelations to me since moving into the position I have at the present time is how effective CBW sanctions have been in our interactions with other countries. The existence of a law in the United States which requires us to impose penalties on those that use or help proliferators acquire chemical and biological weapons has given us very important leverage and has enabled us to convince other countries to tighten their export controls and in some cases withdraw their assistance to former CBW programs." {Transcript as at www.ceip.org/programs/npp/nppcbw1.htm}

7 May The US Institute of Medicine committee on Gulf War illnesses [see 14 Jan], funded by the Defense and Veterans Affairs Departments and now co-chaired by Dr Dan Blazer and Dr Isabel Hoverman, conducts a workshop in Washington DC on the problem of identifying and measuring changes in health status of Gulf War veterans. The speakers cover a range of topics, including veterans' health problems as disclosed by the Defense Department's Comprehensive Clinical Evaluation Program findings from the completed population-based studies, some of the on-going British research into Gulf War illnesses, and an overview of the relevant health-measurement databases now available. An interim report in the workshop will be released in August. {GulfLink 23 Jul}

8–9 May In London, the foreign ministers of the G-8 countries meet in pre-Summit session. In their final communiqué, they say: "we are committed to action in the following areas: — the intensification and successful conclusion of the negotiations on measures, including for effective deterrence and verification, to strengthen the Biological and Toxin Weapons Convention with the aim of the earliest possible adoption of a legally-binding Protocol". {USIA website}

9 May In Stockholm, the Swedish Pugwash Group hosts an international expert meeting on *The Implementation of Articles X and XI of the Chemical Weapons Convention and Articles VII and X of the Biological and Toxin Weapons Convention*. Organized in collaboration with the Pugwash Study Group on Implementation of the CBW Conventions, it brings together 27 experts from Belgium, Brazil, Burkina Faso, Cuba, the Czech Republic, Denmark, Germany, Hungary, the Netherlands, Slovakia, Sweden, Russia, Ukraine, the United Kingdom, the United States and Zimbabwe.

10–15 May In Stockholm there is the *6th International Symposium on Protection against Chemical and Biological Warfare Agents*, arranged jointly by the Swedish National Defence Research Establishment, other Swedish military and civil defence agencies, and the OPCW. The basic purpose is stated to be "to create an interdisciplinary forum for the mutual exchange of information regarding protection against chemical and biological

warfare agents". There are at least 600 participants from 46 countries, as well as over 70 corporate exhibitors of CBW protective equipments or services. On 11 May, the King of Sweden opens the formal proceedings, his Foreign Minister, Mrs Lena Hjelm-Wallén, then giving the keynote address. There are 99 podium presentations and also poster and video presentations. For the most part, these are purely technical in content. As with the two previous symposia in the series, presentations of a more political character are given during a "pre-meeting" on the first day. This time they comprise presentations on the work of the BWC Ad Hoc Group, of the SIPRI CBW project, of the OPCW, and of UNSCOM.

11–13 May India resumes nuclear testing.

12 May The Russian Federal Currency and Export Control Service issues a procedural guide on how the intra-organizational export control system recently established by Federal Government directive for anti-WMD-proliferation purposes [see 22 Jan] is to be implemented. The system incorporates a catch-all control, and attachments to the guide tell exporters how to verify end-use, listing 22 different abuse risk-indicators. {*Rossiyskaya Gazeta* 15 May in FBIS-SOV 19 May}

12 May In New Mexico, at White Sands missile range, there is another anti-missile test-failure of the Theater High Altitude Area Defense (THAAD) system which the US Ballistic Missile Defense Organization has been developing since 1992, at a cost thus far of \$3.2 billion. All five target-intercept tests to date have failed. BMDO subsequently issues a statement of dissatisfaction to the prime contractor, Lockheed Martin. {UPI from Washington 9 Jul, *Defense News* 13 Jul, *Jane's Defense Weekly* 15 Jul}

12–13 May In California, the Monterey Institute of International Studies Center for Nonproliferation Studies and the Lawrence Livermore National Laboratories Center for Global Security Research co-host the third in their series of workshops on issues arising from the work of the BWC Ad Hoc Group. This one brings together from France, Japan, South Africa, the UK and the USA some 40 microbiologists, epidemiologists, negotiators, people from the pharmaceutical industries and others. Investigating unusual outbreaks of disease is the subject. {MIIS/CNS website 23 Jun}

13 May In Brussels, a seminar on the Biological Weapons Convention is hosted by the EU Presidency for European industry, with observers from Japan and Switzerland. There are presentations on key elements of the projected BWC Protocol by EU member-states: Austria and the UK on declarations, the Netherlands and Sweden on visits, and France and Germany on investigations. Implications for industry are addressed in each case. It is evident from the presentations that the numbers of declarable facilities within an individual EU country would, on current thinking, be in the tens rather than the hundreds; that such declarations would not involve commercially sensitive information; and that, worldwide, the total annual number of visits would be in the 50–100 range, distributed equitably over the five or six geographical groups. {CBWCB Jun}

13 May In The Hague, the OPCW Executive Council enters its second year of operation with a new chairman, Krzysztof Paturej of Poland, elected during its last session [see 21–24 Apr]. Its membership is now as follows:
Africa: Algeria, Cameroon, Côte d'Ivoire, Ethiopia, Kenya, Morocco, South Africa, Tunisia and Zimbabwe;
Asia: China, India, Iran, Japan, Pakistan, Philippines, Saudi

Arabia, Sri Lanka and South Korea;
Eastern Europe: Czech Republic, Hungary, Poland, Russia and Slovakia;
Latin America and Caribbean: Argentina, Brazil, Chile, Cuba, Ecuador, Mexico, Peru and Venezuela; and
Western Europe and Others: Australia, Belgium, Finland, France, Germany, Italy, Spain, Switzerland, UK and USA.

14 May Benin deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, it will thereby become the 109th state party to the treaty.

14 May The UN Security Council issues a statement welcoming the improved access provided by Iraq to UNSCOM and IAEA inspectors since the Iraq–UN Memorandum of Understanding [see 20–23 Feb] and noting “that the investigations by the IAEA over the past several years have yielded a technically coherent picture of Iraq’s clandestine nuclear programme”. The statement then announces the Council’s agreement that the IAEA work in Iraq should in future focus on implementation of the nuclear Ongoing Monitoring and Verification system established in accordance with resolution 715 (1991), subject to satisfactory Iraqi responses to outstanding IAEA questions and concerns. {S/PRST/1998/11} Meeting with the UN Secretary-General two days previously, Iraqi Deputy Prime Minister Tariq Aziz had stated that his government remained committed to unimpeded access for weapons inspectors. The Secretary-General had responded with a statement that “he would live up to his part of the [Memorandum of Understanding] so that Iraq might see light at the end of the tunnel concerning the sanctions regime”. {UN Daily Highlights 12 May}

15 May On Russian television, film is screened that had been shot at the Yekaterinburg BW defence centre [see 1 May] on what is said to have been the first occasion an outside camera crew had ever been admitted. The report says that the centre, dating back to 1949, is currently working on more effective vaccines against such diseases as plague and anthrax. {Moscow Centre TV in BBC-SWB 18 May}

15 May In Birmingham, England, there is a Russia–EU summit meeting between President Yeltsin, the President of the European Commission, Jacques Santer, and, for the current EU Presidency, UK Prime Minister Tony Blair. Their final communiqué reaffirms that they are set to agree on measures to strengthen the BWC in the very near future. {ITAR-TASS from Birmingham 15 May in BBC-SWB 18 May}

15–17 May In Noordwijk, the Netherlands, the Pugwash Study Group on Implementation of the CBW Conventions holds its ninth workshop [see 20–21 Sep 97], on *CWC Implementation: Balancing Transparency and Confidentiality*. Participating are 45 people from 20 countries.

18 May In Japan, 60 former workers at the chemical-weapons factory of the former Imperial Japanese Navy call upon the government to cover the medical expenses for treatment of the respiratory disorders which they attribute to past poison-gas exposure. The factory had been founded in 1943 at Samukawa in Kanagawa Prefecture, and had some 3000 workers making mustard gas and other CW agents. Former workers at the Imperial Japanese Army chemical-weapons factory at Okunoshima Island [see 23 May 95 and 31 Aug 96] are already receiving public financial support, as are former workers at a third CW facility, in Fukuoka Prefecture at Kitakyushu [see 5 Dec 94]. {Kyodo from Hiroshima 18 May}

18 May In Iraq a new UNSCOM mission of 27 people arrives for what is expected to be a four-week stay seeking to recover remnants of missile warheads reported by Iraqi authorities to have been destroyed several years previously at Nibai, 30 km north of Baghdad. Two weeks later, a UN statement says that the mission had been requested by Iraq during one of the Technical Evaluation Meetings in Baghdad [see 1–6 Feb], and that a US laboratory in Maryland would be analysing some 40 samples of missile warhead parts “to determine their past agent fill”. {INA from Baghdad 28 May in BBC-SWB 30 May, AFP from Baghdad 2 Jun} Subsequent press reporting records Iraqi authorities as having “fought the removal” of the samples {*New York Times* 10 Jul}.

18 May In The Hague, representatives of some 20 CWC states parties including Russia, EU member states, and the US participate in an informational working meeting on the provision of chemdemil assistance to Russia. Colonel General Stanislav Petrov, Chief of the Russian Defence Ministry RKhB Protection Troops, presents a detailed report entitled *The Status of the Implementation of the Russian Program of Chemical Weapons Stockpile Destruction and Avenues of Possible International Cooperation*. This notes that “the use of free aid/grants and technical assistance from foreign governments” will be “critical” if Russia is to meet the stockpile-destruction deadlines of the Chemical Weapons Convention [see also 25 Mar Brussels]. The report itemizes, with US-dollar cost estimates, the different components of each of the construction programmes at each of the seven stockpile-chemdemil locations. This itemization of an estimated \$3.64 billion total includes work on the design of chemdemil plant and also infrastructure components, to both of which, but especially the latter, the report invites the particular attention of potential aid-givers.

The report expresses gratitude to the United States, Germany, the Netherlands, Sweden and Finland for the chemdemil assistance they have already provided, or said they intend to provide. It notes that German companies, which have thus far supplied equipment totalling DM 16 million, have already agreed to further cooperation for 1998, envisaging the delivery of another DM 9.5 million of equipment. The report also states: “The first steps have been made in the organization of cooperation in this area with Italy and Great Britain. This cooperation has good prospects.” Italian assistance had been on the agenda for the visit of President Yeltsin to Italy back in February {Interfax from Moscow 7 Feb in BBC-SWB 9 Feb}, and General Petrov had headed a delegation to the UK that same month [see 25–27 Feb]. Meanwhile, at the EU level, TACIS contract information has been released on two Russian chemdemil/CW-conversion projects, totalling ECU 5 million {EU website 15 May}, indicating the impending launch by the European Commission of invitations to tender.

OPCW Director-General José Bustani, addressing the meeting, says: “It is heartening to see that the hand of cooperation is being extended to a country which has shown its willingness to comply with its obligations under the Convention but needs assistance to do so” {AFP from The Hague 18 May}.

18 May In Birmingham, England, there is a US–EU summit meeting between President Clinton, the President of the European Commission, Jacques Santer, and for the current EU Presidency, UK Prime Minister Tony Blair. Among the joint statements that are subsequently issued is one on counter-terrorism, which includes the comment that, “During the UK Presidency, the EU and US have shared their thinking and compared best practice in the areas of CB terrorism, terrorist arms trafficking, and bomb scene management”. {USIA website} Another such statement, on *Common Orientation of Non-Prolifer-*

ation Policy, says: "They are also working toward agreement on an effective Protocol on verification for the Biological and Toxin Weapons Convention" {EU website 26 May}.

19 May In India, the Cabinet approves the submission to Parliament of a bill on domestic implementation of the CWC {All-India Doordarshan Television in BBC-SWB 21 May}.

19 May Gambia deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, it will thereby become the 110th state party to the treaty.

19 May The US Defense Department announces that Dr Jay Davis, a nuclear physicist at Lawrence Livermore National Laboratory, is to head the new Defense Threat Reduction Agency [see 16 Mar], which is formally to be established on 1 October {DoD release 19 May}. Consolidating the On-Site Inspection Agency, the Defense Special Weapons Agency, the Defense Technology Security Administration, and several staff elements of the Office of the Assistant to the Secretary of Defense (Nuclear, Chemical and Biological Defense Programs) including the deputy for Cooperative Threat Reduction and the deputy for Counterproliferation, the DTRA will have an annual budget of around \$1.6 billion, employing some 2000 people, half of them military, half of them civilian {*On-Site Insights* May}.

19–20 May In Colombia, at Cartagena des Indias, there is a ministerial meeting of the coordinating bureau of the Non-Aligned Movement. Its final communiqué includes the following: "The Ministers noted the progress achieved so far negotiating a Protocol to strengthen the Biological and Toxin Weapons Convention and reaffirmed the decision of the Fourth Review Conference urging the conclusion of the negotiations by the Ad Hoc Group as soon as possible before the commencement of the Fifth Review Conference and for it to submit its report, which shall be adopted by consensus, to the States Parties to be considered at a Special Conference". The communiqué also reiterates [see 9–13 Mar] the importance of progress on implementation of BWC Art X for conclusion of the Protocol negotiation: "Substantive progress in strengthening the application and full operationalisation of Article X is thus crucial for the conclusion of a universally acceptable and legally binding instrument designed to strengthen the Convention." {NAM South African website}

20 May In The Hague, Queen Beatrix of The Netherlands inaugurates the new OPCW headquarters building.

20 May In the US Congress, the Joint Economic Committee holds a hearing on *Terrorist and Intelligence Operations: Potential Impact on the US Economy*. Testifying are two former US intelligence officers and two defectors from the Soviet Union. One of the latter is Dr Kenneth Alibek [see 25 Feb]. His prepared statement opens thus: "I am in a rather unique position to discuss these issues [biological weapons and biological terrorism], since I developed biological weapons for the Soviet Union for nearly twenty years, until my defection in 1992. When I left the Russian biological warfare program, I had been serving for four years as First Deputy Director of Biopreparat. Biopreparat [see 1 May], the civilian arm of the biological weapons program, comprised over half of the entire program's personnel and facilities. At that time, I was responsible for approximately 32,000 employees and 40 facilities. Since arriving in the United States, my personal and professional goal has been to make the greatest contribution I can to eliminating the danger of biological weapons." The statement goes on to present an account of BW-weapons technology illustrated from the Soviet experi-

ence. It outlines the Soviet BW-weapons programme back to its inception in the late 1920s, noting the capabilities that existed at the start of World War II. It suggests that an outbreak of tularemia among German troops in southern Russia in 1942 "was very likely the result of the USSR's use of biological weapons" and makes a similar suggestion regarding an outbreak of Q fever among German troops in the Crimea in 1943. It states that captured information about the Japanese BW programme boosted the postwar Soviet programme.

The prepared statement then describes the doctrine established after the war for biological-weapons production and use in the following terms: "In the Soviets' definition, 'strategic' weapons were those to be used on the deepest targets, i.e. the US and other distant countries; 'operational' weapons were those intended for use on medium-range targets, nearer than the strategic targets but well behind the battlefield; and 'tactical' weapons were those to be used at the battlefield. Biological weapons were excluded from use as 'tactical' weapons, and were divided into 'strategic' and 'operational' types. 'Strategic' biological agents were mostly lethal, such as smallpox, anthrax and plague; 'operational' agents were mostly incapacitating, such as tularemia, glanders, and Venezuelan equine encephalomyelitis. For both types of weapons, use was envisaged on a massive scale, to cause extensive disruption of vital civilian and military activity. The Soviets also established so-called mobilization capacities: facilities whose peacetime work was not biological weapons production, but which could rapidly begin weapons production if war was imminent. ... After the Soviet Union became a party to the 1972 Biological and Toxin Weapons Convention, internal debate ensued about the fate of the existing biological weapons program. The end result was that the program was not dismantled, but further intensified. During the period 1972–1992, the focus of the program was expanded. In addition to continuing previous types of work ..., new emphasis was placed on:

- conducting molecular biology and genetic engineering research in order to develop antibiotic-resistant and immunosuppressive strains and to create genetically combined strains of two or more viruses;
- studying peptides with psychogenic or neurogenic effects as possible weapons;
- transforming non-pathogenic microorganisms and commensals into pathogenic microorganisms;
- testing all of the facilities considered part of the 'mobilization capacity' to verify their readiness.

During this period, the Soviet programme not only caught up with the US program (which was halted in 1969), behind which it had lagged by about five years, but it became the most sophisticated biological weapons program in the world by far."

Dr Alibek also states in his prepared remarks that, at the time of the 1979 anthrax outbreak in Sverdlovsk, the military facility there was "producing and stockpiling scores of tons of anthrax biological weapon formulation annually". And he says that he knows of "about twenty scientists who formerly worked for the Soviet biological weapons program and who now live in the US". Most of them are now working in private industry in such areas as pharmaceuticals, he says in a subsequent newspaper interview {*Columbus Dispatch* 11 Jul}.

During the subsequent colloquy, Dr Alibek is asked about possible Soviet involvement in a North Korean biological-weapons programme. He responds: "The Soviet Union's offensive biological program was the most secret program in the former Soviet Union, even more secret than the nuclear program. In those days it was impossible to sell or share any information regarding biological weapons with any country at all." {FDCH Political Transcripts 20 May}

Dr Alibek is currently among the nearly 500 people doing CBW-related work with Battelle, of whom about 50, including him, are based in Crystal City, Virginia. He is the first former Soviet scientist to be brought in. {*Columbus Dispatch* 11 Jul}

22 May In South Africa, Dumisa Ntsebeza, head of the investigative unit of the Truth and Reconciliation Commission, announces that the TRC will hold a special public hearing during 8–12 June into the CBW programme which had been run by South African Defence Forces between 1981 and 1994. The TRC, which is due to complete its inquiries into the country's apartheid past at the end of June, has already been inquiring into the CBW programme [see 14 Nov 97 and 7 Jan]. The witnesses are to include Dr Wouter Basson [see 27 Jan], Dr Neil Knobel [see 27 Feb 95, 21 Aug 96 and 27 Feb 97], Dr Wynand Swanepoel, former managing director of Roodeplaat Research Laboratories [see 15 May 96], Dr Brian Davey [see Jun 93, 12–14 Sep 94 and 7–12 Jul 96], Professor Hofmeyr, formerly head of the veterinary faculty of the University of Pretoria, and Dr Lothar Neethling, formerly head of forensics, South African Police. Names of some of the other people who may testify are being withheld until they have been offered witness protection. The matters to be explored are to include: the institutional arrangements that made the programme possible; the front companies that were established to support it; the individual human rights violations that resulted from the programme; the involvement of the SADF in experimentation on human beings and animals; the financial implications for the state; and the involvement of scientific and research institutions. {SAPA from Johannesburg 22 May, AFP from Johannesburg 26 May}

22 May In England, Dorset County Council announces that the UK Government has rejected its request for a public inquiry into possible health effects of the BW defence trials conducted in the region during 1960s and 1970s [see 23–25 Sep 97], but has proposed instead that the President of the Royal Society be invited to appoint an independent microbiologist “to review the trials reports and to make an assessment of any public health implications”. Armed Forces Minister John Reid, in his letter to Dorset Chief Executive Peter Harvey, has said further: “This would have the advantage of providing all those people who are still doubtful about the effect of the trials with objective advice from an expert who has no connection with either Porton Down or the Ministry of Defence. Such advice would, I hope, prove more useful than a long drawn out and, inevitably, confrontational public inquiry.” {Dorset County Council release 22 May} A number of people in the region who have been suffering long-term physical and mental disorders are asking about possible connections to the trials. {*London Express* 26 May and 6 Jul}

Meanwhile the Ministry is continuing to release further documents {*London Sunday Telegraph* 17 May}. These show trials on a scale larger than had previously been public knowledge: aerosols of non-pathogenic organisms simulating BW agents had been disseminated over an area of southern England stretching from the New Forest in the east to Torquay in the west, by means of a generator mounted on a naval auxiliary vessel, ETV Icewhale, as it steamed off the Hampshire and Dorset coast. Some 60 sampling stations had been used to track the aerosol clouds as they moved downwind, traversing a million or more people. Joint US–UK experiments over the Portland peninsula during 1966–71 used “inactivated” *Serratia marcescens* as the simulant, as well as *E coli* and *Bacillus globigii*.

The Ministry later announces the appointment of Professor Brian Spratt of the Centre for the Epidemiology of Infectious Disease at Oxford University to undertake the review of the south coast defence trials {MoD release 7 Aug}.

22 May President Clinton, speaking in Annapolis at the US Naval Academy commencement, announces three initiatives directed against terrorism. One, embodied in new Presidential Decision Directive PDD-62, establishes a counterterrorism authority within the National Security Council: the Office of the National Coordinator for Security, Infrastructure Protection and Counter-Terrorism, to which post Richard Clarke is appointed. The second, also embodied in a new directive, PDD-63, launches a comprehensive plan to defend the country's critical infrastructures. The third is directed against biological weapons. President Clinton says: “we will undertake a concerted effort to prevent the spread and use of biological weapons, and to protect our people in the event these terrible weapons are ever unleashed by a rogue state, a terrorist group or an international criminal organization. Conventional military force will continue to be crucial to curbing weapons of mass destruction. ... But we must pursue the fight against biological weapons on many fronts. We must strengthen the international Biological Weapons Convention with a strong system of inspections to detect and prevent cheating. This is a major priority. It was part of my State of the Union address earlier this year, and we are working with other nations and our industries to make it happen. Because our troops serve on the front line of freedom, we must take special care to protect them. So we have been working on vaccinating them against biological threats, and now we will inoculate all our Armed Forces, active duty and reserves, against deadly anthrax bacteria. Finally, we must do more to protect our civilian population from biological weapons. ... We will train and equip local authorities throughout the nation to deal with an emergency involving weapons of mass destruction, creating stockpiles of medicines and vaccines to protect our civilian population against the kind of biological agents our adversaries are most likely to obtain or develop. And we will pursue research and development to create the next generation of vaccines, medicines and diagnostic tools. The Human Genome Project will be very, very important in this regard.” {White House fact-sheet 22 May} The White House has been advised by a group of outside specialists that the five biological agents that present the most immediate menace are anthrax, smallpox, plague, tularemia and botulinum toxin {*Washington Post* 21 May}.

22 May US Defense Secretary William Cohen directs the military to proceed with implementation of the plan to immunize all active-duty personnel and selected reserves against anthrax [see 15 Dec 97]. The total-force vaccination of about 2.4 million people will begin this summer. {DoD release 22 May}

22 May The US Senate passes the Iran Missile Proliferation Sanctions Act of 1997, HR 2709, already passed by the House of Representatives. Attached to the bill is the Chemical Weapons Convention Implementation Act [see 12 Nov 97], now adopted despite criticism that certain of its provisions undercut the Convention itself, notably Section 237 which would grant the President discretionary authority to deny an inspection on national-security grounds {*London Guardian* 12 Feb, *Christian Science Monitor* 23 Feb, *New Scientist* 9 May, *Boston Globe* 21 May, Senator Biden in *Congressional Record* 22 May S5378–9}. US arms control specialists have been observing that provisions such as this one undo stipulations originally negotiated into the Convention by the United States in order to strengthen verification {Stimson Center issue brief 21 Apr, *New York Times* 23 May}. Particular dismay has been expressed, publicly, by the leadership of the OPCW Technical Secretariat that the new legislation does not seek to repeal Condition 18 of the Senate's resolution of ratification, whereby no chemical sample taken by the OPCW inspectorate may be removed from the country for analysis. Here, the OPCW leadership fears that a precedent is

being set which countries that wish to subvert the verification system will be quick to exploit. {*Chicago Tribune* 14 May, *New York Times* 23 May}

The regulations which the Department of Commerce has drafted in order to impose the CWC-implementing legislation upon industry, and which, like the legislation itself, have been endorsed in principle by the Chemical Manufacturers Association, are expected to be promulgated as soon as the legislation is enacted, thereby bringing the United States nearer to compliance with the treaty {*Chemical Market Reporter* 1 Jun}. OPCW Deputy Director-General John Gee, however, is later quoted as saying that “the language in the US legislation is incompatible with the language of the Convention” {*Chemical & Engineering News* 1 Jun}.

24 May The Iranian Defence Industry Organization last month took delivery from a Chinese corporation, the Tianjin branch of SinoChem, of 500 tons of phosphorus pentasulphide at a price of £1100 per ton, according to the London *Sunday Telegraph* [see also 4 Feb China]. The chemical is a dual-use precursor on the Australia Group control list which can be used for the production of a variety of different pesticides. It has also been used, in Iraq, to make VX nerve gas [see 19 Feb]. The Iranian Foreign Ministry categorically denies the report, spokesman Mahmoud Mohammadi describing it as Zionist propaganda {IRNA from Tehran 27 May in BBC-SWB 28 May}. The Iranian Defence Ministry says the newspaper article is based on false information provided by the Mojahedi-e Khalq Organization. It terms the production and deployment of chemical weapons “a treason to the human community”. {IRNA from Tehran 27 May in BBC-SWB 29 May}

25 May In Tokyo District Court, Ikuo Hayashi is sentenced to life imprisonment for his part in the spreading of sarin nerve-gas within the Tokyo subway system in March 1995 [see also 24 Feb Tokyo]. A 51-year-old heart surgeon, he is the first to be sentenced of the 15 central Aum Shinrikyo defendants. He had been one of the team of five that had actually released the nerve gas, by piercing newspaper-wrapped plastic bags of the substance with sharpened umbrellas. The court has accepted that cult founder Shoko Asahara, who is the subject of 17 separate prosecutions, had ordered the subway attack. {Reuter and UPI from Tokyo 26 May}

26 May In Belgium, the new chemdemil facility at Poelkapelle [see 23 Jan 89] in Flanders commences operations. The army starts to destroy the first of its accumulated stockpile of 21,000 old chemical weapons unearthed from World War I battlefields. It expects to proceed at a rate of 20 weapons per day. {AP from Poelkapelle 26 May}

26 May The *New York Times* publishes new details of failed attempts by Japanese Aum Shinrikyo cultists to attack targets in Japan with biological-warfare agents [see 22 Apr 95 and 6 Jun 95]. The report is based on court testimony during the trials of cult members accused of involvement in the nerve-gas attacks on the Tokyo subway system [see 25 May] and on interviews with Japanese and US officials. There appear to have been at least nine such failed attempts at bioterrorism, one of which was an unnoticed attack in April 1990 with botulinum toxin sprayed from moving trucks against the headquarters of the US Navy Seventh Fleet at Yokosuka. In another failed attack, during June 1993, a slurry of anthrax bacteria was sprayed from the roof of a building in Tokyo. The failures — variously attributed by Japanese authorities to selection of insufficiently aggressive bacterial strains and to technical inadequacies in the

agent-dissemination equipment — ultimately stimulated the cult's resort to nerve gas.

26–27 May In the Udmurt Republic of the Russian Federation, destruction of the chemical weapons held in the region is the subject of public hearings organized by Green Cross Russia and the Udmurt government administration. The proceedings begin in Kizner and end in Izhevsk. The hearings are the fourth in a series of chemdemil inquiries to be convened in Russia [see 8–10 Jul 97] in cooperation with Global Green USA and with what is now Green Cross Switzerland. Participating are several government agencies, both federal Russian (including the Defence Ministry and the President's Committee on CBW Convention Problems) and Udmurtian.

The federal government has recently started a collaboration with the governments of Italy and the United Kingdom to establish, in the words of Green Cross Russia, “guidelines for dismantling the chemical weapons industry in Kizner and creating a social safety net to deal with the results of the industry's loss”. The hearing is told by Italian participant Gerardo Crocchini that his government is planning some \$8 million in social-infrastructure assistance to Kizner, including the rebuilding of the regional hospital there.

Participants draft a series of recommendations. These propose that President Yeltsin consider the provision of federal aid to regions “where the elimination of the chemical weapons industry will adversely impact the population”. They also propose that the President should reconsider whether sufficient time has been allowed for destruction of chemical weapons, having regard to the country's preparedness for such a task. {Moscow *Izvestia* 30 May}

27 May Iraqi Foreign Minister Mohammad Saeed al-Shahaf, in a letter to UN Secretary-General Kofi Annan, states that depleted-uranium shells fired by British and US forces during the Gulf war had created “vast areas of fatal radioactive pollution” for which there must now be compensation, according to the Iraqi News Agency. The INA report continues: “A number of diseases, unfamiliar in the past, have been registered, such as foetal and bone deformities and other cases that cannot be explained, such as loss of hair and strange skin diseases. Individuals living in the bombarded areas suffer from such diseases, in addition to rising cases of child leukaemia.” {London *Guardian* 28 May} Iraqi government figures subsequently reported by the UN show a sixfold increase in cancer cases in some parts of southern, but not northern, Iraq {London *Guardian* 22 Jun, *International Herald Tribune* 6 Jul}.

28 May Israeli scientists [see also 3 Dec 96] report in *Nature* that, in mice, a single episode of acute stress can cause long-lasting changes in the metabolism of the neurotransmitter acetylcholine, this being a mechanism that might explain the depression, irritability and other symptoms associated with the so-called Gulf War Syndrome and Post-Traumatic-Stress Disorder. They observed a similar effect with the acetylcholinesterase inhibitors pyridostigmine [see 8 Jun 93] and DFP. The scientists have found that the stress, like the enzyme inhibition, can increase the quantity of the neurotransmitter present in synapses, and that this can then induce a long-lasting decrease in the amount of the neurotransmitter produced by the body and transported to synapses, a consequence of which, they propose, is the disruption of cognition manifest in those symptoms: “Our results suggest a model in which robust cholinergic stimulation triggers rapid induction of the gene encoding the transcription factor c-Fos. This protein then mediates selective regulatory effects on the long-lasting activities of genes involved in acetylcholine metabolism.” {*Nature* 393: 373-

5} A commentary published alongside the study notes its importance in providing “insights into how short-term experience becomes long-term neurochemistry, how a systemic phenomenon such as stress becomes a genomic event, and why stress disrupts cognition”. It continues: “Unfortunately these findings will probably only fuel (rather than resolve) the debate over the causes of Gulf War syndrome”. {*Nature* 28 May}

28 May In New York, a team of 11 Iraqi experts headed by General Amer al-Saadi meets with UNSCOM experts to discuss CBW issues. The meeting, which is chaired by the head of UNSCOM, Ambassador Richard Butler, had been requested by Iraq in order, according to an Iraqi diplomat, to get a clearer idea of UNSCOM’s demands. {AFP from the UN 28 May}

28–29 May In Vienna, the European Federation of Biotechnology Working Party on Safety in Biotechnology convenes a conference on *A Strengthened Biological and Toxin Weapons Convention: Potential Implications for Biotechnology* at the Agricultural Sciences University Institute for Applied Microbiology, with support from the Federal Ministries of Foreign and Economic Affairs. A participant subsequently writes: “[The conference] was attended by about 100 people from some 22 countries including several outside Europe such as Australia, Brazil, Egypt, Iran, Korea, South Africa and the USA as well as the WHO. Participants came from both biotechnology industry and academia as well as from governments. For the first time, the strengthened BWC Protocol was considered in the context of the other relevant controls and regulations relating to biotechnology; those resulting from the implementation of the CWC; those relating to health and safety within the European Community; those likely to result from the legally binding Biosafety Protocol nearing completion under the Convention on Biological Diversity; those associated with ensuring that medicinal and veterinary products are safe for humans and animals; and those recently introduced in the United States to inspect and monitor facilities engaged in handling, storing and transferring select agents. There was a lively discussion of all the relevant issues and a clear recognition of the importance of avoiding duplication in the collection and reporting of data.” {CBWCB Jun} The participants are mostly from government, defence institutions, industry and research. The conference papers are published on the internet at <http://www.boku.ac.at/iam/efb/btwc.htm>.

28–30 May Pakistan explodes nuclear devices.

30 May In Washington DC, at the Pentagon, some 600 people participate in an exercise, Cloudy Office, to test contingency plans for responding to a terrorist situation involving weapons of mass destruction {*Washington Post* 31 May}.

1 June US On-Site Inspection Agency Director Brigadier-General John C Reppert announces his impending retirement from the US Army to take up the position of executive director of the Belfer Center for Science and International Affairs at Harvard University. {*On-Site Insights* Jun}

2 June In Seoul, 1063 South Korean veterans of the Vietnam War have just filed suit against the government seeking \$250 million in compensation for their sufferings from the Agent Orange which US forces had used as a defoliant. A separate suit is to be filed against the US government. In contrast to earlier actions [see 11 Jun 96], this suit alleges US violation of international law, namely the 1925 Geneva Protocol. {AFP from Seoul 2 Jun}

2 June In India, the Rajya Sabha passes the Chemical Weapons Convention Bill, 1997 [see 19 May]. This implements the CWC into Indian law. {*Delhi Asian Age* 3 Jun}

2 June On UK television a documentary is shown about CW-agent contamination at sites of some of the numerous depots for chemical weapons established during the second world war, *Churchill's Timebomb*.

Old chemical weapons are once again becoming a topical issue in the UK, this time because the Defence Ministry seems to be deciding, on cost grounds, against clearing a former training area near Salisbury where it is estimated that upto 300 chemical munitions may lie buried; the present owner, a farmer, is being advised against ploughing the land, and house-prices are reportedly being affected. {*London Sunday Telegraph* 7 Jun, *London Independent* 8 Jun}

2 June In the US Senate, bioterrorism is the subject of a special hearing before the Appropriations Subcommittee on Labor, Health and Human Services, and Education. There is testimony from, among others, the American Society for Microbiology, the National Association of County and City Health Officials, and the Centers for Disease Control and Prevention. Its common thread is that the country is unprepared, and that government spending on protection against biological weapons is misguided because so much of it goes to the Defense Department rather than to public hospitals, doctors and first responders. The chief of the Fire Department of a town in North Carolina where there had recently been a false bioterrorism alarm, Luther L Fincher Jr of Charlotte, observes that what local authorities badly lack is clarification of who is in charge of what: “What are the defined roles for each federal agency? What is the federal 911 number? Who determines what assets are sent?” Reportedly, 29 different agencies are involved in the current efforts to plan a concerted response. The ASM witness, Dr Michael Osterholm, says that the best strategy for dealing with bioterrorism is to develop more effective means for combating all infectious diseases. The CDC testimony is that “a strong and flexible public health infrastructure is the best defense against any disease outbreak — naturally or intentionally caused”. {FDCH Congressional Testimony 2 Jun}

3 June In Israel, the pharmaceutical company Pharmos announces that, in collaboration with the US Army, it has a new drug under development that may find use “as part of the standard treatment of an attack using nerve gas, along with atropine” The drug is identified as the synthetic cannabinoid Dexanabinol. Pharmos says that it “can diminish nerve damage of the kind we witnessed in Gulf war syndrome”. {Globe website, *London Guardian* 5 Jun}

3 June In Washington, US Defense Secretary William Cohen and UK Defence Secretary George Robertson announce that they will be agreeing on a programme of CBW countermeasures that will, as the UK House of Commons is later told by a defence minister {*Hansard (Commons)* 23 Jun}, “further deepen the existing close collaboration in this area”. {AFP from Washington 3 Jun} The framework is the existing trilateral Memorandum of Understanding between Canada, the UK and the USA under which a joint approach to CBW defence has been developed, with collaboration across the full range of defensive measures. “In addition, the three countries are seeking to harmonise our policy and procedures for dealing with the threat from chemical and biological weapons”, Secretary Robertson tells the Commons. “We also plan to participate in a joint vaccine programme which will develop licensed vaccines for the three countries.” {*Hansard (Commons)* 25 Jun} At the end

of July the UK House of Commons is told that the “detailed programme of co-operation has not yet been established” {*Hansard (Commons)* 31 Jul}.

3 June The UN Security Council, meeting in special session to develop a “road map” for the lifting of sanctions on Iraq, receives detailed technical presentations from UNSCOM specialists, introduced by Executive Chairman Richard Butler. The meeting is extended for a second day. As Ambassador Butler beforehand had announced {AFP from Sydney 26 May} they would be, the presentations are illustrated with hitherto undisclosed data, including surveillance photographs taken from the U-2 aircraft on loan to UNSCOM and also with satellite imagery. According to detailed notes on the proceedings published by the electronic newsletter *Iraq News* {MIIS/CNS website 29 Jul} and by the US Information Agency {USIA website 25 Jun}, the presentations explain the unresolved questions concerning Iraq’s CBW and missile programmes that remain outstanding after the Iraq/UNSCOM Technical Evaluation Meetings [see 19 Feb and 8 Apr], and identify actions which Iraq could take in order to settle them. The UK and US representatives tell reporters that the presentation clearly showed Iraq still to be concealing information about its proscribed weapons programmes and attempting to deceive UNSCOM {BBC website 5 Jun}. Iraqi Foreign Minister Mohammad al-Sahaf tells a news conference that Iraq has complied fully with UN disarmament requirements, sharply criticises the Anglo–American stance, and invites UNSCOM “to work with us according to the letter and spirit of the Security Council resolutions” {*Washington Post* 6 Jun}.

6 June France and China both used to have chemical-weapons programmes but both have said, according to *The Economist*, that “they destroyed their weapons shortly before signing the [Chemical Weapons] Convention”.

7 June In New York a short book by investigative reporter Seymour Hersh, *Against All Enemies: Gulf War Syndrome: The War Between America’s Ailing Veterans and their Government*, is published which alleges a Defense Department cover-up of exposure of US troops to chemical weapons during the Gulf War. The book also relates how, just before the ground war started, Iraqi soldiers who had been captured in a covert operation were discovered to have been immunized against anthrax, this discovery then initiating a crash programme to inoculate US troops against the disease.

7 June In Laos in September 1970, two US A-1 Skyraider aircraft dropped canisters of sarin nerve-gas onto advancing Pathet Lao and North Vietnamese forces during an operation to exfiltrate by helicopter a beleaguered commando of US Special Forces and Laotian Montagnards that had been engaged on a clandestine mission, Operation Tailwind, so it is reported by Cable News Network and *Time* magazine, after an 8-month investigation, in their new joint television venture *NewsStand*. An officer of the rescued unit, Robert Van Buskirk, recalls to camera his memory of the advancing enemy forces after the Sky-raidiers had passed: “All I see is bodies. They are not fighting anymore. They are just lying, some on their sides, some on their backs. They are no longer combatants.” Commando personnel were wearing the M17 respirators with which, together with atropine autoinjectors, they had been equipped at the outset, according to unit commander Eugene McCarley. Operation Tailwind is described as a highly secret mission, conducted by what was deceptively called a Studies and Observations Group (SOG) team, to destroy a village base-camp thought to be harbouring a group of US defecting deserters. The documentary claims further, on the testimony of unidentified Special

Forces veterans, that nerve gas had also been used to “prepare” the target base-camp prior to the assault on it. The weapon from which the sarin was disseminated, also used during the subsequent evacuation, is said by unidentified “military officials” to have been the CBU-15 bomblet-dispenser munition. Admiral Thomas Moorer, who had been Chairman of the US Joint Chiefs of Staff in 1970, is quoted as confirming the use of sarin in the Laotian operation and also in other missions during the Vietnam war to rescue downed US airmen. The Defense Department is quoted as saying that it “has found no documentary evidence to support CNN’s claims”. {CNN website 7 Jun, *Time* 15 Jun}

After the television broadcast, the US Defense Secretary at the time of the reported incident, Melvin Laird, states that a small amount of nerve gas had been shipped to the war zone in 1967, but had never, so far as he knew, been used. Current Defense Secretary William Cohen orders an inquiry. Robert Van Buskirk refutes suggestions that it was tear gas that had been employed during the helicopter evacuation, giving further vivid accounts, during a television phone-in programme, of the effects that he had observed on exposed people {CNN website 8 Jun}. Defense Department spokesman Kenneth Bacon says at a news briefing some 36 hours after the broadcast: “From what I can tell so far, it looks as if two gases were used — non-lethal gases: tear gas CS, and possibly a vomiting gas called CN. But the facts, I hope, will become clear after 30 days when the Secretary of the Army and the Secretary of the Air Force complete their reviews of exactly what happened there. ... I have spoken personally with a pilot who flew A-1s during this mission and he says that he delivered CS. There’s some other evidence that CN may have been used.” {DoD news briefing 9 Jun} But CNN later broadcasts an interview with a Tailwind helicopter-crew chief, John Snipes, saying it was not tear gas: “It was some other kind of gas, what they called knockout gas ... it would put you to sleep.” {CNN website 14 Jun} “Sleeping gas was a slang for nerve gas”, Van Buskirk had said in the original broadcast.

8 June The EU Council of Ministers adopts an *EU Code of Conduct on Arms Exports*. This specifies, among other things, that an “export licence should be refused if approval would be inconsistent with ... the international obligations of [EU] member states under the Nuclear Non-Proliferation Treaty, the Biological and Toxin Weapons Convention and the Chemical Weapons Convention”. The Operative Provisions of the Code state that this criterion is to be applicable not only to military equipment but also to “dual-use goods as specified in Annex 1 of Council Decision 94/942/CFSP as amended [see 15 Nov 96], where there are grounds for believing that the end-user of such goods will be the armed forces or internal security forces or similar entities in the recipient country”.

8 June President Clinton requests an additional \$294 million from Congress for his new initiative [see 22 May] to deter and respond to terrorist incidents involving chemical or biological weapons. Of the funding sought, \$94 million would be used to double the pending FY 1999 budget request for the Department of Health and Human Services relating to CBW, thus enabling a civilian stockpile of antidotes and antibiotics to be established and also to improve the current public health surveillance system. Another \$10 million would be used to expand current National Institutes of Health research programmes on bioterrorist agents, including vaccines and therapies against them. Most of the remaining \$190 million would be for equipment and training for “first responders” at State and local levels and also for FBI response units. {White House release 8 Jun}

8–11 June In Philadelphia, the US Defense Special Weapons Agency sponsors the its 7th Annual International Conference on Controlling Arms, *Arms Control and the Revolution in Military Affairs*. One of the six panels is on CBW weapons. Comprising British, French and US experts, it is chaired by Dr Theodore S Gold, now of the Institute for Defense Analyses, and focuses on difficulties associated with controlling the weapons. The DSWA summary of the panel discussion includes the following: “The effectiveness of various traditional arms control measures in the BW environment was examined, resulting in the conclusion that such measures will be largely ineffective when applied to BW use by rogue states or subnational or terrorist groups. In particular, verification of BW activity is a nearly impossible task, since the tools used for verification under the CWC — such as data declarations, inspections, and supply-side controls — will prove ineffective for a BWC due to the existing knowledge base, small size demands for production, the natural occurrence of pathogens, and the dual-use nature of production equipment. Panel members pointed to the need to respond to President Clinton’s recent commitment of over \$1 billion to counterproliferation and counter-terrorism activities by avoiding complacency and continuing to raise the visibility level of the chemical and biological weapons threat.” Elsewhere the DSWA summary observes that the panel agreed the prospects for an effectively strengthened BWC were mixed, reporting also the panel comment that “states must give more attention to the criminalization of activities that facilitate CBW use or acquisition”. {DSWA website 11 Sep}

8–12 June In Cape Town, South Africa, the Truth and Reconciliation Commission conducts public hearings on the country’s past CBW programmes. It rejects the government’s request that the proceedings be behind closed doors. {*Cape Argus* 8 Jun} A number of the previously announced witnesses [see 22 May] do not in fact give evidence. Dr Jan Lourens testifies on the CBW weapons, many of them clandestine devices, he had been involved in developing for a special operations unit headed by Brigadier Basson (at whose impending criminal trial he is to be a state witness), about negotiations with foreign buyers interested in the weapons, and about Protechnic [see 13 Mar], which was the company he had later formed to develop CBW equipments, both offensive and defensive, for the South African Defence Force. Former Belgian national Charles van Remoortere, who purchased Protechnic in 1993, testifies to having procured CBW protective equipment for the SADF in contravention of sanctions. {SAPA from Cape Town 8 Jun, *Cape Times* and London *Guardian* 9 Jun} Dr Johan Koekemoer, a chemist formerly working at the SADF front company Delta G [see 15 May 96], states that many hundreds of kilograms of Ecstasy and Mandrax had been produced for the SADF in the late 1980s, the Ecstasy ostensibly for use in the interrogation of suspects, the Mandrax as an incapacitating agent. Scientists formerly working at the SADF front company Roodeplaat Research Laboratories (RRL) — Dr Michael Odendaal and Dr Schalk van Rensburg — describe having prepared numerous different poisons and cultures of organisms causing such diseases as anthrax and cholera, these having been supplied to the Civil Cooperation Bureau evidently for hostile use. {SAPA, AFP and Reuter from Cape Town 9 Jan, *Cape Times*, *Cape Argus*, *Johannesburg Star* and London *Guardian* 10 Jun} Brigadier Basson appears before the Commission, but does not testify {*Cape Times* 11 Jun}. The first managing director of RRL, Dr Daan Goosen, describes a secret attempt to develop a bacterium that could infect and kill only black people; he also confirms earlier testimony on RRL’s work seeking an anti-fertility drug for women {*Cape Argus* 11 Jun}. He says that, as far as biological warfare was concerned, Proj-

ect Coast had barely touched the surface of its possibilities {SAPA from Cape Town 11 Jun}. The former head of South African Police forensics, Dr Lothar Neethling, testifies on SAP/SADF interest in a weapon that could pacify rioters by reducing their aggression, to which end he had provided Basson with large quantities of Mandrax, LSD and dagga for use as payload in experimental airburst grenades. Dr Neethling denies having ever been involved in covert SADF operations, and is angered by a SADF intelligence document produced in evidence which states he had been fully informed about Project Jota (the CBW programme) and that he and Basson had used each other as sounding boards for development and use of certain “commodities”. {SAPA and AFP from Cape Town 11 Jun}. Former SADF Surgeon-General Niel Knobel, latterly responsible for the CBW programme, testifies that its main purpose had been to provide a defence capacity against possible CBW attacks: “At no time were classical chemical or biological weapons developed. But incapacitating agents and irritant agents were developed. At no time was it ever considered to develop a biological offensive weapon.” He agrees, however, that the programme could have been abused without his knowledge. He says he had first become aware of some of the RRL and Delta G projects only after a UK–US démarche to Pretoria in 1994 had expressed concern about the existence of CBW weapons in the country, a concern which he says had been motivated, not by the fact of clandestine production of outlawed weapons, but by the prospect of the weapons passing to the African National Congress once it had assumed power. Dr Knobel states, too, that his predecessor in office, now dead, had chosen Basson for the job of managing the CBW programme, and had sent him on a world tour to study the programmes of other countries {SAPA, AFP and Reuter from Cape Town 12 Jun}. The Commission rules that, notwithstanding Brigadier Basson’s plea that his testifying could compromise his defence against the criminal charges he is facing, he must nevertheless give evidence {SAPA from Cape Town 12 Jun}; to which end the hearings are to resume on 18 June.

9 June In Hanoi, a spokesperson for the Ministry of Foreign Affairs says: “Vietnam calls for external cooperation for its project to assess the existence of toxic chemicals in the country and to evaluate their impacts on the environment and people [see 8 Dec 97 and 3 Apr]. ... It is a big project that needs contribution not only from localities and the defence ministry, but also from relevant ministries and agencies inside the country, and cooperation from international community.” {VNA 9 Jun in BBC-SWB 11 Jun}

9 June The US House of Representatives approves the small changes made by the Senate to HR 2709, the Iran Missile Proliferation Sanctions Act of 1997 to which is attached the Chemical Weapons Convention Implementation Act [see 22 May US Senate] {*Congressional Record* 9 Jun H4283-90}. The legislation now passes to President Clinton, for signature or veto.

11 June In Brussels, the North Atlantic Council meets in Defence Ministers session and adopts a communiqué that includes the following: “25. Despite the improved overall security environment, the proliferation of chemical, biological and nuclear weapons and their delivery means continues to be a matter of concern for the Alliance. The principal aim of the Alliance and its members is to prevent proliferation from occurring, or, should it occur, to reverse it through diplomatic means. However, we also recognise that proliferation can continue to occur despite our preventive efforts and can pose a direct military threat to Allies’ populations, territory and forces. In particular, the use or threat of use of chemical or biological weapons could

be a characteristic of future operations in which Allied forces become involved. Therefore we remain committed to continue improving the Alliance defence posture against NBC weapons and to ensure that NATO's defence response is fully reflected in our strategy and plans, in order to underpin NATO's ability to perform the full range of its missions despite the presence, threat or use of NBC weapons.

"26. We received a report taking stock of the wide range of achievements across the full spectrum of NATO's political and military response to NBC weapons risks since the 1994 Brussels Summit to enhance the Alliance defence posture and endorsed the report's recommendations to address areas where further work is required. In particular, we agreed to intensify our efforts to understand better proliferant intentions and doctrine; to enhance biological detection, protection and decontamination and to improve other capabilities that support deployable forces; and to explore opportunities for dealing with the implications of terrorist and coercive CBW attacks. We underscored the importance of consultations with Partners on proliferation-related defence issues. We also underscored the high priority we attach to adopting NATO's operational doctrine, plans, training and exercises to reflect more fully the risks posed especially by CBW."

Later the communiqué says: "We are determined to achieve progress by the end of this year in the negotiation of appropriate measures, including possible verification measures, and draft proposals to strengthen the Biological and Toxin Weapons Convention and re-emphasize the importance of universal adherence to and full implementation of the Chemical Weapons Convention." {NATO release 11 Jun}

11 June The OPCW Director-General issues a Note {C-III/DG.1} for the impending Third Session of the Conference of the States Parties drawing attention to deficiencies in the implementation of CWC Article VII (National Implementation Measures). In particular, the Note observes: "[M]ore than one year after entry into force of the Convention, out of 108 States Parties, only 34 have notified the Secretariat of the legislative and administrative measures they have taken to implement the Convention (as required by Article VII, paragraph 5). Some of the texts are still in translation and perhaps some of the submissions were not complete, however, of the texts submitted and reviewed, only 18 appear to be comprehensive enough for the State Party to be able to enforce the Convention effectively in its jurisdiction. In only 13 of those texts has the penal legislation been extended to nationals extraterritorially, as required under Article VII, subparagraph 1 (c)." The substance of the Note, which runs to 77 pages, is focused on this situation "coupled with the need for States Parties to harmonise their national implementing legislation in order to be able to effectively respond to a request for legal assistance under Article VII, paragraph 2". The Note itemises the principal steps which states parties have and, as yet, have not taken to implement their obligation to "adopt the necessary measures". The 13 states parties that have adopted comprehensive measures including extraterritoriality are identified as Australia, Belarus, Germany, Ireland, Italy, Malta, the Netherlands, New Zealand, Romania, South Africa, Sweden, Switzerland, and the UK. [Note: What makes this shortcoming still more significant is the fact that, even among those 15 states parties that each furnish more than one percent of the OPCW budget, together furnishing seven-eighths of the whole, only 10 have enacted implementing legislation. Canada, France, Spain, Russia and the United States, responsible together for nearly 42 percent of the budget, are all listed in the Note as countries that, as of 4 June 1998, had not complied with Article VII.5. National measures may indeed, as one commentator has put it, be the linchpin of

the CWC regime's all-important dual-technology controls; but that linchpin is still largely missing.]

11 June Malawi deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, it will thereby become the 111th state party to the treaty.

11–15 June In Baghdad, UNSCOM Executive Chairman Richard Butler, accompanied by commissioners from Belgium, Nigeria, Russia and Venezuela as well as senior UNSCOM staff, conducts talks with a high-level Iraqi delegation led by Deputy Prime Minister Tariq Aziz. The purpose is to discuss the so-called "road map" [see 3 Jun], which is to say the informal paper that UNSCOM had presented to the Security Council on 4 June entitled Disarmament Issues, setting out the 14 specific tasks and sets of information regarding past Iraqi CBW and missile programmes which UNSCOM believes must be completed and verified before it can issue the report specified in paragraph 22 of resolution 687 (1991). Iraq has not accepted this paper, but the talks nevertheless concentrate on its priority issues. A schedule of work for the next two months is agreed, including expert-level meetings, the results of the work to be assessed during another round of the discussions, in August. Among the issues which Iraq refuses to include in the schedule is the extent of past VX production. Iraq rejects, too, the preliminary results of, in the words of Ambassador Butler's subsequent report to the Security Council {S/1998/529}, "the chemical analysis of certain excavated remnants of special missile warheads" [see 18 May Iraq]. Nor will Iraq provide UNSCOM with additional information or documentation about its BW programme. Nevertheless, Ambassador Butler says during a televised press conference at the close of the talks that "the light at the end of the tunnel is now more visible than it has been for a very long time". {Baghdad Television 15 Jun in FBIS-NES 16 Jun 98}

12 June The US Army publishes its Draft Environmental Impact Statement for the proposed chemdemil facility at Newport Chemical Plant, Indiana, which is the location of some 1300 tons of bulk-stored VX nerve gas. The facility will pilot test an alkaline-hydrolysis technology for destroying the agent. {PMCD website} The Army has already applied for the necessary state permits {*Chicago Tribune* 4 Jun}.

14 June In China, a decree of the State Petroleum and Chemical Industry Administration, approved by the State Council, adds ten new CW-agent precursors to the list of Schedule 3 Controlled Chemicals [see also 17 Dec 97]. They are: N-methyl-3-piperidinol, 3-quinuclidone, pinacolone, potassium cyanide, sodium cyanide, phosphorus pentasulphide, dimethylamine and its hydrochloride, triethanolamine hydrochloride, and methyl benzilate. {Beijing *Renmin Ribao* 15 Jun}

15 June In Rome, the conference of plenipotentiaries on the establishment of an International Criminal Court [see 3 Apr] begins its work. The conference is due to end on 15 July.

15 June In South Africa the government issues a statement on the Truth and Reconciliation Commission hearings on CBW [see 8–12 Jun]. It opens thus: "In response to media queries about the apartheid regime's Chemical and Biological Weapons Programme, Government wishes to clarify that this programme has been terminated, and that the material for offensive purposes in government storage has been destroyed. This was done in co-operation with countries which possess expertise in matters relating to these programmes; and in full com-

pliance with relevant international treaties.” {South Africa GC&IS release 15 Jun}

16 June In the United States, a military adviser retained by Cable News Network, Major General Perry Smith (USAF, retired), has resigned in protest at the CNN reporting of US use of nerve gas during Operation Tailwind [see 7 Jun] {*Washington Post* 17 Jun}. Both *Time* magazine and CNN, under heavy criticism from military veterans and others, and with a conspicuous lack of support from other news media, are mounting internal investigations of the reporting. *Time* is using one of its Washington bureau reporters for the task; CNN has hired a noted First Amendment lawyer, Floyd Abrams, to work with its own general counsel. {*New York Times* 27 Jun} The Defense Department meanwhile is starting to declassify and release documents on Operation Tailwind which, during the period of the CNN investigation, it had withheld despite requests under the Freedom of Information Act {DoD news briefing 18 Jun}.

16 June In Washington, the Potomac Institute for Policy Studies in conjunction with the Terrorism Studies Program at George Washington University convenes a day-long seminar on *Emerging Threats of Biological Terrorism: Recent Developments* [see also 12–13 Aug 97] with presentations by more than a dozen specialists from inside and outside government. A prevalent theme is that biological weapons present perhaps the gravest threat there is to US national security, yet the country remains seriously unprepared [see also 22 May, 2 Jun and 6–11 Jun]. {*Defense News* and *Defense Week* 22 Jun} Among the presentations is one by a New York City official outlining some of the precautionary steps which the administration there is taking {*New York Times* 19 Jun}.

18 June In Cape Town, South Africa, the Truth and Reconciliation Commission resumes its public hearings on the country's past CBW programmes [see 8–12 Jun and 15 Jun]. Former SADF Surgeon-General Niel Knobel gives further evidence on Project Jota (formerly Project Coast), but Brigadier Basson still does not testify, having applied to the High Court for protection against the TRC demand that he should. Dr Knobel describes authorizing the payment of large bribes by Basson, including bribes to Croatian officials during September 1993 in connection with an abortive procurement of half a ton of methaqualone (Mandrax) for SADF use as an incapacitant. He also states that the 1994 UK–US *démarche* about South African CBW weapons [see 8–12 Jun] had brought about a major investigation into Basson's activities. He describes how on 27 January 1993, following orders given by former Defense Minister Gene Louw, the remaining stocks of Mandrax, Ecstasy and cocaine had been dumped at sea [see 15 May 96, see also 15 Jun]. {SAPA from Cape Town 18 Jun, Johannesburg SAfm radio 18 Jun in FBIS-TAC 18 Jun, *Cape Argus* 19 Jun}

After the hearings, former SADF chief Constand Viljoen, who now leads the Freedom Front party, defends Project Coast for its anti-CBW protection achievements, condemning its portrayal during the hearings as having been “devised mainly for the purpose of hit-squads using chemical and biological agents”. General Viljoen says that, of the agents produced by the programme, only CR gas had actually been used: “There is no substantiated proof of any killings so far from the other agents that have been produced in this project. The mere fact that there has been research does not mean that [it] has been applied.” He says that his involvement in the project stemmed from 1983 when he had asked scientists to produce a crowd control gas “that will calm people down, make them friendly, if at all possible ... [so as to avoid] another Sharpeville where my

forces would have to kill people to bring them under control”. {AFP from Johannesburg 26 Jun}

16–19 June In The Hague, the OPCW Executive Council [see 21–24 Apr] convenes for its tenth regular session [for details, see *Progress in The Hague*, above].

17 June In Tel Aviv district court, Israeli businessman Nahum Manbar [see 6 May] is found guilty of aiding an enemy state with intent to harm Israel's security, by having sold chemical-weapons-related materials to Iran. The 80-page judgement says: “He played a double game, supplying the Iranians with components for weapons of mass destruction, while deliberately misleading the Shin Bet regarding his business deals”. He now faces the prospect of going to prison for life when he is sentenced on 15 July. Part of the judgement, like parts of the original indictment, are withheld from public disclosure for reasons of state. Manbar is said to have made \$16 million from the Iranian transactions during the period 1990–95. He had signed a contract with an Iranian, Abasbur, identified in the indictment as head of the “Iranian chemical warfare project”. The transactions included the trucking of 150 tons of material from an undisclosed location in Europe to Iran. Evidence had also been presented on the supply of thionyl chloride from China. An appeal is being prepared. {*Jerusalem Post* 18 Jun, London *Sunday Times* 19 Jul} The Iranian Foreign Ministry issues a statement denying that Iran had bought CW-related materials from Manbar {Reuter and NNI from Tehran 20 Jun}.

22 June Syria will soon be in a position to produce VX-type nerve gases [see also 23 Jan] according to the testimony of a “top Israeli military intelligence officer” appearing before the Knesset Foreign and Defence Affairs Committee, as later quoted by the Tel Aviv newspaper *Ha'aretz* {AFP from Jerusalem 23 Jun}. An unidentified “knowledgeable official” of the US administration is quoted from Washington as saying that Syria, with help from Indian companies and possibly from a retired Russian general, has an active chemical weapons programme and has already armed missiles, warplanes and artillery shells with sarin nerve-gas, which it had developed in the 1970s and then weaponized more recently {AP from Washington 24 Jun}.

22 June The UK Defence Ministry, asked in Parliament about making the inoculation of its armed forces compulsory, responds: “Immunization is vitally important for the protection of UK Service personnel against disease, in the context of public health threats as well as defence against biological warfare agents. At present, MoD policy is that immunisation for both purposes is voluntary, on the basis of informed consent. However, the means of protecting our personnel against such threats are continually reviewed and updated in the light of current circumstances.” {*Hansard (Commons)* 22 Jun} It has been reported, with Ministry confirmation, that nearly three-quarters of UK service personnel sent to the Middle East during the February Gulf crisis have refused vaccination against anthrax [see 26 Feb and 3 Mar], often because of fears about Gulf War syndrome {London *Sunday Telegraph* 7 Jun, London *Independent* 8 Jun}. An unidentified MoD official is quoted: “If we force people to take the vaccine we will be accused of compromising their rights, and if we don't we will be accused of ignoring their safety” {London *Sunday Telegraph* 7 Jun}. The Ministry says on 7 July that “an estimated 3,879 UK Service and MOD personnel have been offered immunisation and 1,428 are recorded as having commenced a course of anthrax vaccinations” {*Hansard (Commons)* 7 Jul}; by 13 July the numbers had risen to 1,469 out of 4,482 {*Hansard (Commons)* 31 Jul}.

22 June–10 July In Geneva, the Ad Hoc Group of states parties to the BWC reconvenes [see 9–13 Mar] for its eleventh session. Participating are 50 states parties and two other signatory states. A new rolling text for the draft BWC Protocol is produced and annexed to the procedural report on the meeting which the Group adopts at the end of the session {BWC/AD HOC GROUP/41}. This also records agreement that the twelfth session should take place from 14 September to 9 October, and that the schedule of subsequent meetings should be agreed no later than 2 October. Prospects for concluding the substantive negotiation in 1998 [see 4 Mar Brussels] have thus dimmed. {London *Financial Times* 13 Jul} The UK government, which during the session offers London as the venue for the Protocol-signing ceremony, later tells Parliament: “1998 has seen a significant intensification of the negotiations. Much detailed work remains to be done but the United Kingdom, together with its EU partners, believes that an effective package of measures could be agreed during 1999.” {*Hansard (Commons)* 16 Jul} [For further details, see *Progress in Geneva*, above]

23 June In Russia, Defence Ministry officials tell reporters that Russia will not be able to destroy all of its chemical weapons within the time period prescribed in the CWC, by 2008. Colonel General Stanislav Petrov, head of the RKhB Protection Troops, says to Interfax: “We will need at least an additional five years to meet our obligations under the Convention”, attributing this to serious underfinancing of the chemdemil programme. {Interfax from Saratov 23 Jun in FBIS-SOV 23 Jun}. The director of the programme, Lt-Gen Valery Kapashin, says on Ekho Moskvyy radio: “Depending on the country’s economic situation, Russia may be able to accomplish the programme after two additional years”. He says that the weapons are carefully guarded and present no threat to the environment. He also says that he doubts whether the United States will be able to complete its destruction in time. {Reuter from Moscow 23 Jun}

23 June The US Army announces that it has completed destruction of the entire 2.6 million pound [1200 tonne] stockpile of sarin nerve-gas located on Johnston Island in the Pacific. The JACADS chemdemil facility there has yet to complete work on the holdings of mustard gas and VX nerve-gas, but 74 per cent of the Pacific CW stockpile has now been eliminated. {PMCD website} Meanwhile the Tooele Chemical Agent Disposal Facility in Utah has by now eliminated more than 13 per cent of the CW stockpile at Deseret Chemical Depot, having incinerated 3.6 million pounds [1600 tonnes], or nearly 30 per cent, of the holdings of sarin there. {DoD news briefing 25 Jun}

23 June President Clinton vetoes the new Iran Missile Proliferation Sanctions Act and therefore also the Chemical Weapons Convention Implementation Act [see 9 Jun]. {White House release 23 Jun}

23–25 June In the United Kingdom, the Defense Evaluation and Research Agency joins with ICF Kaiser International Inc to host *CWD98 The International Chemical Weapons Demilitarization Conference and Exhibition* in Bournemouth.

23–25 June At Fort McClellan, Alabama, the US Army Chemical School in conjunction with the Chemical and Biological Defense Division of the National Defense Industrial Association hosts *World Wide Chemical Conference & Exhibition XVI*. The function of this annual event is to provide people from government, industry and academia with a forum for the interchange of ideas concerning the protection of the United States and its forces from the effects of nuclear, biological and chemical

weapons. The theme this year is ‘NBC Force Protection — Full Spectrum Support’. {NDIA website 10 Sep}

24 June Japanese Cabinet Coordination Office for Abandoned Chemical Weapons Director General Seigi Hinata distributes a paper at the Bournemouth international chemdemil conference [see 23–25 Jun] on the *ACW Destruction Project in China*. This records the presence in China of what Japanese investigators have estimated may be as many as 679,000 abandoned chemical weapons. Not all of them appear to be of Japanese origin. The largest burial site, containing an estimated 674,000 munitions, is at Haerbaling in Jilin province. The paper gives details of their content and condition. {*Jane’s Defence Weekly* 1 Jul, Kyodo from Tokyo 13 Aug} During discussion of the paper, it transpires that the non-Japanese chemical weapons, described in the paper as a 250kg bomb and 82mm and 72mm shells, are actually Chinese; that Haerbaling was opened as a burial site in 1954; and that China has now accepted the Japanese estimate of the number of weapons involved [see 14 May–3 Jun 96].

Meanwhile, it is being reported from Tokyo that the Japanese government is expected to call as early as the second week of July for proposals for the supply of the chemdemil technology it will need to dispose of the chemical weapons abandoned in China. Six major Japanese trading companies are said to be forming seven international consortia with foreign companies that have chemdemil experience in order to bid [see 1 May]. Thus, a group led by Mitsui includes Parsons Corp of California; Sumitomo is teaming with General Atomics, also of California, as well as the Japanese construction machinery firm Komatsu; Itochu is joining with Bechtel, and also Hitachi; Murabeni is reportedly forming two separate groups; Mitsubishi is forming a group; and so is Nissho Iwai Corporation. It is thought likely that some of these groups will merge prior to the closure of the expected bidding period, in August. {Jiji from Tokyo 25 Jun}

24 June In Cairo, at the headquarters of the Arab League, the technical committee charged with drafting an agreement on rendering the Middle East a region free of weapons of mass destruction concludes its latest session. {MENA from Cairo 24 Jun}

24 June In Geneva, the Federation of American Scientists Working Group on Biological Weapons Verification offers a briefing to BWC Ad Hoc Group delegations [see 22 Jun–10 Jul] on a spreadsheet technique it is developing for investigating structure and costs of an international BWC organization. The briefing is given by Dr Marie Chevrier.

24 June The UN Security Council, which is about to conduct its two-monthly review of the sanctions on Iraq [see 27 Apr], is briefed by UNSCOM Executive Chairman Richard Butler on the results of his recent talks in Baghdad, including the work programme agreed for the months ahead. The day previously, the *Washington Post* had published details of analyses that had been performed in the United States for UNSCOM on swab samples from remnants of Iraqi missile-warheads collected by UNSCOM 125 [see 22 Aug 95] and UNSCOM 229 [see 14–20 Mar and see also 18 May]. Ambassador Butler had already disclosed these preliminary analytical findings to Iraqi authorities [see 11–15 Jun] and also, since his Baghdad talks, to Council members {Butler interviewed on *The NewsHour with Jim Lehrer* 24 Jun transcript via PBS website}. The analyses, reported on 10 June from a US Army CW defence laboratory, had in some of the UNSCOM 125 samples detected traces of two VX degradation products, namely ethyl methylphosphonic acid (EMPA) and diisopropylaminoethyl disulphide (‘VX disulfide’) as well as

traces of a chemical that can serve to stabilize VX, namely dicyclohexylcarbodiimide, all of this indicating that VX had probably been present in at least one of the warheads prior to their destruction — a finding at variance with Iraq's repeated statement that it had never weaponized VX. Ambassador Butler tells reporters after his meeting with the Council that further samples would be sent to France and Switzerland for analysis, in response to Iraqi demands. The Iraqi UN mission issues a critique of the analyses. Iraqi authorities continue to deny that Iraq had ever filled VX into munitions of any kind, and suggest that the analyses had been faked. {INA from Baghdad 24 Jun in BBC-SWB 26 Jun} The Security Council is later briefed by Ambassador Prakash Shah, the Secretary-General's special envoy in Baghdad. The Council decides against lifting the sanctions for the time being. {AP from the UN 24 Jun} Russian Foreign Minister Yevgeny Primakov says in London that Iraq should stop denying it put VX into missile warheads before the Gulf War and cooperate with UNSCOM to get the sanctions lifted {Reuter from London 25 Feb}. On Baghdad television, Lt-Gen Amer al-Saadi [see 24 Mar] says: "Iraq will go on meeting commitments vis-a-vis the Special Commission. It will not stop cooperating with it." {AP from Baghdad 26 Jun} Deputy Prime Minister Tariq Aziz later makes a similar statement {London *Al-Sharq al-Awsat* 29 Jun in FBIS-NES 30 Jun}.

24–25 June In Amman, the Jordanian government and the OPCW Secretariat jointly organise an international symposium on implementation of the Chemical Weapons Convention. Participating are representatives of Bahrain, Brunei Darussalam, Indonesia, Israel, Jordan, Kuwait, Kyrgyzstan, Oman, Pakistan, the Philippines, Saudi Arabia, Sudan, Turkey and Turkmenistan. The keynote address is delivered by OPCW Director-General José Bustani. {AFP from Amman 24 Jun}

25 June Norwegian and British CBW defence scientists publish in *Nature* {393: 747–8} a detailed study of the clandestine anti-animal BW weapon captured in January 1917 from a German saboteur, Baron Otto Karl von Rosen, in Norway, found last year in a museum and labelled as containing anthrax bacteria [see 30 Jun 97]. The weapon comprised a small glass capillary embedded in lump sugar holding 10–15 microlitres of a brown fluid. The baron had been carrying at least 20 of them, together with sticks of dynamite, bottles of curare, and unidentified "microbial cultures", all of them long since gone. The contaminated sugar lumps were apparently intended for use against horses and reindeer employed in lines of communication and transport. Eighty years on, the capillary has now been opened at CBD Porton Down, where scientists succeed in demonstrating the presence of *Bacillus anthracis* in its contents both by culture and by polymerase chain reaction.

25 June Tanzania deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, it will thereby become the 112th state party to the treaty.

26–27 June In Trieste, an international conference on *Peaceful Use of Biotechnology and the Convention on Biological Weapons* is organized jointly by the International Centre for Genetic Engineering and Biotechnology (ICGEB) and an Italian non-governmental organization of scientists, the Landau Network—Centro Volta [see 3–6 Dec 97]. [For further details, see pages 4–5, above]

27 June In Beijing, during the Sino–US summit meeting between President Jiang Zemin and President Clinton, a *Joint Statement on Biological Weapons Convention* is issued. It reads as follows, in the US White House version: "Recognizing

the threat posed by biological and toxin weapons, the United States and China reaffirm their strong support for the complete global elimination of biological weapons. As States Parties to the Biological Weapons Convention, the two sides stress the importance of the Convention to international peace and security, fully support the purposes and objectives of the Convention, and favor comprehensively strengthening the effectiveness and universality of the Convention.

"The United States and China each reaffirm that they are determined to strictly abide by the provisions of the Convention, to earnestly and comprehensively fulfil the obligations each has undertaken, shall not develop, produce or stockpile biological weapons under any circumstances and shall oppose the proliferation of biological weapons and their technology and equipment.

"Both the United States and China support efforts to strengthen the effectiveness of the Convention, including the establishment of a practical and effective compliance mechanism. In this connection, the two sides positively appraise the work of the Ad Hoc Group set up for this purpose in negotiating a protocol to the Convention. The two sides believe the protocol must include efficient, practical and cost effective measures to deter proliferation or violation of the Convention and improve transparency. Appropriate measures should be formulated and implemented in a manner that takes into account protection of sensitive commercial information and legitimate security needs, and in light of relevant national laws and regulations. The two sides express their desire to cooperate in the negotiations and work together to further accelerate an early conclusion of the negotiations on the protocol.

"The United States and China agree that they shall strive to enhance bilateral cooperation and exchanges in the field of biotechnology and vigorously engage in and promote the peaceful use of biological technology."

The White House also announces, as another achievement of the summit, that "China and the United States will further strengthen their controls on the export of dual-use chemicals and related production equipment and technology to assure they are not used for production of chemical weapons". It also states that "China has announced that it has expanded the list of chemical precursors which it controls" [see 14 Jun]. {USIA website}

28 June The UK Foreign Office confirms a press report that Britain is helping to fund, through the international Vienna-based UN Drug Control Programme, research in Uzbekistan aimed at developing a virulent strain of *Pleospora papaveracea* and ways of producing it on a large scale for spraying over opium-poppy cultivations, which are known to be vulnerable to the fungus. The press report, in the London *Sunday Times* {28 Jun}, had also stated that some of the 30 researchers currently engaged in the project, at the Institute of Genetics in Tashkent, are "veterans of secret Soviet biological weapons programmes". The newspaper had further stated that "Intelligence services on both sides of the Atlantic have been involved from the planning stage and may have a role in the deployment of the fungus, which could be ready to use next year". {London *Independent* 29 Jun, Paris *Le Figaro* 26 Aug} The UNDCP states that the project is aimed at developing an environmentally safe and reliable biological control agent for opium poppies {Reuter from Vienna 1 Jul}.

28 June The UK Treasury has reportedly supported a proposal that the Chemical and Biological Defence establishment at Porton Down, currently an element of the Defence Evaluation and Research Agency, should be privatized, notwithstanding

ing the secret character of much of its work {London *Sunday Business* 28 Jun, London *Independent* 29 Jun}.

29 June In Jakarta, Indonesian ratification of the CWC comes closer once again [see 2 Feb 94 and 28–30 Nov 94], as Foreign Affairs Minister Ali Alatas speaks in its favour in the House of Representatives {Xinhua from Jakarta 14 Jul}. On 13 July, all factions in the House agree on a bill of ratification {ANTARA from Jakarta 13 Jul}.

29 June The UK Ministry of Defence announces an expansion of the research it is funding on Gulf War illnesses in addition to the two large epidemiological studies already in progress in the UK [see 10 Dec 96], the clinical study of veterans with neuromuscular disorders, and the animal studies of possible adverse interactions among CBW-agent protective treatments [see 14 Jul 97]. The House of Commons is told: “MOD will be funding an independent systematic literature review of worldwide published research relating to Gulf veterans’ illnesses. This decision follows a recommendation from the Medical Research Council ... The review will be carried out by a team led by Professor Glyn Lewis at the University of Wales at Cardiff and will cost £75k over three years.” {*Hansard (Commons)* 7 Jul}

29 June In Canada, a new study of illnesses among Gulf War veterans concludes, as did an earlier one [see 1 Nov 96], that there is no identifiable Gulf War Syndrome. Conducted by Colonel Scott Cameron, a military doctor, by means of questionnaires sent to thousands of Canadian veterans, the study has found no links to chemical weapons, vaccines or anti-nerve-gas protective drugs. But it does find that, in comparison with soldiers who did not serve in the Gulf, there has been a much higher incidence among the veterans of post-traumatic stress, fatigue, memory loss, inability to concentrate, and aches and pains. {AP from Ottawa 30 Jun}

30 June Concerning Kazakhstan, the US Defense Special Weapons Agency publishes in *Commerce Business Daily* a Statement of Work for the dismantlement of the former biological-weapons production facility at Stepnogorsk [see 23 Dec 97]. The work is to be part of the effort begun under contract between the Agency on the one hand and, on the other, JSC Biomedpreparat and the National Center on Biotechnology of Kazakhstan. The dismantlement activities are to be carried out to the maximum extent possible by the same Kazakhstani workforce that constructed the BW plant in the first place. The work is to be completed by July 2000.

30 June In Russia, the Federal Government adopts a resolution {no 673} accepting Defence Ministry proposals for changes in the plan of principal measures to implement the federal laws on ratification of the CWC and on the destruction of chemical weapons. The resolution sets a deadline of September 1998 for submission to the government of detailed proposals and draft implementing documents. {*Rossiiskaya Gazeta* 9 Jul}

As September approaches, there are suggestions in the Russian press that the old chemdemil plant at Chapayevsk [see 6 Aug 87], which had been converted into a training facility after local protest [see 6 Sep 89 and 10 Feb], is being reconsidered for chemdemil use {*Parlamentskaya Gazeta* 26 Aug, Moscow *Trud* 1 Sep}.

30 June In Geneva, the Federation of American Scientists Working Group on Biological Weapons Verification convenes a Forum for Delegates to the BWC Ad Hoc Group [see 22 Jun–10 Jul] at which is presented a proposal for strengthening scientific

cooperation among BWC states parties. The proposal is that the World Health Organization should establish a discrete new programme for monitoring the emergence of infectious diseases and that BWC parties should undertake to support it.

1 July In the UK, the Department of Trade and Industry publishes a White Paper {Cm 3989} setting out the government’s proposals for a new legislative framework for strategic export controls and for improvements to export licensing procedures. The White Paper is a response to a recommendation in the report of the Scott inquiry into British military and dual-use exports to Iraq at the time of the Iraq–Iran war [see 15 Feb 96]. Written comments are invited by 30 September.

As regards chemical weapons (in the broad sense of the CWC), the White Paper proposes that, in addition to the offences defined in *The Chemical Weapons Act 1996* (CWA), which is the UK CWC-implementing legislation, it should also “be made an offence for anyone in the UK or a UK person abroad to aid, abet, counsel or procure a foreigner overseas to develop, produce or use a chemical weapon”. The White Paper also suggests making it an offence if that foreigner were to “engage in military preparations or preparations of a military nature, intending to use a chemical weapon”.

The White Paper notes that offences relating to other weapons of mass destruction, namely biological and nuclear weapons, are currently not as comprehensive as those contained in the CWA. It goes on to state that “the Government considers that there is a strong case in principle for creating prohibitions in relation to biological and nuclear weapons which are equivalent to the current prohibitions in the CWA and the extension outlined above”.

Moreover, the White Paper also expresses concern at the possibility of a UK person or company assisting a foreign WMD programme by such routes as “the transfer of technological information by intangible means or provision of technical services”. It therefore proposes to “make it an offence to do something that would promote or facilitate the development or production of weapons of mass destruction either if the Government has informed someone that what he is doing poses such a risk or if someone knows by other means or has grounds for suspecting that a particular course of action might assist such a programme”.

As for intangible technology-transfer [see 25 Feb], the government proposes in the White Paper that the new legislation “should provide it with the power to control the transfer of technology, whatever the means of transfer” — whether the transfer be tangible or electronic (including internet publication), oral, or by personal demonstration. The power would then be used, the White Paper says, to introduce secondary legislation that would subject only transfers in “the areas of greatest concern” to export-licensing requirements, “given also that there are sensitivities in relation to free speech and academic freedom”.

1 July In Washington, the Japanese National Lawyers Association for Reparations to Victims of Biological Warfare holds a press conference, with photo exhibits, to present new eye-witness accounts of human experimentation by Unit 731 of the former Japanese Imperial Army [see 28 Sep 97 and 23 Nov 97] and of atrocities during the Rape of Nanking. The lawyers group is touring North America, with stops also in New York, San Francisco and Vancouver. {Xinhua from Washington 1 Jul} Two former Japanese soldiers accompanying the group in order to testify to atrocities which they themselves had committed had been denied entry to the United States because of their war crimes {AP from Washington 25 Jun}. They subsequently participate in a video conference from Tokyo arranged later in

the tour. One of them, Yoshio Shinozuka, had been part of Unit 731. {AFP from Tokyo 17 Aug}

1 July In Texas, at Olmito near Brownsville in the Rio Grande Valley, three men are arrested by the FBI and charged with conspiring “to use a weapon of mass destruction, including any biological agent, toxin or vector”. According to the magistrate, they had e-mailed a threat at the end of June to use biological weapons against federal and state officials. {San Antonio *Express-News* 1 and 2 Jul, *Houston Chronicle* 3 Jul} When documents in the case are later unsealed, it emerges that President Clinton had also been on the threat list and that, according to an FBI informant, the attacks were to have been carried out by means of disposable cigarette-lighters modified to expel air instead of propane with a hypodermic needle glued to the opening of each lighter, in which would be inserted a cactus needle that would be coated with a biological agent such as anthrax, botulism or the AIDS virus. A government witness is maintaining that the defendants introduced themselves as members of the Republic of Texas when attempting to recruit the witness into the alleged plot. {San Antonio *Express-News* 14 Jul, Philadelphia *Inquirer* 16 Jul} The Republic of Texas, a separatist group, disavows all knowledge of the men or the threats and asserts that it is non-violent {*Brownsville Herald* 16 Jul}. On 21 July the three men — Jack Grebe (aged 43), Johnnie Wise (72) and Oliver Emigh (63) — are indicted by federal grand jury, charged with one count of conspiracy and seven counts of threatening government officials with weapons of mass destruction {UPI from Brownsville 22 Jul}.

2 July In Geneva, during the eleventh session of the BWC Ad Hoc Group [see 22 Jun–10 Jul], a briefing for delegations is provided by the Quaker United Nations Office in conjunction with the University of Bradford Department of Peace Studies at which four further Bradford briefing papers on *Strengthening the Biological Weapons Convention* [see 15 Jan] are presented: three by Bradford Visiting Professor Graham Pearson — namely, *Article X: Pharmaceutical Building Blocks*, *Article X: Specific Measures to Achieve Implementation*, and *The Strengthened BTWC Protocol: An Integrated Regime* — and one by HSP Sussex Director Julian Perry Robinson, *The CWC Verification Regime: Implications for the Biotechnological & Pharmaceutical Industry*. The briefing, given by Professor Pearson, is attended by 52 people from 34 delegations.

2 July In the United States, both *Time* magazine and CNN News Group issue statements retracting their story alleging that, during the Vietnam War, the US military had used sarin nerve gas in Laos and killed American defectors [see 16 Jun]. The *Time* statement says: “Based on our own investigation and that conducted by CNN, we have concluded that the facts simply do not support the allegations that were made”. CNN says its 7 June broadcast on Operation Tailwind “cannot be supported”, continuing: “We acknowledge serious faults in the use of sources who provided NewsStand with the original reports and therefore retract the Tailwind story”. CNN’s investigator, Floyd Abrams, speaking live on CNN, says: “The reporters did a lot of work, and they believed — they still believe — everything they wrote and everything that they aired on television. But it is my conclusion that they did not have enough information to go on television with this story.” {Reuter from Atlanta 2 Jul, London *Sunday Telegraph* 5 Jul}

The Abrams report is released in its 54-page entirety. It records a quick but detailed inquiry, by many people including “independent investigators retained by us” (Kroll Associates, it later transpires, who provided the services of five former CIA officials {*Editor & Publisher* 25 Jul}), into the sources used by

the reporters and into the quality of the information they had collected. It says: “Our central conclusion is that although the broadcast was prepared after exhaustive research, was rooted in considerable supportive data, and reflected the deeply held beliefs of the CNN journalists who prepared it, the central thesis of the broadcast could not be sustained at the time of the broadcast itself and cannot be sustained now. CNN’s conclusion that United States troops used nerve gas during the Vietnamese conflict on a mission in Laos designed to kill American defectors is insupportable. CNN should retract the story and apologise.” {CNN website} The report is particularly critical of the weight placed by CNN [see 7 June] on the interviews conducted with Admiral Moorer, who “will be 87 next month”, and with Robert Van Buskirk, who “stated that he had repressed memory syndrome which he only overcame while speaking with [CNN Producer April] Oliver”. Abrams has also assessed what CNN was told by confidential sources. These he describes as follows: “There were three highly placed confidential sources that were understood to have confirmed both the use of sarin gas and that defectors were targeted in Operation Tailwind. One, particularly knowledgeable about chemical weaponry, was intimately familiar with nerve agents. Another was a senior intelligence source with access to records of Operation Tailwind. A third was a former high ranking officer intimately familiar with SOG. All were said to have validated the conclusions of the broadcast. Two of the three, news management was told, had reviewed the text of the broadcast before it was shown and approved it.” The report’s assessment of these confidential sources is that “they may properly be viewed as a whole as being supportive of the broadcast, but they are sufficiently ambiguous that they cannot be said to provide the full scale support for the broadcast that should have been demanded before it aired”.

Other publications that had reported the CNN/*Time* rendering of the Tailwind story have also been experiencing the huge outrage it had caused (mostly through its suggestion that there had been many US defectors) and publish retractions, even *The Observer* in London, which says {5 Jul}: “The Observer reprinted the syndicated article from *Time* magazine in good faith. *Time* has now discovered the evidence in the article was unsubstantiated. We apologise to readers.” Its companion newspaper the *Guardian*, however, is more circumspect. Reporting on the predicament of the two CNN journalists primarily concerned, its Washington correspondent Martin Kettle observes: “If Ms [April] Oliver and Mr [Jack] Smith made serious journalistic errors — which the [Abrams] report ... plainly shows to be the case — it does not follow that their story was the pack of lies that some of their critics allege”. Quoting from the penultimate paragraph of the Abrams report, Kettle ends his article thus: “This was not a broadcast that was lacking in substantial supportive materials’ he says. These materials justify ‘serious continued investigation’. After the events of this week, that chance has almost certainly been lost.” {London *Guardian* 4 Jul}

April Oliver, like her immediate supervisor at CNN Jack Smith, declines to resign when asked to do so by CNN, which thereupon dismisses them both. She stands by her story and circulates a four-page defence of her findings and methods which she had earlier sent to top CNN management. It says she had witnessed “the destruction of a piece of journalism I remain proud of” and “endured public humiliation unparalleled in recent years” {London *Independent* 6 Jul} [as, for example, in the *Weekly Standard*’s elaborated charge {20 Jul} of “political agenda” and “knee-jerk anti-Americanism”]. Speaking on ABC *Good Morning America* about CNN’s behaviour she says: “They couldn’t take the heat, they couldn’t take the military establishment coming down on them, they were threatened with a boycott by veterans ... they didn’t want to take the controversy.”

{AP from New York 6 Jul} In the *Washington Post* {12 Jul} she takes issue with the central features of the Abrams report and states: "One of the primary reasons CNN sacrificed this story was to protect its relationship with the Pentagon". She and Jack Smith reportedly also issue a 70-page rebuttal of the Abrams report. Meanwhile veterans are reportedly organizing for a class-action lawsuit against CNN. {*The American Reporter* 15 and 27 Jul} Publication of the findings of the Defense Department inquiry [see 7 Jun] is postponed by a week {UPI from Washington 16 Jul}.

3 July Iraq used VX nerve-gas against Iranian forces in 1988 during what proved to be the decisive battle of the war, its recapture of the Fao peninsula, according to the former head of Iraqi military intelligence, General Wafiq al-Sammarai [see 13 Mar], quoted in the London *Independent*. "We won because we used VX. We caught them by surprise and we deployed massive forces." Contradicting current denials by Iraq that it had ever succeeded in weaponizing VX [see 24 Jun], the general, who defected in 1994, says: "The VX was produced [in late 1987] six months before it was used by Iraqi engineers supported by German scientists. It replaced sarin which we had used before". The Germans, he believed, had been hired on an individual basis. The VX was stored at al-Tharthar, north-west of Baghdad. "VX was used in the battle of Fao on 17 and 18 April the following year. We put it in long-range artillery shells and dropped it from aircraft. This is what caused the panic among the Iranian Revolutionary Guards." The Iranians had not realised it was VX that had been used.

5 July In Brazil, the army is to establish two new laboratories, so *O Globo* reports, one near Manaus on the Amazon to study viruses and bacteria found in the rainforests of the region, the other a higher-security facility in the state of Rio de Janeiro that will be capable of identifying nerve gases and the like. The army has assured the newspaper that it has no plans to use the labs for CBW-weapons purposes.

5–8 July In Geneva, the United Nations Institute for Disarmament Research (UNIDIR) hosts a conference on *Current Problems of Biological Warfare and Disarmament: Problems, Perspectives, Possible Solutions*. [For further details, see *Progress in Geneva* above.]

7 July In the United States, the State of Michigan approves the sale of Michigan Biologic Products Institute, which is the nation's only licensed manufacturer of anthrax vaccine and which has for several years been losing some \$5 million annually, to a newly formed company, BioPort Inc, for \$25 million in cash, secured notes, product donations and royalties. The major investor in BioPort, at 58 percent, is Intervac LLC, a pharmaceutical investment firm based in Maryland which has, as its leading investor, Admiral William J Crowe, Jr, former chairman of the Joint Chiefs of Staff and former ambassador to the United Kingdom. UPI has just reported Admiral Crowe as saying that, with the current concerns about BW making sales of anthrax vaccine likely to expand, "we think the market is going to be pretty good". {*New York Times* 8 Jul}

7 July In Panama, the Legislative Assembly approves ratification of the CWC {Panama City *El Panama America* 8 Jul}.

7–8 July In Cape Town, South Africa, the Truth and Reconciliation Commission again reconvenes [see 18 Jun] to continue its public hearings on the country's past CBW programmes [see 8–12 Jun and 15 Jun]. The former managing director of the SADF front-company Delta G Scientific, Dr Philip Mijberg, testi-

fies that the company had been established in order to research and manufacture CW agents, including the tonne of Ecstasy delivered to the 7th Medical Battalion in 1992. {Reuter and AFP from Cape Town 7 Jul} Appearing for the third time, former SADF Surgeon-General Niel Knobel states that a decision to wrap up the work was taken in 1992, with Brigadier Basson then being instructed to scan information gathered during the programme onto optical discs; there is a single set of 13 of these discs, maintained at Defence Force headquarters in Pretoria, with only three people having access to them, one being Deputy President Thabo Mbeki. General Knobel is unable to say whether the discs in fact contain all of the 1981–93 Project Coast material — including, for example, the information contained in the two trunkloads of sensitive documents discovered at the time of Basson's arrest [see 6 Mar 97]. The hearings are adjourned indefinitely pending the outcome of Basson's plea to the High Court that it should set aside the Commission's ruling that he should testify. {AFP from Cape Town 8 Jul, Johannesburg *Sowetan* 9 Jul}

8 July In Afghanistan, a CBW-agent production facility has recently been established by the "Jihad Islamic Front against Jews and Crusaders", according to unidentified "Arab sources" quoted by the Milan *Corriere della Sera*, which also says that the Front is establishing a second such facility in Bosnia, at Zenica. The Front is said by the newspaper to have been founded on 23 February by Saudi Arabian millionaire Usamah Bin-Ladin, whose representatives purchased the production laboratories in the former Yugoslavia in May, and hired Ukrainian chemists and biologists "to optimize the poisons and train the activists".

8 July In Moscow, *Izvestia* reports that France and the United Kingdom declared their intention in May, at a conference in The Hague [see 18 May], of joining those countries that are providing assistance for the Russian programme of chemical-weapons destruction [see 30 Jun], and will, during the coming month, be announcing their concrete plans for so doing. Soon afterwards *Rossiiskaya Gazeta* {10 Jul} writes also about France providing financial chemdemil assistance, as well as Italy and the UK [see 18 May and 26–27 May], and, in addition, refers to a like expression of intent by Norway. The article includes a statement of a position which Russian authorities are currently taking that precludes disclosure of chemical-munition design to foreign-aid donors on the grounds that the CWC prohibits dissemination of such information.

8 July The UK Defence Ministry publishes a White Paper {Cm 3999} setting out the conclusions of the Strategic Defence Review that had been initiated a year previously by the incoming government. In the "fundamental reshaping" of the armed forces that lies ahead, anti-CBW protection will not be neglected; on the contrary: "We are responding urgently to the risks arising from the proliferation of chemical and biological weapons by significantly improving our defensive capabilities. The importance of this was underlined by Iraq's recent confrontation with the UN. We are building up stocks of existing vaccines and at the beginning of June 1998 we and the United States announced our agreement to co-operate closely in the development of new medical and other countermeasures [see 3 Jun]. ... Much of our specialist capability is provided by the Territorial Army. It cannot be deployed sufficiently quickly to meet the current range of possible operational requirements. We will therefore be creating a mainly regular joint Army/RAF nuclear, biological and chemical reconnaissance organisation for land-based operations. This will be accompanied by enhancements to our biological and chemical detection and de-

contamination equipment.” The new joint NBC defence regiment is reportedly to be created by “rerolling” a regiment of the Royal Armoured Corps {London *Daily Telegraph* 9 Jul}.

9 July In Rome, the Libyan People’s Committee for Foreign Relations and International Cooperation and the Italian Foreign Ministry sign an accord to normalize their relations. This includes promises of joint efforts to fight against terrorist activities in all forms and to ensure the non-proliferation of weapons of mass destruction. {Xinhua from Rome 10 Jul}

9–10 July In Washington, a conference on *Compliance with Arms Control and Nonproliferation Agreements: Closing the Conceptual and Policy Gaps* is convened jointly by the Chemical and Biological Arms Control Institute (CBACI) and the Monterey Institute of International Studies Center for Nonproliferation Studies.

12 July South African access to the Iraqi CBW programme during the period of Project Coast [see 7–8 Jul] is alleged by the Johannesburg *Rapport*, citing unidentified “highly reliable sources”. The Sunday newspaper states that “during his term of office as project leader of the former Defence Force’s chemical and biological programme, [Dr Wouter] Basson often secretly visited Iraq”.

12 July In Cyprus, the United Kingdom stores at its bases not only nuclear weapons but also chemical weapons, according to the Nicosia *I Simerini*, referring specifically to “big underground storerooms in the area of Ayios Nikolaos in Dhekelia”. [Note: this is a report conspicuously lacking in substantiation.]

12–16 July In Iraq UNSCOM has a mission collecting the fresh samples from missile-warhead fragments which CWC-candidate-accredited laboratories in France and Switzerland are to analyse for VX, residues of which have already been reported from such samples by a US Army laboratory at Aberdeen Proving Ground [see 24 Jun]. The team of 15 people, lead by Horst Reeps of Germany and including Chinese, French and Swiss experts, leaves with 80 samples, taken in a warehouse in Taji where UNSCOM stores parts of missiles recovered from a site at al-Nibai used by Iraq for destruction purposes. {AP from Baghdad 12 and 13 Jul, AFP and Reuter from Baghdad 15 Jul, *International Herald Tribune* 17 Jul, *Hansard (Commons)* 29 Jul}

13–14 July In the United Kingdom, a two-part documentary on CBW is screened on BBC television as a *Panorama* special. The first part addresses Soviet biological-weapons activities, including the past possibility of a smallpox-missile attack on London. It relies chiefly on Dr Ken Alibek [see 20 May] and Surgeon-Commander Chris Davis, who until recently was reportedly the chief BW specialist on the UK Defence Intelligence Staff. {London *Night & Day (Mail on Sunday)* 12 Jul} A television critic subsequently writes that “it would have been nice, given the importance of the subject matter ... to have had ... a larger element of serious critical analysis, and a smaller element of doomsday thriller”. {London *Independent* 15 Jul} The second part is about Project Coast and associated activities in South Africa, and relies chiefly on the Truth and Reconciliation Commission [see 8–12 Jun]. It includes reporting of what it suggests could have been South African assassinations conducted in Britain using Project Coast weapons. {London *Times* 14 Jul, London *Guardian* 15 Jul} It also reports that secret information may have leaked from Porton Down to Project Coast, a claim which the UK Defence Ministry subsequently says is being investigated {*Hansard (Commons)* 30 Jul}.

15 July In Israel, Tel Aviv District Court sentences Nahum Manbar, found guilty of selling chemical-weapons related materials to Iran [see 17 Jun], to 16 years in prison. There are to be appeals. It is a case with many political ramifications. {*Mideast Mirror* 16 and 17 Jul}

15 July In Washington, on Capitol Hill, Global Green USA convenes an expert workshop on *Destruction of Chemical Weapons: An Update on US and Russian Programs* {*Business Wire* 14 Jul}.

17 July In Rome, the UN Diplomatic Conference of Plenipotentiaries on the Establishment of an International Criminal Court [see 15 Jun] comes to an end. By a vote of 120–7 with 21 abstentions, it adopts the *Rome Statute of the International Criminal Court* {A/CONF.183/9}. The seven countries voting against the statute are China, Iraq, Israel, Libya, Qatar, the United States and Yemen. Although the use of “asphyxiating, poisonous or other gases and all analogous liquids, materials or devices” is expressly categorized in Article 8 as a war crime, the Statute makes no such reference to biological warfare.

17 July The US Defense Department Inspector-General issues the second in a series of reports on the readiness of US forces to operate in a CBW environment. The report is not commendatory, its summary reading as follows: “Except for Navy surface ships, at 187 of 232 military units reviewed, unit commanders generally were not fully integrating chemical and biological defense into unit mission training. As a result, commanders could not adequately assess unit readiness to successfully complete wartime missions under chemical and biological conditions. Management controls for reporting chemical and biological defense readiness needed improvement to ensure that chemical and biological defense is fully integrated into all levels of unit training and that readiness reporting accurately reflects the readiness of units to conduct mission-essential operations under chemical and biological conditions.” {DoD IG website}

17–19 July In Washington, the Research Work Group of the interagency Persian Gulf Veterans Coordinating Board [see 19 Sep 96] convenes a conference bringing together some 280 federally funded scientists, physicians and others from around the world who are studying Gulf War illnesses. The conference is chaired by Dr Timothy Gerrity from the Veterans Administration Office of Research and Development. He summarizes it thus: “Although this meeting has not revealed any startlingly new information, it provides us with a picture of the major efforts underway that are beginning to produce preliminary results and are well on the road to final products within the next 12 to 18 months. One important message that has come from the science presented here is that the symptoms associated with unexplained illnesses, and that seem to be accompanied by decreases in neuropsychological performance, be only be accounted in part by psychological distress. It is clear that we still have much to learn about the nature of Gulf War veterans’ illnesses.” {GulfLink website}

18 July In Iraq, an UNSCOM team led by Lt-Col Gabrielle Kraatz-Wadsak of Germany (who is now the new head of the UNSCOM biological group) is inspecting a headquarters building of the Iraqi Air Force and finds a document from the time of the Iraq-Iran war listing munitions that had CBW-agent fills. Iraqi officials prevent the team from copying the document. UNSCOM complains to the UN Security Council. This is the first serious public standoff between Iraq and the UN for some months. {*Washington Post* 24 Jul, Rotterdam *NRC Hand-*

elsblad 18 Aug) UNSCOM Executive Chairman Richard Butler is subsequently quoted as saying that the document might be related to much sought-after information on 100,000 munitions that were filled with CBW agents during the 1980s. UNSCOM has said in past reports that more than 100,000 such weapons — “special munitions”, in official Iraqi parlance — from the period 1981–88 remain unaccounted for, Iraq having provided no documents or information on their use {USIA website 23 Jul}. The *Washington Post* {17 Aug} later reports that, according to “one knowledgeable account” otherwise unidentified, the document showed that “Iraq used far fewer chemical weapons than it claimed” in the 1981–88 war, and that this suggested that “Iraq still has hidden about 6,300 air-dropped chemical bombs and 730 tons of chemical agents”.

20 July The UK House of Commons orders to be printed the *Chief Constable's Annual Report & Accounts 1997–1998* of the Ministry of Defence Police. In the section on the Operational Support Unit — a team of 50 officers whose primary role is to provide “a flexible response capability to any threat affecting MoD's interests” — the report states that the OSU is given “nuclear, biological and chemical (NBC) training to enable it to fulfil its Augmentation Force role during nuclear stagings”. {HC Papers (session 1997–98) 948}

20 July Senegal deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, it will thereby become the 113th state party to the treaty.

20 July Cuba initiated its present CBW-weapons programme in 1981, when Soviet technicians built a Yellow Rain production facility in an underground tunnel complex at Quimonor in Matanzas province, expanding the programme some years later with the construction of an anthrax facility at Pinar del Rio. This, and much more like it, is asserted in “documents smuggled out of Cuba and made available ... by Alvaro Prendes, a former Cuban air force colonel who now is the Miami-based spokesman for the Union of Liberated Soldiers and Officers, a clandestine pro-democracy movement within Cuba's security services”, so *Insight on the News* now reports. By way of substantiation, the magazine quotes as follows from what it describes as a “classified annex” to the recent US Defense Department report to Congress on the threat presented by Cuba [see 6 May]: “According to sources within Cuba, at least one research site is run and funded by the Cuban military to work on the development of offensive and defensive biological weapons”. [Note: evidently the US Defense Department attached little credence to the Prendes documents.]

21 July Iran conducts the first test-flight of its new medium-range ballistic missile, identified as the Shihab-3 [see 18 Sep 97] with a range possibly of 1300 km. The US intelligence community believes that its development programme has benefitted greatly from Russian technology and materials, as well as from Chinese and North Korean assistance. It also believes the missile to be too inaccurate to be worth using except with a WMD warhead, which, in Iran's case, would mean a chemical or biological one. {*Washington Times* 23 Jul}

A week previously, in an action publicly acclaimed by US Vice-President Al Gore, the Russian government had announced that nine Russian research or industrial entities suspected of involvement in the export of missile-related goods or services were to be investigated by the Government Commission on Export Control {White House releases 15 Jul}. A week after the test flight, President Clinton issues an executive order to expand an existing one, EO 12938, that gives him authority to impose antiproliferation sanctions [see 14 Nov 94] so that he

can then be in a position to sanction those nine Russian entities. Republican leaders in the Congress have made it clear that, in the absence of such sanctioning, they will move to override the Presidential veto of the Iran Missile Proliferation Sanctions Act [see 23 Jun], to which is attached the US CWC- implementing legislation. {Reuter from Washington 28 Jul}

21 July US Defense Secretary William Cohen releases the findings of his department's inquiry into the CNN/Time allegations regarding Operation Tailwind [see 7 Jun and 2 Jul]. The inquiry has been based on reports of historical research conducted by the Army, the Navy, the Air Force, the Joint Chiefs of Staff and the CIA. The Defense Department had also convened, on 23 June, a meeting of key personnel (now mostly retired) involved in the planning and execution of the operation. ‘Tailwind’ is found to have been a diversionary operation intended to distract enemy attention from another operation elsewhere in Laos, and had nothing to do with US defectors.

As to the alleged use of sarin nerve-gas, the summary of findings is as follows: “(1) US policy since World War II has prohibited the use of lethal chemical agents, including sarin, unless first used by the enemy. (2) No evidence could be found that the nerve agent Sarin was ever transported to Southeast Asia (Vietnam, Cambodia, and Thailand). (3) No evidence could be found that Sarin was used in OPERATION TAILWIND. (4) Unique safeguards are required for the handling of lethal chemical agents by US forces. Such safeguards were not used in association with OPERATION TAILWIND because lethal chemical agents were not employed in Southeast Asia. (5) Air Force personnel involved in support of OPERATION TAILWIND said they recalled employing tear gas to suppress enemy fire on the ground during extraction of the SOG forces but did not employ Sarin. (6) Relevant North Vietnamese military documents reviewed record no use of lethal chemical agents by US forces at any time during the Vietnam War, but they do record the use of tear gas. (7) The high toxicity of Sarin gas is such that, had it been employed as a weapon to facilitate the landing zone extraction of Studies and Observation Group (SOG) forces as has been alleged, it is highly improbable that all 16 US servicemen and all but three Montagnards would have survived the mission alive.”

And on the use of tear gas: “(1) Tear gas munitions were used by US forces during OPERATION TAILWIND to suppress enemy ground fire while friendly forces were extracted by helicopter. (2) The tear gas used was designated CS, a more potent version than the CN tear gas used previously in the war. (3) The use of tear gas, or Riot Control Agents (RCA) as they were sometimes called, was in accordance with US policy at the time. (4) The use of tear gas to suppress enemy fire was viewed as successful in the operation.”

Robert Van Buskirk had been interviewed during the inquiry. The Defense Department summary states: “[He] volunteered that on September 14, 1970, when gas was dropped on the SOG troops before their extraction from the landing zone, he saw his fellow soldiers ‘convulsing’. However, he did not know that new, larger tear gas munitions (CBU-30) had been introduced for use in Vietnam in 1970, replacing the CBU-19, with which he was familiar.”

The Air Force input into the inquiry reports that “no evidence was found that CBU-15 nerve agent munition (Sarin gas) was deployed to Southeast Asia at any time”. It suggests that the poorly legible document which CNN had cited as evidence of CBU-15 employment during Tailwind had actually referred to ‘CBU-25’, which was a widely used antipersonnel cluster-munition dispensing fragmentation bomblets.

[Note: The published summary of the findings record no departmental attention to the wartime stories reported out of

southeast Asia alleging US use of the incapacitating agent BZ in several incidents during 1966–70, and of the nerve gas VX in Cambodia during 1969 in Operation Redcap.]

23 July In the UK Public Records Office, files of the Second World War Special Operations Executive are released into the public domain. They include papers on Operation Foxley, conceived within SOE in June 1944 but cancelled in April 1945, aimed at the assassination of Adolf Hitler. Chemical and biological devices were among the possible assassination weapons proposed by the SOE scientific section. {London *Guardian* and *Daily Telegraph* 23 Jul, *Washington Post* 24 Jul} They included ones employing Agent N (anthrax bacteria) or Agent I (identified in the papers only as a poison whose effects would not be noticed for 6–7 days). The SOE technical adviser primarily concerned was an Intelligence Corps major, Bertie Blount, who later became Director of Scientific Intelligence. {London *Daily Telegraph* 24 Jul}

24 July In South Korea the Defence Ministry announces its second defence capability enhancement project, to include the purchase of NBC reconnaissance vehicles for which some \$14 million has been allocated. {Yonhap from Seoul 24 Jul}

24 July In Iraq, Staff Lt-Gen Hazim Abd al-Razzaq al-Ayyubi states in his memoirs, which are endorsed by President Saddam Hussein and are shortly to be published, that, when he was in command of the country's surface-to-surface missile force at the time of the second Gulf War, "I received orders to take the necessary measures and coordinate with the supervisor in charge of the Military Industrialization Organization at the time to have the missiles with special warheads ready for use as soon as orders are given to strike against specific enemy targets wherever they may be as the Americans were expected to launch concentrated strikes on Iraq". As excerpted in the Amman newspaper *Al-Dustur* in its BBC-SWB translation, the episode is dated 6 December 1991, in contrast to the 6 January 1991 of a German report of the Baghdad *Al-Ittihad* excerpt {*Frankfurter Neue Presse* 30 Jul}.

24 July OPCW Director-General José Bustani announces his selection of 20 scientists from among the 108 that had been proposed by 44 states parties to serve on the OPCW Scientific Advisory Board [see 15 Apr]. Appointed to serve, in an individual capacity, for a period of three years, are: Dr Will Carpenter (USA), Prof Claudio Costa Neto (Brazil), Dr Ashok Kumar Datta (India), Dr Claude Eon (France), Dr Alfred Frey (Switzerland), Prof Shintaro Furusaki (Japan), Dr Thomas Inch (UK), Weimin Li (China), Dr Maria Consuelo Lopez-Zumel (Spain), Prof Gerhard Matz (Germany), Prof Brahim Youcef Meklati (Algeria), Prof Giorgio Modena (Italy), Prof Victor Petrunin (Russia), Prof Erno Pungor (Hungary), Dr Marjatta Rautio (Finland), Prof Burkhard Seeger Stein (Chile), Dr Abbas Shafiee (Iran), Prof Theodros Solomon (Ethiopia), Prof Branko Stanovnik (Slovenia) and Prof Stanislaw Witek (Poland). Dr Ralf Trapp of the OPCW Secretariat is to serve as secretary. Their first meeting is scheduled for 21–25 September. {OPCW release 24 Jul}

26 July In Sudan, the opposition radio station Voice of the National Democratic Alliance {in BBC-SWB 28 Jul} reports that an explosion had occurred on 18 July in the military area near Shajarah [see 27 Aug 96], south of Khartoum, which had damaged the Yarmuk Manufacturing Complex (YMC) [see 14 Jan], a property owned by the Khartoum Military Commission. Located in Khartoum North prior to a previous explosion, the YMC had, according to an unidentified "military source", been inaugurated in 1994 to manufacture chemical weapons. It had

been supervised and administered, the radio report continues, "by 250 experts and technicians from Iran and Iraq".

27 July In Beijing, the Chinese State Council issues a White Paper entitled *China's National Defence*. The chapter on arms control and disarmament [see also 16 Nov 95] has a section on CBW. Among much else, this states that China has fully and conscientiously fulfilled its obligations under the BWC [see also 27 Jun], and actively participates in the work of the Ad Hoc Group. "Having suffered grievously from biological weapons attacks in the past, China supports work that helps comprehensively to strengthen the effectiveness of the convention. ... While improving the convention's verification mechanism, international cooperation and exchanges among states parties in the sphere of biotechnology for peaceful purposes should also be strengthened." {Xinhua from Beijing 27 Jul}

27 July The International Atomic Energy Agency transmits a report to the UN Security Council on its work in Iraq which, contrary to some earlier expectations [see 14 May], does not recommend closing the nuclear file. In effect, the report says that, while the IAEA has no evidence that Iraq still possesses nuclear-weapons materials, the international community should nevertheless assume that Iraq has kept documents and "specimens of important components", and that it has a cadre of experts which could re-start its former weapons programme if outside scrutiny were relaxed. {USIA website}

27 July In South Africa, the Cape High Court dismisses the application of Brigadier Basson that it should overturn the subpoena of the Truth and Reconciliation Commission which ordered him to testify at a special TRC hearing into Project Coast [see 7–8 Jul] {SAPA from Cape Town 27 Jul, AFP from Cape Town 28 Jul}. Basson had argued that he might otherwise incriminate himself ahead of his trial, due to open next month. In an affidavit, Basson had told the court that the reason why he had been instructed by the South African Defence Force in the early 1980s to establish Project Coast was because Cuban troops in Angola had started using chemical weapons against South African troops who had "absolutely no defensive capabilities" against such weapons. {SAPA from Cape Town 27 Jul}

The TRC sets its hearing date for two days later. Its statutory mandate, extended in April, is due to expire at the end of the month, in four days time. After further legal wrangling, Brigadier Basson finally starts to give evidence to the Commission during the very last hours of its authority to subpoena witnesses. {AFP from Cape Town 29 and 30 April, *Los Angeles Times* 31 Jul}

28 July In Plaquemine, Louisiana, the senior environmental engineer at the Georgia Gulf plant, David Goldsmith, writes to state environmental authorities to say that the company still does not yet fully understand how tris(2-chloroethyl)amine — otherwise known as HN3 nitrogen mustard gas — is detectable in waste from production of the ethylene dichloride used on site to produce vinyl chloride. The company is being sued by contract workers who, in September 1996, when revamping the vinyl chloride unit at the Plaquemine facility, became sprayed by a liquid later found to contain sulphur mustard, from which they suffered skin burns. The Goldsmith letter addresses the question of whether the Chemical Weapons Convention has been violated (sulphur and nitrogen mustards being Schedule 1 chemicals), but states that an OPCW spokesman has said that there would be no violation if the mustards were an "unavoidable byproduct" and represented no more than three percent of the total product stream. The letter states that both criteria are satisfied. {*Houston Chronicle* 24 Aug}

28–30 July The US Department of Energy convenes a forum in Washington on its Chemical and Biological Nonproliferation Program to which the broader US CBW-defence community is invited. The CBNP had been initiated in 1997 to engage the Department and its laboratories in combatting chemical and biological proliferation and terrorism through development of advanced technology [see 3 Mar]. The purpose of the forum is to communicate progress thus far, and to coordinate efforts with those of other agencies.

29 July UK Secretary of State for International Development Clare Short responds as follows after being asked in Parliament about the assistance being brought by her department to the victims of chemical weapons in Halabja [see 16 Mar]: “We share the widespread concern for the people of Halabja, who are suffering from the continuing effects of the chemical weapons attack. We have been working with NGOs, other donors and medical experts to determine what best can be done to help. Earlier this year, we funded an initial delivery of basic medical supplies to Halabja. We have also contracted a medical specialist to carry out research into the types of illnesses suffered by the people and possible treatments, with a view to developing immediate and longer term health care programme in collaboration with the World Health Organisation, taking into account the difficulties of working in northern Iraq. Other donors have expressed an interest in providing funding towards such a programme and we continue to liaise with them closely.” {*Hansard (Commons)* 29 Jul}

29 July In the United States, Army contracts for demonstration of chemdemil technologies alternative to incineration are awarded to three of the contending developers in the Assembled Chemical Weapons Assessment (ACWA) programme [see 9 Oct 97], namely Burns and Roe Enterprises (plasma arc under argon), General Atomics (caustic hydrolysis and supercritical water oxidation) and Parsons Infrastructure and Technology Group Inc (caustic hydrolysis with biotreatment) {*Hazardous Waste News* 3 Aug}.

The Army’s decision is later challenged by one of the other contending companies, Teledyne-Commodore (solvated electron treatment). Its president, Gerald Watson, states that the selection process had failed to follow the ACWA evaluation criteria. The Army files a motion to dismiss the protest, but is said to be considering postponing all ACWA technology demonstrations until the situation has been resolved. {*Denix* 26 Aug}

31 July In Cape Town, South Africa, the Truth and Reconciliation Commission adjourns its public hearings on the country’s past CBW programmes [see 7–8 Jul] after brief testimony from Brigadier Basson [see 27 Jul], the founder of Project Coast {SAPA from Cape Town 31 Jul}. He says: “I did many things, but not one of them was illegal and not one of them led to the death or bodily harm of a single person. I was part of the ordinary defence force that had to support the government of the day”. Notwithstanding contrary testimony given by people who had worked for him, he tells the Commission that Project Coast had no offensive capabilities. Asked about the tonne of methaqualone (Mandrax) [see 8–12 Jun and 18 Jun], he says: “Half of it was burned — we did it to create a pyrotechnic mechanism, I used hundreds of kilograms to find the right recipe, you don’t just throw a chemical substance into another mixture and then set fire to it, you’ve got to test different proportions ... and the problem with pyrotechnics is that you lose about 80 percent of your actual substance, so one uses hundreds and hundreds of kilograms in research.” He also says that from the beginning of the project he established good relations with CBW specialists in many countries, despite apartheid: “At that stage in South Af-

rica, we were confronted with information that the Russians, East Germans and Cubans definitely had capabilities in neighbouring countries. Western countries were interested in the information we gathered on this ... so I had access to their senior government officials.” The Commission makes public the notes he had written after attending a May 1981 conference in the United States: notes which describe the ease with which he obtained information from military personnel from Britain, Canada, Japan, the United States and West Germany. Another such document details a briefing he had received in Taipei, also in May 1981, on Taiwanese CBW facilities. {*Washington Post* and *Los Angeles Times* 1 Aug} [Note: the quality of the Basson testimony may be judged from his comment about SIPRI: “The Stockholm International Peace Research Institute was a cover up for the Eastern bloc countries, they were collecting databases of old chemical and biological warfare research and then made it available to embarrass the relevant countries”.]

31 July In Harrisonburg, Virginia, a federal jury convicts Raymond Mettetal under the federal law that implemented the Biological Weapons Convention in the United States, namely the *Biological Weapons Anti-Terrorism Act of 1989* [see 22 May 90], now 18 USC 2332. As in other cases in which people have been charged under this law — notably in Minnesota [see 4 Aug 95], in Arkansas [see 20 Dec 95] and in Wisconsin — this one also has involved ricin possessed with intent to use as a weapon. {*Richmond Times-Dispatch* 1 Aug}

31 July In the United States, the Fellowship of Reconciliation publishes a report of its investigation into the magnitude of the clean-up problem at those numerous locations in Panama once used by US armed forces for the storage or testing of chemical weapons {Panama City *El Panama America* 3 Aug}. The FOR report, *Test Tube Republic: Chemical Weapons Tests in Panama and US Responsibility*, has been prepared with participation from the Chemical Weapons Working Group, Earthjustice Legal Defense Fund, Greenpeace, the Panamanian Center for Research and Social Action (CEASPA), and the Center for Latin American Studies (CELA). The report observes that the primary US declaration under CWC Article III, submitted to the OPCW on 29 May 1997, “did not include any declaration of chemical weapons abandoned in other countries”. It continues: “Since at the very least the United States abandoned chemical munitions on San José Island in Panama, this means that the United States is violating the Chemical Weapons Convention’s requirement to declare chemical weapons abandoned in other countries”.

2 August The Taiwan Defence Ministry declares that it would not develop and does not possess chemical weapons. This declaration is part of a statement denying that Taiwan had helped South Africa to develop chemical weapons during the 1980s. Such an interpretation might have been placed on a document recently released by the South African Truth and Reconciliation Commission [see 31 Jul]. {DPA from Taipei 2 Aug}

2 August The *Washington Post* publishes details of a US administration plan for rebuilding Iraq’s political opposition and for preparing a case for a possible war-crimes indictment of Iraqi leaders. The \$5 million expenditure envisaged has already been approved by the Congress [see 1 May]. The newspaper says that the plan includes the funding of a centre for Iraqi exile activities in London, as well as the translation and indexing of millions of captured Iraqi documents.

3 August In Baghdad, UNSCOM Executive Chairman Richard Butler, accompanied by commissioners from China, the Netherlands and Norway as well as senior UNSCOM staff, meets with Deputy Prime Minister Tariq Aziz and other senior Iraqi officials for the talks that had been scheduled in June to discuss the results of the programme of work which, when it had been agreed then, encouraged talk about light at the end of the tunnel [see 11–15 Jun]. Ambassador Butler had beforehand visited Beijing for talks with Chinese Vice-Premier Qian Qichen. Iraqi news media are not welcoming, and accuse UNSCOM of prolonging its work to suit US interests; and an American UNSCOM inspector has just been accused of spying. *Al-Jumhuriya*, moreover, reports what it calls “biological warfare” against Iraq: “Iraqis noticed an unusual increase of mice and rats in Iraq, which led them to think that this is [the result of] an organized operation by a foreign side, represented by the American officers and spies”. {AP from Baghdad 3 Aug} After a morning and an evening session, and for reasons that are not immediately disclosed to the outside world, the talks do not resume on the second of the two days that had been allocated to them. {*Washington Post* 4 Aug} Ambassador Butler and his team leave. The *New York Times* {6 Aug} later reports officials who had been with him in Baghdad as saying that he had never got into substantive discussion with the Iraqi team: “Mr Aziz and his colleagues appeared relaxed, even smug, as they stated and restated what apparently had become a high-level policy line: that there was nothing left to talk about, that Iraq had ended all its weapons programs and that sanctions should be lifted without further ado”. Ambassador Butler, in his formal report to the UN Security Council {S/1998/719}, subsequently details what had happened, recording that Deputy Prime Minister Aziz had seen point in continuing the talks only “if I were prepared to agree to his demand that I report to the Council that Iraq had no proscribed weapons and related materials”.

This report to the Council also includes an assessment of the implementation of the programme of work agreed in June. It notes that an expert meeting had taken place in Baghdad in mid-July “in order to discuss with Iraq the results of the chemical analysis which had identified VX degradation products in samples of remnants of special warheads unilaterally destroyed by Iraq [see 12–16 Jul].” The report continues: “After the review of the available results, the international experts judged, unanimously, that the analytical results were valid. ... Iraq continued to state that it had never weaponized VX.”

And the report records that the scheduled meeting of international and UNSCOM experts with their Iraqi counterparts to review, for the third time since September 1997, Iraq’s full, final and complete disclosure of the proscribed biological programme had duly taken place in Baghdad during July. The report notes that the international experts had found that the FFCD was “not adequate to allow for credible verification”, and details why.

3 August In South Africa, the Pretoria Regional Court postpones to 24 March next year the trial of Brigadier Basson [see 31 Jul] on fraud, drugs-related and possibly other charges {AFP and SAPA from Pretoria 3 Aug}.

4 August In New Zealand, the government announces the establishment of a committee to inquire into the effects of herbicides such as Agent Orange and of nuclear radiation on the health of children of exposed veterans. The committee is to be chaired by former governor-general Paul Reeves. It will survey all those New Zealand veterans who had served in Vietnam during 1964–72 and all those who had been involved in the UK nuclear-weapons testing at Christmas and Malden Islands dur-

ing 1957–58. The committee is expected to report by the end of February 1999. {Wellington *The Dominion* 5 Aug}

4 August In Iran, a Tehran newspaper criticises the judiciary for failing to proceed more rapidly with the lawsuits that have been filed against German companies by Iranian victims of Iraqi chemical weapons [see 10 Apr 97]. After noting the complicity of other countries besides Germany in the Iraqi chemical-weapons programme during the Iraq-Iran war — Britain, France, the former Soviet Union and the United States are mentioned — the newspaper continues: “But more surprising is the truth that we have also demonstrated a callous passiveness toward our martyrs who were killed by lethal gases. The death toll by the poisonous gases is believed to have surpassed the figure of 10,000. The lethal weapons have also inflicted injuries to another 50,000 of Muslim combatants and even innocent civilians. About 118 of those wounded by chemical weapons have already attained martyrdom since 1991.” {*Tehran Times* 4 Aug}

4 August In Washington, the Special Assistant to the Deputy Secretary of Defense for Gulf War Illnesses, Dr Bernard Rostker, issues three new reports from OSAGWI investigations {DoD news briefing 4 Aug}. Two are case narratives [see 19 Mar], one of which concludes it “unlikely” that chemical agents had been released during the bombing on 3 February 1991 of Iraq’s southwest ammunition storage point at An Nasiriyah, despite Iraq’s declaration to UNSCOM that 6,000 rounds of mustard-gas 155mm artillery ammunition had been stored in one of its bunkers then {GulfLink website}. The other case narrative concludes that some but not all of the Czechoslovak detections of CW agents in Saudi Arabia during January 1991 [see 9 Nov 93] were “credible” [but see 4 Jun 96, UK] whereas the others, like similar French detections, were “indeterminate” {USIA website}. Also released is the first of a new series of Environmental Exposure Reports, concluding that depleted uranium had not caused Gulf War illness [see 17 Mar] {USIA website}.

5 August The Iraqi government announces that, following a unanimous vote by the National Assembly, President Saddam Hussein has decided to “completely suspend cooperation with the UN Special Commission and the International Atomic Energy Agency” {*Los Angeles Times* 5 Aug}. UN Secretary-General Kofi Annan describes this as a violation both of UN Security Council resolutions and of the February Memorandum of Understanding between Iraq and the UN [see 20–23 Feb], but he also observes that Iraq’s position is apparently “not a closed one” {AFP from the UN 6 Aug}. Indeed, the Iraqi statement includes the following: “Considering the fact that UNSCOM, in its current structure, is neither objective nor impartial, we demand that the Security Council restructure UNSCOM along the lines of the following principles: (a) A new executive office to be set up to supervise UNSCOM’s activities led by equal numbers of representatives from each of the permanent members of the UN Security Council, and with a revolving presidency and Iraq as an observer within this executive office. (b) Restructuring UNSCOM teams in UNSCOM headquarters in New York, Bahrain and Baghdad along the same lines. (c) UNSCOM centre to be moved from New York to Geneva or Vienna to shelter it from US influence.” And the statement goes to say that, in order to “prove its good intentions”, Iraq authorizes continuation of the ongoing monitoring and verification work of UNSCOM (which is run out of the Baghdad Monitoring and Verification Centre [see 7 Oct 94]). {AFP from Baghdad 5 Aug}

6 August The UN Security Council meets privately with UNSCOM Executive Chairman Richard Butler and UN Secretary-General Kofi Annan, and afterwards issues a presidential dec-

laration stating that Iraq's suspension of cooperation with UNSCOM and the IAEA [see 5 Aug] is "totally unacceptable". The heads of both UNSCOM and IAEA subsequently notify the Council that they are unable any longer to conduct meaningful inspections in Iraq and therefore seek the Council's instructions (S/1998/766 and S/1998/767). The Council deliberates but postpones action and, in the meanwhile, the Secretary-General's special envoy to Baghdad, Ambassador Prakash Shah, is seeking a compromise, while Iraq is soliciting international support (*New York Times* 10 Aug). The latter includes an unprecedented showing on Baghdad television of several hours of video of the August 3 Iraq-UNSCOM talks (Baghdad television 9 Aug in FBIS-NES 9 Aug, *New York Times* 13 Aug). [Note: possibly it was this grotesque violation of confidence which later caused Commissioner Ooms of the Netherlands, a participant in those talks, to give an extraordinarily candid account of them in interview to *NRC Handelsblad* {18 Aug in FBIS-TAC 19 Aug}.]

6 August In Miami US District Court, a \$100 million defamation and negligence suit is filed against CNN and *Time* magazine by a Vietnam-war veteran, Kenneth Plancich, distressed by the Tailwind story [see 2 Jul]. *Forbes* magazine reports that a hundred people have now threatened or filed suit against CNN, and that one of them has publicly rejected an offer of settlement. (*Los Angeles Times* 5 Aug, AFP from Miami 6 Aug)

11 August In London, at Bow Street magistrates court, a naval chief petty officer pleads guilty to a charge under the Official Secrets Act of having leaked a classified document to the *Sun* newspaper warning of the possibility of clandestine BW attacks on the UK [see 23 Mar] (London *Guardian* 12 Aug)

14 August The *Washington Post* reports that the US administration has sometimes intervened to dissuade UNSCOM from mounting particular no-notice inspections in Iraq, and had done so most recently on 4 August in regard to inspections planned for 6 August. The newspaper suggests that this was because the administration wished to avoid a new crisis over Iraq. Secretary of State Madeleine Albright confirms that such intervention had indeed taken place (*New York Times* op-ed 17 Aug), but, as the *Washington Post* {27 Aug} later puts it, she explains its purpose as being "to control the pace of confrontation with Iraq to create the best conditions in which to prevail". The chairman of the Senate Foreign Relations Subcommittee on Near Eastern and South Asian Affairs, Senator Sam Brownback, announces his intention of conducting a hearing on the matter as soon as the Congress reconvenes (Reuter from Washington 19 Aug).

The newspaper later itemizes six occasions of US intervention, back to 22 November 1997. It also reports that, in March, "the United States and Britain withdrew crucial elements of the intelligence support that allowed [UNSCOM] to observe Iraqi concealment efforts as they happened during surprise inspections", the withdrawal "including information, equipment and personnel". (*Washington Post* 27 Aug)

14 August US Defense Secretary William Cohen announces that Phase I of the Total Force Anthrax Vaccine Immunization Program [see 22 May] is to begin next week for service personnel assigned or rotating to Southwest Asia and Korea. Assistant Defense Secretary for Health Affairs Susan Bailey tells reporters that, since commencement of the accelerated programme of anthrax vaccination for Persian Gulf personnel [see 3 Mar], some 48,000 people had been started on the series of inoculations, only seven of them reporting adverse reac-

tions; 15 have refused the injections, and been disciplined. (DoD news release and special briefing 14 Aug)

14 August Bolivia deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, it will thereby become the 114th state party to the treaty.

16 August Japanese atrocities during the second world war are the subject of a video teleconference sponsored by the Simon Wiesenthal Center in Los Angeles which links participants there to Japanese veterans in Tokyo who had been denied access, as war criminals, to the United States [see 1 Jul]. A former member of Unit 731, Kanetoshi Tsuruta, speaks of the use during the war of typhus, cholera, anthrax and plague bacteria as weapons against Chinese and Russians, he himself having poured what he believed to be typhus organisms into a river upstream of a Soviet base. The US historian Sheldon Harris relates his estimate that as many as 250,000 people were killed in Japanese BW attacks in China. (AP from Los Angeles 18 Aug)

18 August The UN Security Council agrees unanimously on the texts of letters it now sends to the Executive Chairman of UNSCOM and the Director-General of the IAEA in which its members "reiterate their full support for the IAEA and UNSCOM in the full implementation of their mandates" (S/1998/768 and S/1998/769). The letters continue: "Iraq is obliged under the relevant Security Council resolutions to provide IAEA and UNSCOM with the cooperation necessary for them to undertake their activities, including inspections. You should continue to report to the Council on all occasions that you deem necessary." It is thus left to UNSCOM and the IAEA to decide how best to proceed. (USIA 18 Aug) Ambassador Butler next day requests Iraq to resume cooperation with UNSCOM inspection teams. Iraqi Deputy Prime Minister Tariq Aziz responds: "Iraq will not change its decision ... until the Security Council seriously and responsibly studies its justifiable demands, detailed on August 5, and begins to lift the embargo by applying paragraph 22 of resolution 687." (AFP from Baghdad 20 Aug)

19 August In Israel, the Prime Minister's Office issues a statement about the Israel Institute for Biological Research at Ness Ziona saying: "No person has ever been killed in a work accident at the Biological Institute since its inception 45 years ago. No incidents which have caused harm or could cause harm have ever occurred at the institute." The London *Foreign Report* had just stated that 4 workers at the institute had been killed and 25 injured in recent years [see also 18 Feb 97]. (*Jerusalem Post* 20 Aug, BBC World Service website 20 Aug)

20 August In Sudan, the Al-Shifa Pharmaceutical Industries factory in Khartoum North is destroyed by 13 Tomahawk cruise missiles launched from US warships in the Red Sea. The attack is part of the US response to the bombings on 7 August of the US embassies in Kenya and Tanzania. Occurring simultaneously and with the same explanation are US cruise-missile attacks launched from the Arabian Sea off Pakistan against six training bases in Afghanistan. US government officials state that these bases are a key part of the worldwide terrorist network, funded and led by Usama Bin Ladin [see 8 Jul], which had been responsible for the Nairobi and Dar-es-Salaam embassy bombings.

At a background briefing at the US Defense Department later in the day, an unidentified official speaks as follows about the factory in Khartoum: "First, we know that Bin Ladin has made financial contributions to the Sudanese military industrial complex. That's a distinct entity of which we believe the Shifa

pharmaceutical facility is part. We know with high confidence that Shifa produces a precursor that is unique to the production of VX. We know that Bin Ladin has been seeking to acquire chemical weapons for use in terrorist acts. We know that Bin Ladin has had an intimate relationship with the Sudanese government which is a state sponsor of terrorism. We know that Bin Ladin has worked with Sudan to test poisonous gasses and to finance simpler methods of manufacturing and dispensing gas, methods which would be less time consuming and expensive than prior Sudanese efforts. Even though he left Sudan in 1996, we know that Bin Ladin's businesses acquire restricted, high-priced items for the Sudanese military, including arms, communications, and dual use components for chemical and biological weapons." {USIA website} Speaking on television next day about the Khartoum factory, US National Security Adviser Sandy Berger says that the US "has physical evidence that they were making a chemical which was essentially one step removed from VX gas, a precursor chemical necessary to make VX gas which does not have other significant commercial purposes". He also says that the evidence "was indisputable as far as we're concerned". {USIA website}

The Sudanese government requests an urgent meeting of the UN Security Council to consider the behaviour of the United States and to set up a fact-finding mission to visit the bombed factory, which, it says, had made antibiotics, anti-malaria drugs and veterinary pharmaceuticals {Reuter from the UN 22 Aug}. That the factory had indeed produced such items is soon being reported by journalists from Khartoum {London *Observer* 23 Aug, Reuter from Khartoum 23 Aug, AP from Khartoum 24 Aug, *Washington Post* 25 and 26 Aug}. A statement from Cairo by the exiled Sudanese National Democratic Alliance says: "The reality is that this plant was making components for chemical arms while pharmaceuticals were manufactured to cover up the main activity" [see also 26 Jul] {AFP from Cairo 25 Aug}.

In justification of its cruise-missile attacks, including that against Sudan, the US Representative at the United Nations writes to the President of the Security Council to state that "the United States has acted pursuant to the right of self-defense confirmed by Article 51 of the United Nations Charter". The letter continues: "The targets struck, and the timing and method of attack used, were carefully designed to minimize risks of collateral damage to civilians and to comply with international law,

including the rules of necessity and proportionality". {USIA website 28 Aug}

20 August The UN Security Council conducts its regular two-monthly review of the sanctions imposed on Iraq under resolution 687 (1991) [see 24 Jun]. Its president, Ambassador Danilo Turk of Slovenia, subsequently tells reporters that there had been unanimity in the Council that the sanctions should remain in force. {UN *Daily Highlights* 20 Aug}

21 August In Albania, criminal prosecutor Arben Rakipi orders the arrest of six former government officials on charges of committing crimes against humanity, alleging that, while in power the previous year, they had deliberately fomented civil unrest and secretly authorized the use of poison gas against Albanian citizens. Former president Sali Berisha has organized a large demonstration in the capital against the arrests. Specifically, former defence minister Safet Zhulali and former interior minister Halit Shamata are alleged to have approved the use of gas against peaceful demonstrators in Vlore. In fact there had been no such use because helicopter pilots refused to fly the chemicals to Vlore from the military arsenal near Tirana. The active chemical was reportedly to have been chloropicrin, obtained from China in the days of close Albanian-Chinese relations. {*Washington Post* 27 Aug}

24 August At the United Nations in New York, where the Security Council has before it a Sudanese request that it dispatch a fact-finding mission to the the bombed factory in Khartoum North [see 20 Aug], deputy US representative Peter Burleigh reportedly says that such a mission is unnecessary because Washington already has evidence: "Putting together a technical team to confirm something that we already know, based on our own information, doesn't seem to have any point to us" {AP from Washington 25 Aug}. Reporters are now being briefed about the nature of that evidence by the US intelligence community: a soil sample "obtained by clandestine means" in the last few months from the grounds of the factory, in which had been detected traces of O-ethyl methylphosphonothioic acid (EMPTA) {*New York Times* 25 Aug, AP and Reuter from Washington 25 Aug, US Information Agency 25 Aug}. The significance of EMPTA is explained at a news conference by US

Forthcoming events

The *Second International NBC Defence Symposium* will be held at the Royal Military College of Science, Shrivenham, England on 6–8 October. Enquiries to Col (Retd) R G Lee, fax: ** 44 1793 785325.

The twelfth session of the OPCW Executive Council will be held in The Hague on 6–9 October, with the thirteenth on 8–11 December.

NATO Advanced Research Workshops—in Moscow: *Environmental Aspects of Converting CW Facilities to Peaceful Purposes*, 6–9 October. Enquiries to R. McGuire, Lawrence Livermore National Laboratory, fax: ** 1 510 422 6434; in Prague: *Scientific and Technological Methods of Distinguishing between*

Biological Weapons Attacks and Natural Disease Outbreaks, 17–21 October. Enquiries to Dr Graham Pearson, e-mail: 100703.162@compuserve.com, fax: **44 1672 539582; and in Prague: *The Role of Biotechnology in Countering BTW-Agents*, 21–23 October. Enquiries to Dr Alexander Kelle, Peace Research Institute Frankfurt, e-mail: kelle@mem.uni-frankfurt.de, fax **49 69 558481.

In Zagreb during 25–30 October there will be a conference on *Eco-Terrorism and Chemical and Biological Warfare Without Chemical and Biological Weapons*, CBMTS-Industry I. Enquiries to Applied Science and Analysis (ASA),

e-mail: asa@ime.net, fax: ** 1 207 829 3040.

The Third Session of the Conference of the States Parties to the CWC is to be held in The Hague during 16–20 November, with the fourth during 28 June–2 July 1999.

The US Army Edgewood Research, Development & Engineering Center *Scientific Conference on Chemical and Biological Defense Research* will convene on 17–20 November. Enquiries to Ms Dottie Berg, e-mail: dxberg@cbdcom.apgea.army.mil, fax: ** 1 410 671 2649.

Under Secretary of State for Political Affairs Thomas Pickering as follows: the chemical is “a known precursor for the nerve agent VX, and an indicator of potential to produce VX gas. The substance is not used in commercial applications. It doesn’t occur naturally in the environment, and it is not a by-product of another chemical process.” {USIA website 26 Aug} [Note: EMPTA is also a VX degradation product. It had been detected in a sample of blood more than a year after the sample had been taken, in December 1994, from a murder victim in Japan; the victim had been sprayed with VX by an Aum Shinrikyo cultist {*Boston Globe* 26 Aug}] The intelligence briefers also speak of Iraq–Sudan chemical-weapons connections [see 10 Feb], citing evidence, including telephone intercepts, that directors of the Shifa plant have had communications with Emad al-Ani, an official at Samarra Drug Industries in Iraq, which is the organization believed by US intelligence to be responsible for Iraq’s chemical-weapons programme {*New York Times* and *Washington Post* 25 Aug, *Chicago Sun-Times* 26 Aug}. The Iraqi UN Mission subsequently issues a statement categorically denying “that Dr Imad Al-Ani was cooperating with the Sudanese authorities”. {Iraqi Mission website 27 Aug}. Doubts, however, start to be expressed about the quality of the information that had been available to the United States {*London Financial Times* and *Washington Post* 26 Aug, *New York Times* 27 Aug, *Munich Süddeutsche Zeitung* 29–30 Aug, AFP from Bonn 29 Aug, *London Observer* 30 Aug, *Chemistry & Industry* 7 Sep}

The Security Council conducts a preliminary discussion of the Sudanese request, members reportedly saying that they need more time to review the situation {USIA website 24 Aug, *Mideast Mirror* 27 Aug}.

25 August In Johannesburg, during an address to the Diplomatic Forum of Rand Afrikaans University, former South African president F W de Klerk states that he had been fully informed about the country’s CBW research programme [see 31 Jul] for the first time shortly before the 1994 election, when the UK and the USA had approached him about it [see 18 Jun]. He says that they knew that South Africa did not stockpile CBW weapons, but wanted to ensure that the incoming government would be fully briefed, having regard to the dangers of knowledge in

the mind of people like Wouter Basson becoming available to countries such as Libya. {SAPA from Johannesburg 25 Aug}

26 August In New York, UNSCOM inspector Scott Ritter [see 5–10 Mar] resigns from the staff of UNSCOM after some six years’ service. He releases his letter of resignation, in which he is sharply critical of the US government, the UN Security Council and the UN Secretary-General for their failure to act more forthrightly against Iraq. In it he has also written: “The issue of immediate, unrestricted access is, in my opinion, the cornerstone of any viable inspection regime, and as such is an issue worth fighting for”. {*Washington Post* and *New York Times* 27 Aug} At a press briefing next day, UNSCOM Executive Chairman Richard Butler says that the letter of resignation, which he had accepted, expressed the strongly held views of a man of integrity — views on which he declines to comment {UN release, 27 Aug}.

27 August In Addis Ababa, the executive of the Organization of African Unity convenes at the request of Sudan. It expresses “deep concern” about the US attack on the Al-Shifa factory in Khartoum North and about the bombings of the US embassies in Nairobi and Dar es salaam. It supports the sending of a fact-finding mission to the Khartoum factory [see 24 Aug]. {AFP from Addis Ababa 28 Aug}

27 August US Deputy Defense Secretary John Hamre has just approved a Program Decision Memorandum adding more than \$800 million to the 2000–05 budget plan for CBW defence programmes, so *Inside the Pentagon* reports.

28 August Cyprus deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, it will thereby become the 115th state party to the treaty.

31 August Botswana deposits its instrument of accession to the Chemical Weapons Convention. In 30 days time, it will thereby become the 116th state party to the treaty.

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From calendar year 1999, subscriptions to the Bulletin will be \$100 (individuals and non-profit organizations) or \$250 (corporate bodies). The Bulletin has hitherto been heavily subsidised by the Harvard Sussex Program.

We appreciate that this increase may create difficulties for some subscribers. So we will consider requests to receive the Bulletin at a discount, especially from readers outside Western Europe or the United States.

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