

THE CBW CONVENTIONS BULLETIN

News, Background and Comment on Chemical and Biological Weapons Issues

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THE CWC AND THE BWC YESTERDAY, TODAY, TOMORROW

With this, the 50th issue of the *Bulletin*, we take the opportunity briefly to consider what has been done and some of what yet needs to be done toward building an effective multilateral treaty regime to prevent the acquisition and use of chemical and biological weapons and to avert the hostile exploitation of biotechnology.

Writing in the *Bulletin's* first issue (Summer 1988), Ambassador Charles Flowerree, former US representative to the Conference on Disarmament and early member of the *Bulletin's* advisory committee, noted the emerging international agreement on the combination of declarations and inspections that was to form the core of the future CWC verification system. Flowerree also noted another element that was to be central to the successful elaboration of the Convention – the constructive role of the chemical industry in helping negotiators to design effective verification measures that would not be unduly burdensome.

Today the OPCW is a thriving concern, with 141 member states and a Technical Secretariat that has inspected declared chemical weapons production facilities at 61 sites, all slated for verified destruction or conversion, and has completed the inventory of all 70,000 declared agent-tonnes of chemical weapons and 8.4 million chemical munitions or containers, also to be destroyed, including those declared by two states not previously known to have chemical weapons. Altogether, there have been more than 900 inspections, nearly a third of them at declared industrial plant sites producing scheduled or discrete organic chemicals as specified under the Convention's Article VI. And beyond the OPCW itself, as required by Article VII, states parties have created or designated national authorities to liaise with the OPCW and to oversee and administer national implementation of the CWC.

Even more important than quantitative measures of accomplishment, the Convention has brought into being an expanding international chemical disarmament community – a community that has as its core a system of declarations and inspections that provides its members with an objective and impartial means, where none had existed before, not only to assure themselves that other member states are abiding by their obligations, but also to demonstrate to the international community that they themselves are in compliance. As recently underscored by OPCW Director-General José Bustani, it is in the build-up of a positive and

constructive verification culture — rather than an adversarial one — that the CWC can truly serve its member states and the international community.

It follows that the success of the CWC depends on its states parties realizing that their own benefit and the benefit of all requires them to participate in the political organs of the OPCW in a spirit of openness and cooperation. It is in this light that the two invited articles appearing later in this *Bulletin* warn against the excessive opacity and unnecessary limitations on verification activities that the OPCW has imposed on the activities of its Technical Secretariat.

That there be no misunderstanding, it is not the chemical industry but rather a number of states parties and their delegations within the political organs of the OPCW that have fostered these unhelpful developments. Indeed, industry appears to be well pleased with the declaration formats and inspection procedures it helped to design, as may be seen in the recent statement by the president of the American Chemical Council, the principal US chemical trade organization, that industrial facilities inspected in the US have made only favorable reports of their interactions with OPCW inspectors.

As member states gain experience and confidence in the verification regime and in the professionalism and objectivity of its inspectors, and as friends of the CWC press for its full implementation and for maximum openness consistent with legitimate needs for confidentiality, the remaining apprehensions that now limit the development of a positive CWC verification culture should subside and lose their influence within the OPCW.

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There remains a major practical problem that, if not solved, could eventually undermine the credibility of the Convention. This is the difficulty faced by the Russian Federation in accomplishing the timely destruction of the immense stockpile of chemical weapons it inherited from the Soviet Union. Improved planning by the newly reconstituted Russian national authority and increased internal funding, reinforced by assistance from outside, are encouraging but the scale of the effort will need to be much larger if even the extended CWC time-lines for chemical weapons destruction are to be met.

Notwithstanding these qualifications, the CWC, at this relatively early stage in its evolution, must in most respects be counted a remarkable success.

Turning to the Biological Weapons Convention and the negotiation of the Ad Hoc Group of its states parties to draft a strengthening protocol, including verification measures, it remains to be seen what provisions in the still heavily bracketed rolling text of the protocol will be adopted and whether agreement can be reached before the Fifth BWC Review Conference, which is scheduled for 19 November–7 December 2001.

Regrettably, negotiation of the protocol has not had the depth of industry-government cooperation in the technical analysis and design of verification measures that so benefitted the CWC. Instead, to the detriment of both government and industry, dialogue has often been superficial and at times even polarized. Similarly, some states parties to the BWC have grown more reluctant to accept on-site verification of government facilities even though they accept such measures in the context of the CWC.

Considering that biological weapons and the potential of future biotechnology for hostile misuse pose a danger to humanity if anything still greater than that of chemical weapons, the need to develop a positive and cooperative verification culture worldwide is particularly great. Perhaps, with the new leadership in two states that played leading roles in the creation of the CWC, increased political will to enhance mutual security through an effective BWC protocol may yet appear.

Two aspects of the protocol seem to us especially vital for effective verification. *First*, the follow-up after submission of declarations should include mandatory visits to declared sites. With merely voluntary visits, as advocated by some, declarations would lose much of their value. There would be reduced incentive to prepare them properly. And there would be less opportunity for states to assure themselves that other member states were abiding by their obligations, and less opportunity, also, to demonstrate to the world that they themselves were in compliance. *Second*, the requirements for initiating a challenge investigation should be such as to ensure that, when genuinely merited, the investigation would be approved. The CWC achieves this by requiring a three-quarter majority of its 41-member Executive Council to stop a challenge from going forward. While a similar requirement, in brackets, can be read in the rolling text of the BWC protocol, the opposite alternative, also present in brackets, would require a three-quarter majority of the Executive Council in order to go ahead. If we think back to the time when there was evidence for suspecting specific facilities in the Soviet Union of harbouring BW activities, does it seem at all likely that one could have persuaded a large majority of an internationally diverse Executive Council to vote in a manner that some would consider tantamount to an accusation?

Finally, we mention the problem of ensuring the destruction, dismantlement or conversion of former biological weapons production facilities. The protocol rolling text has bracketed provisions only for declaration of facilities that have been destroyed, dismantled or converted after a date yet to be determined and, in an appendix, a bracketed requirement to list former biological weapons facilities and indicate which have been destroyed. The whole subject of former facilities is made difficult because the BWC says nothing whatever about them. Nevertheless, such facilities do exist, particularly but not only the former Soviet ones in Russia. Under the CWC, production facilities must be declared, inspected and certified as having been either destroyed or acceptably converted to peaceful uses. Unless such provisions are incorporated in the BWC protocol, as presently seems unlikely, there will remain only the challenge route, with attendant political costs and no requirement for destruction or conversion and with the additional complication that simply having such a facility, so long as it is not used for weapons purposes, is not prohibited under the BWC or the protocol. Surely, as we work toward a cooperative and open CBW verification culture, a way needs to be found whereby states can have some assurance that others do not have biological weapons production facilities and whereby states can demonstrate to others that any such facilities they may once have had no longer exist.

Forthcoming events

7–9 February, The Hague — an OPCW symposium on *Cooperation and Legal Assistance for Effective Implementation of International Agreements*

9–11 February, Wiston House, Sussex — Wilton Park conference on *International Co-operation to Prevent CBW Terrorism* details on www.wiltonpark.org.uk

12–23 February, Geneva — Twenty-second session, BWC Ad Hoc Group (subsequent sessions: 23 April–11 May and 23 July–17 August)

20–23 February, The Hague — Twenty-third session, OPCW Executive Council (subsequent sessions: 3–6 April and 27–28 June)

20–29 March, Budapest — NATO ASI on *Scientific and Technological Aspects of the Implementation of the Protocol to the BTWC*

22–27 April, Dubrovnik — *First World Congress on Chemical and Biological Terrorism*, details on www.asanltr.com/wbiot.htm

25–27 April, Geneva — Preparatory Committee for the Fifth BWC Review Conference

22–24 May, Gifu, Japan — *Fourth International CW Demil Conference (CWD2001)*

30 May–3 June, Prague — NATO ARW on *New Scientific and Technological Developments of Relevance to the BTWC*

THE CHEMICAL WEAPONS CONVENTION: A VIEWPOINT FROM THE CHAIRMAN OF THE ADVISORY COMMITTEE TO THE UK NATIONAL AUTHORITY

Tom Inch

“In order to fulfil its obligations under this Convention, each State Party shall designate or establish a National Authority”, so the Chemical Weapons Convention (CWC) requires in Article VII.4. This provision goes on to state that the National Authority is “to serve as the national focal point for effective liaison with the Organization [for the Prohibition of Chemical Weapons, the OPCW] and other States Parties”. In the United Kingdom, the government designated its Department of Trade and Industry to be the UK National Authority (UKNA).

In April 1996 the UK Parliament passed the *Chemical Weapons Act 1996*, which enabled UK ratification of the Convention and created a range of CW-related offences. This new legislation gave UKNA the powers it would need to ensure that the UK fulfilled its obligations under the CWC, including full cooperation with the OPCW. For example, the Act provides for a licensing system for Schedule 1 chemicals and confers authority to require firms to submit to UKNA the industrial data necessary for the OPCW’s verification system. The Act also created catch-all powers to enable UKNA to demand, if necessary, any additional information that might be needed for proper compliance with the CWC. This would make it possible to implement not only the specified controls on scheduled chemicals and on Discrete Organic Chemical (DOC) production sites, but also the much wider obligations of the general purpose criterion which covers the misuse of any chemical. The UK is therefore in a position to implement that fundamental obligation of the Convention which is set out in the opening of Article VI.2:

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

Finally, in order to ensure Parliamentary oversight of UK implementation of the CWC, the Act requires UKNA to report annually to Parliament on its operation.

During passage of the legislation, the government announced its intention of establishing a committee to advise the Department of Trade and Industry in its capacity as the UK National Authority. The creation and membership of this body was announced in a press notice on 13 October 1997. It has been my privilege to chair the Advisory Committee since its inception and it now seems timely to give a personal view of the lessons learned by the Advisory Committee about the role that a National Authority plays and should play if the CWC is truly to achieve its objectives.

The terms of reference of the UKNA Advisory Committee (UKNAAC) are as follows:

To assist the Department of Trade & Industry with its task of ensuring that the Chemical Weapons Convention and the

Chemical Weapons Act are implemented effectively in the UK while taking account of cost and resource constraints and the need to avoid excessive regulation. In particular the Committee will:

- advise on the effectiveness and efficiency of the compliance measures required to implement the Convention and the Act;
- advise on the effectiveness of the monitoring measures operated by the DTI;
- advise on technical developments which may have potential application in chemical weapons;
- advise on matters related to the reception of incoming inspections; and
- advise on the preparation of the Annual Report.

From the outset of our work we have recognised the key role of National Authority staff. They must ensure UK compliance with the CWC through a formal relationship with the UK chemical industry and with other government departments, particularly the Ministry of Defence, and that this is transparent to Parliament and to the OPCW.

As is evident in the quotations from CWC Articles VI.2 and VII.4 above, the operation of the CWC is underpinned by an implicit division of labour between the OPCW and the National Authorities. Only if National Authorities show themselves to be working openly to implement the CWC will the Convention be successful. In the UK, the Advisory Committee and the statutory Annual Report to Parliament are the enabling measures for proper scrutiny of National Authority activities.

We in UKNAAC have been much encouraged by the way the UKNA has responded to the requirements of the Convention. Great care has been taken to work with chemical companies to explain the need for declarations and to advise on the declarations needed. Also, careful advice has been given by UKNA to make routine inspections more accepted. Help has been given in the drawing up of facility agreements. Timetables for declarations have been set and adhered to. Licensing and trade controls are in place. Inspections of Schedule 1, 2 and 3 sites have taken place with full support of the National Authority. The government has provided assistance to other states parties and to the OPCW on the training of inspectors, analysts, and other personnel, and has been active in making UK sites available for training exercises including practice challenge inspections. The Advisory Committee has accordingly been able fully to endorse, in writing, the Annual Reports to Parliament for 1997, 1998 and 1999 and, when so doing, to recognise the achievements of the UK National Authority.

Yet I believe that many members of the Advisory Committee feel some disquiet. The disquiet arises not because there is doubt that the UK is in full compliance with the CWC. The problem is that the confidentiality required of the OPCW by its states parties is such that it is difficult

to judge the actual performance of the verification system worldwide. Within the OPCW, concerns about scientific and commercial confidentiality and national sensitivities invariably take precedence over transparency. Transparency and openness, with appropriate changes being made to procedures as a result of experience, are essential if the CWC is to build the confidence it deserves. We are being let down by the opacity of the OPCW.

In the March 1997 issue of this *Bulletin*, the Executive Secretary of the OPCW Preparatory Commission, Ian Kenyon, characterized declarations and on-site inspections as the twin pillars on which the CWC verification system was being built, and stated that the difficulties in formulating Convention procedures were more political than technical. Reports from the OPCW Executive Council meetings indicate to the Advisory Committee that little has changed.

We see an inordinate amount of time being given to 'pay and ration' matters and to staff organization. What should be quite trivial technical issues — e.g., procedures for saxitoxin transfer, the meaning of 'production by synthesis', what is meant by low concentrations, the status of salts of scheduled chemicals, etc. — are all taking excessive amounts of time to be resolved, even though it should be a matter of urgency to achieve clarity and consistency in implementation. All that should be necessary is a careful articulation of the issue by OPCW staff (with help from groups such as the Scientific Advisory Board (SAB) where necessary) and a recommendation from the Director-General making clear the purpose of the definitions for good compliance with the Convention. Because of the distractions of such discussion insufficient attention seems to be given to more fundamental issues.

An example of such an issue relates to the quality of declarations. Because of confidentiality issues it is difficult for the UK Advisory Committee to know how clear and comprehensible states parties' declarations are, including those of the UK.

Another and perhaps more important example is the fact that it is very difficult to assess the effectiveness of inspection procedures. Rigorous inspections are vital verification tools and much has been learned about the best ways to carry out inspections of sites of scheduled chemicals. Inspections were originally envisaged as consisting of inspection of records in relation to declarations, and observation of plant equipment and infrastructure, backed up by analytical procedures to confirm the absence of undeclared scheduled chemicals.

Much work has been done in anticipation that, during routine inspections, analysis will be performed. There has been a great deal of training and, in more than 20 laboratories, proficiency testing exercises have been carried out. Careful thought has been given to the use of "blinded" instruments as devices for use during on-site inspections to protect commercial confidentiality. At present, however, no analytical procedures have been used in any routine inspections — because the inspectors have been broadly satisfied with what they have been told and seen.

What is not clear is whether in routine inspections there will ever be the political will on the part of the OPCW to carry out analyses with the necessary degree of rigour. There can be no half-measures. Analysis always carries the

risk of false results, both positive and negative. False positive results would be destabilizing to the CWC regime and would lead to embarrassing political repercussions. False negative results would be detrimental to international security. The aim, however, must be unambiguous analytical results on the rare occasions where, for whatever reasons, analyses of samples are necessary.

The Advisory Committee has been concerned about the costs of training and maintaining the competence of analysts both in the OPCW and throughout the participating laboratories. Even if the costs are acceptable in the short term it remains to be seen if the proper continuation of these activities will over the longer period be dependent on the provision of additional funds.

During the drafting of the Convention it is probable that the logistical problems of analysis during inspections were underestimated. Some proposals have been made by the SAB for simplifying procedures and for ensuring that analysis is sufficiently rigorous when needed.

It is important that the issue be thoroughly debated. Perhaps the current focus on proficiency testing, data banks and other technical issues are simply subconscious delaying tactics over the question of challenge inspections. It is possible that full confidence in the Convention and its verification measures can only be achieved by a limited number of "challenge" inspections carried out with back-up from a very specialised OPCW analytical team and OPCW-certified laboratories.

It is the role of the UKNAAC (just as it is for the OPCW Scientific Advisory Board) to step back from issues such as confidentiality, national sensitivity and concerns over the employment of current staff, and to ask what procedures are likely to be truly effective at reasonable cost. National Authorities and the OPCW must strike the right balance.

And so we see that the disquiet of UKNAAC is not with what the National Authority has done. We believe that the work of UKNA on scheduled chemicals and DOC sites in relation to declarations, advice to industry, inspections, and licensing and trade controls, has been exemplary. Our disquiet is more a general one about the future of the CWC and about the slow pace of building on lessons learned.

As inspection of DOC sites begins to gain momentum, we will be trying to assess how well the agreed CWC procedures work. As attention moves from scheduled chemicals to DOCs, we naturally must begin to focus on the general purpose criterion of the Convention.

UKNAAC is required to "advise on technical developments which may have potential application in chemical weapons". Since in general, the non-governmental members of the Advisory Committee do not have Defence Ministry security clearances, we have to rely on our general scientific awareness. If we think there are new developments which can lead to new chemical weapon applications, we can recommend that the UKNA should ensure that any such developments in the UK are fully compliant with the CWC. It would be the responsibility of the National Authority to convince the Advisory Committee that this was indeed the case.

It seems to me that National Authorities, rather than the OPCW, may have the prime role in showing that, in their domain, the general purpose criterion is being met. This is

no easy task. Beyond its role as it relates to scheduled chemicals and DOCs, the OPCW can implement the criterion only through the challenge-inspection provisions of the Convention.

Perhaps the most valuable function of our Advisory Committee is to ensure that issues about the implementation of the Convention as they develop are clearly presented to national regulators. Our terms of reference require we advise on the Annual Report to Parliament. As the format of the UK report evolved, it can be seen as a unique summary of activity and of the costs of compliance in the UK. That said, it must also be observed that the reports have been bland in tone and appear not to have not been subject to much parliamentary attention.

Such reports should, one may think, focus more on critical issues. Ideally, comparisons should be made of the differing approaches among National Authorities to implementing the CWC. It would be helpful if some benchmarking between National Authorities were to be carried out and reported. In this way new standards might be achieved through direct mechanisms not open to the OPCW.

It is probable that many perceived confidentiality problems are more imaginary than real. For example, in my view there seems little reason for not naming the sites of companies inspected, particularly when it is expected that such inspections will proceed without adverse comment. For the Convention to succeed and build the confidence that is necessary, openness and transparency are essential. As a next step in helping to create the right culture and attitudes of openness so necessary for the Convention to succeed, the Advisory Committee would welcome a more critical appraisal of key issues in future annual reports. By so doing, Parliamentary questions and debates might be encouraged. If all other countries adopted similar procedures, international confidence in the CWC would be enhanced.

Dr T D Inch was a deputy chief scientific officer in the UK Ministry of Defence until 1986, then vice-president for R and D of BP in the USA until 1992. From then until his recent retirement he was Secretary General of the Royal Society of Chemistry.

ARTICLE VI OF THE CHEMICAL WEAPONS CONVENTION: PAST, PRESENT AND FUTURE

Walter Krutzsch

In the following, I would like to share with readers something of the history of the industry-related components of the Chemical Weapons Convention (CWC), as well as my concerns about their implementation since its entry into force, and my recommendations for the future.

The Past

The Convention is a multifaceted treaty. However, its two salient hallmarks are the destruction of all existing chemical weapons and associated facilities, and the prevention of the future production of chemical weapons. During the late 1970s and the early 1980s negotiators at the Conference on Disarmament in Geneva initially focused on the former. This resulted in both Article IV, on chemical weapons, and Article V on chemical weapons production facilities. Negotiations on Article VI, entitled “Activities Not Prohibited Under This Convention”, started only in the mid 1980s. The agreed aim of negotiations on Article VI was to achieve reliable guarantees that there would be no undiscovered (mis)use of commercial chemical industry facilities to produce chemical weapons.

Responding to a broadly shared concern about the threats posed by certain types of modern weaponry, the Preamble to the Convention proclaims that “achievements in the field of chemistry should be used exclusively for the benefit of mankind.” Article VI was accordingly developed to realise this aspiration. Its first paragraph stipulates the right of each state party to develop, produce, otherwise acquire, retain, transfer, or use toxic chemicals and their precursors for purposes not prohibited under the Convention. In this manner it translates the phrase “benefit of mankind” into the

technical terms of the Convention. In accordance with the above quotation from the Preamble, Article VI introduces in paragraph 2 the fundamental obligation of states parties in this respect. They are to adopt the “necessary measures” to ensure that the entire industry under their jurisdiction will act for purposes that are not prohibited by the Convention, such purposes being specified in paragraph 9 of Article II.

Paragraph 2 of Article VI goes on to require that states parties shall subject certain chemicals, facilities related to such chemicals, and other facilities as specified in the Convention’s Verification Annex to verification measures as provided for in the Verification Annex. According to the same paragraph, verification has a two-fold function: it shall assist the states parties both to fulfil their undertakings and to ascertain—through the gathering of facts—that the states parties are fully in compliance with their treaty obligations. Verification by the Organization for the Prohibition of Chemical Weapons (OPCW) covers far from all activities for which a state party has undertaken responsibility—only a relatively small although important part of them, in fact. The verification results must permit an assessment of whether a state party is in general complying with its undertaking as contained in this paragraph. Only then will the exercise by states parties of the right proclaimed in paragraph 1 of Article VI fulfil the requirements of that Article.

Article VI also contains the legal basis for the rights and obligations of the OPCW and the states parties under the regimes included in Parts VI to IX of the Verification Annex.

I will confine myself to a few brief remarks in relation to these verification regimes. Parts VII, VIII and IX of the Verification Annex deal with chemicals and facilities mainly

to be found in the civil chemical industry and are therefore often referred to as containing the industry verification regimes. In contrast, Part VI of the Verification Annex deals with the verification of facilities producing Schedule 1 chemicals, i.e., with many of the chemical agents that have been developed as weapons and some of their precursors. Because of this apparent relationship to chemical weapons, Part VI had been developed earlier, together with the provisions concerning chemical weapons and CW production facilities contained in Articles IV and V. In addition to verification requirements and procedures, Part VI contains important prohibitions and restrictions on production facilities, aggregate quantities, transfers, etc. Its verification regime states that facilities shall be subject to “systematic verification through on-site inspections and monitoring with on-site instruments.” This ensures that the intensity of verification of allowed Schedule 1 facilities is at the same fundamental level as it is for chemical weapons and CW production facilities, which are to be destroyed. However, the ultimate elaboration of the provisions of Part VI fell short of such rigid requirements, and the Verification Annex states that the number, intensity, duration, timing and mode of inspections for a particular facility shall be based on assessment of the risk posed to the object and purpose of the Convention, according to guidelines to be approved by the OPCW Conference of the States Parties.

For Parts VI through IX of the Verification Annex the sometimes protracted discussion was: which chemical shall be verified under which regime? Two factors were facing each other: the risk that a chemical and/or a facility related to it poses to the object and purpose of the Convention (i.e. how acute is the danger of diversion for the purpose of prohibited weapons or of the facility being converted into a CW production facility?) and which verification measures are practically feasible given, for instance, the quantities involved? Until the last moments of the Geneva negotiations it was an open question whether only the facilities producing these chemicals should be covered, or also those processing or consuming them. In most cases pragmatism prevailed when chemicals were assigned to particular schedules. It is important to emphasize that there is no necessary relationship between the inclusion of a chemical in Schedule 1, 2 or 3 and the “risk” which may be attributed to it. In exchange for a pragmatic decision on the assignment of a given chemical to a given regime, the regimes themselves were drafted to ensure flexibility where the frequency and intensity of inspection activities was concerned. Thus, a higher degree of risk posed by a given chemical and a given facility could be responded to by more effective verification, than in cases involving a lower degree of risk.

Another important conceptual issue that needed to be resolved was whether the verification of industrial facilities should be driven by their *potential* to be abused for CW purposes, or by their *actual* activities. In other words, for the submission of declarations, would it matter if a facility had the technical capacity and equipment to make a certain chemical, even if it did not do so? This question was particularly pertinent in relation to multipurpose plants. The decision was ultimately taken to build the verification regime on what was actually happening, and not on what could (or could not) happen at a plant. It is the *actual*

production (or processing or consumption) of a scheduled chemical that triggers declaration and inspection activities, not the capacity of a plant to produce a certain chemical. Data about the capacity of a given plant was retained as declaration data to be submitted in relation to Schedule 2 chemicals, but does not trigger a reaction of its own accord. (In Schedule 1 such data is implicit in the restrictions on reaction vessels for single small scale facilities—the assumption being that other allowed Schedule 1 facilities will be even smaller, and would therefore not need to be restricted in that manner, while the production capacity of Schedule 2 facilities has to be declared).

At the same time, the issue of the potential of chemical production facilities to manufacture scheduled chemicals or chemicals not for permitted purposes was resolved through the inclusion of Part IX in the Verification Annex. This combines two different approaches: the opening up of almost the entire organic chemical industry for inspection by including plant sites with annual production of more than 200 tonnes of unscheduled discrete organic chemicals (the “DOC” route); and the inclusion of plant sites with annual production of more than 30 tonnes of discrete organic chemicals containing phosphorus, sulfur or fluorine — a category of chemicals related to those posing a particular threat to the object and purpose of the Convention and whose facilities might include equipment that could also enable them to manufacture Schedule 1 chemicals.

The discussion of issues in the context of Article VI also had repercussions for the verification mechanism required. Negotiators in the Conference on Disarmament perceived that verification would require a high level of professional skills on the part of those charged with its conduct. Together with these professional skills, the verification mechanisms were designed to ensure objectivity and independence. This implied that the specific form of verification should be determined by an institutional structure yet to be established. At this point there was growing agreement that an independent international organization should be established, with verification as its central mandate.

Representatives of the chemical industry were invited to provide practical advice to the negotiating body. The interaction between the professional, but highly political international disarmament negotiators, and the business-oriented industry consultants was an interesting association of what at first appeared to be opposing interests. Once they had familiarised themselves with the subjects at hand, the industry representatives used their practical experience to help resolve problems. Both they and the negotiators were pleasantly surprised at this. The more that industry became involved in the negotiations, the less was it concerned about the additional regulatory burden which it was going to face, and the greater was its interest in a positive outcome. By the same token, negotiators became more sensitive to the need to protect confidential business information and to minimise the impact of the conduct of verification on the peaceful production of chemicals. If my recollection is correct, the flexible elements introduced into the verification regimes under Article VI to take into account the risk posed by the chemical and the structure of the facility were a key outcome of industry’s participation in the negotiations.

The Government-Industry Conference convened in 1989 in Canberra, Australia, was an impressive demonstration of the support of representatives of the chemical industry for the Convention. Industry supporters of the Convention, including national and regional trade organisations, worked actively to win over those who still had reservations. They drew parallels between the military dangers from chemistry and the environmental dangers stemming from the chemical industry, which they viewed as issues of the global industry's "responsible care" code of conduct. The chemical industry showed its political weight some months later, when the US chemical industry contributed decisively to halting further activities within its own country's binary chemical weapons programme. In this way one fundamental precondition for the successful completion of the CW negotiations was fulfilled. Once the support of the global industry had been gained for the object and purpose of a chemical weapons treaty, the way was clear for the conclusion of negotiations in the European autumn of 1992.

The Present

Unfortunately, the momentum established between 1989 and 1992 did not carry over into the Preparatory Commission, which was established after the Convention was signed in Paris, in January 1993. In the intervening four years before the treaty entered into force in April 1997, the Preparatory Commission's work on providing guidance too often, in my view, resulted in attempts to rewrite the Convention. As a consequence, since the entry into force of the CWC, operational guidance has limited some of its key provisions. I am concerned that—to a certain extent—the provisions of Article XV on amendments to the Convention may have been infringed. In the following I shall highlight some examples of what, I feel, may negatively affect the operational efficacy with which Article VI is implemented.

Now that more than three years have elapsed since the entry into force of the Convention, its provisions should be tested against the results which it has achieved. The question is: how reliable are verification results with regard to the undertaking of states parties under paragraph 2 of Article VI? The answer, in my view, is not encouraging. In particular, the nature of the procedures and methods with which the facts have been gathered in OPCW inspections must be questioned, not because of any deficiency on the part of the inspectors, but because of infringements of the rights accorded to them by the Convention.

The Convention states with absolute clarity, in Part II of the Verification Annex, that inspectors and the papers and correspondence, including records, of the inspection team shall be accorded inviolability pursuant to Articles 29 and 30 of the Vienna Convention on Diplomatic Relations of 18 April 1961. Yet, by means of references to the Confidentiality Annex, the inspectors have, at the request of the states parties, been required to provide copies of the pages in their inspection notebooks. This procedure clearly undermines the independent nature of inspections, and is certainly not reconcilable with inviolability.

The access to plants and plant sites, facility records, etc. is currently being discussed by states parties, not with an eye to ensuring as transparent an inspection process as is

consistent with the confidentiality provisions of the Convention, but with a view to limiting the ability of OPCW inspectors to obtain information which they need to accomplish the aims of the inspection mandates. Such devices as subtle interpretations of the auxiliary verbs 'shall' versus 'may', and abstruse discussions about the meaning of the word 'agreement', together with purportedly legal interpretations of the relative risks of Schedule 1 versus Schedule 2, 3 and DOC/PSF plant sites, have been used to restrict inspection access. To the infringement of certain key provisions of the Convention, such as those just mentioned on inspector notebook inviolability and limitations on access to facilities and records, one may add restrictions on sampling and analysis, including, but not limited to, the demand to undertake on-site analysis using blinded software, the prohibition by individual states parties of the removal of samples from their territory for independent analysis at OPCW designated laboratories, state party interference in inspection team health and safety decisions, and attempts by some states parties to require final inspection reports completed at OPCW headquarters by inspection teams to simply mirror the statements prepared by inspection teams at the inspection site as preliminary findings, without any serious consideration being given to precedents, interpretations of the Convention, etc.

These infringements have had negative effects on the implementation of Article VI. They represent, in my opinion, a step back from the Convention that came into force in 1997, and certainly do not reflect what parliaments ratified and what the chemical industry believed it was supporting during the Conference on Disarmament negotiations.

This is because many provisions have not been applied in accordance with the Convention. A whole series of modifications has been introduced in a manner which is inconsistent with Article XV. Behind the provisions of the CWC, a series of procedures alien to it has been developed which has watered down the entire verification concept.

All this creates ample incentives for patterns of behaviour never foreseen by the negotiators, and without justification in the provisions of the treaty. Trustful cooperation, the alpha and omega of the Convention, is being replaced by hide-and-seek games.

Discussions are being held on some of these issues under the purview of the Executive Council. On the plus side, it may be hoped that decisions will be taken that will come down on the side of effective and consistent verification for all states parties. What can be done to ensure that the Convention's integrity is re-established in relation to the implementation of Article VI? Allow me to suggest the following for the future.

The Future

This is not the appropriate context for a discussion of the reasons and responsibilities for the deterioration of the Convention's verification regime. But, as was mentioned above, this situation cannot be attributed to the intervention of the chemical industry. So, how can the tide be turned? How will it be possible to overcome the present trends, and to avoid a possible collapse of the Convention?

First and foremost, the truth about the real situation must be stated openly by, and discussed between, states parties. This alone will mobilise support and readiness to change the current course of events. As with each and every system, information is indispensable for feedback. Without real information the OPCW cannot respond appropriately. Under the guise of confidentiality, information about compliance has been withheld from governments, parliaments and the public. States parties and their delegations in The Hague and elsewhere should stop using confidentiality as a cover for imposing strictures on the implementation of the treaty at chemical industry sites. This was done contrary to the provision of the OPCW Policy on Confidentiality in Part III, paragraph 12, which prohibits confidentiality from being used to conceal non-compliance. This policy paper was adopted by the Conference of the States Parties itself. Ad hoc attempts to impose restrictions during inspections create an uneven playing field for states parties.

States parties should insist on guaranteeing as much independence as reasonably possible for inspection teams. What is needed is a methodology for evaluating inspection results to such a level of objectivity that the danger of subjectively influencing inspection reports and their conclusions is eliminated. Only facts which support or disprove the inspection hypothesis can be subject to evaluation, and only when they were collated through a genuinely independent inspection activity. States parties should focus on preparing Conference decisions which ensure such independence.

Many faults would be remedied if the CWC's provisions were not further inhibited and distorted by inconsistent regulations in both the Secretariat and the individual states parties. It often would suffice simply to withdraw such regulations and to restore the Convention's provisions.

If this is achieved, the real work of the states parties in guiding the evolution of the Convention could begin, taking into account the experience gained during inspections and changing situations. This is crucial in the case of Article VI, where industry is continuously changing its products and its modes of operation. Consider, for example, the issue of the biological/biochemical synthesis of scheduled and/or toxic chemicals. During the CD negotiations, as recently as 20 years ago, the production by these means of most chemicals of relevance to the Convention seemed a remote possibility. Now, with the expanding applications of genetic engineering

and the availability of organisms which can operate in extreme environments imitating those found in chemical manufacturing plants, the situation is changing rapidly. This should be a focus of the Conference and the Council.

This is one example of how the political organs of the Convention can display their potential for unifying political positions through open discussion and fully reported decision-making. Procedures should identify the authors of a proposal and its supporters, as well as those disagreeing and their arguments. If the process becomes open and transparent, it will not elicit irresponsible behaviour, but will instead encourage national governments to initiate moves to make things better.

Representatives of the chemical industry should be given a role in this process of implementing and adapting the Convention to changing conditions. This role should be at least as effective as during the negotiating phase. Industry actively and positively supported a robust Convention during the CD negotiations. I have every reason to believe that it will continue to support reasoned, practical, apolitical changes in the future.

The Scientific Advisory Board should be further encouraged to offer its assessments and proposals on the basis of complete and accurate information. And, last but not least, the role of non-governmental organisations should be significantly enhanced. Among other things, they should be granted greatly improved access to the deliberations and decisions of the political organs of the OPCW, as well as to working documents and information material relating to their concerns. They should also be granted the right to make submissions of their own.

As I noted above, the jury is still out on the efficacy of verification under Article VI. However, if states parties are willing to recognise that it is in their and their industries' interests for the current verification regimes to be administered in as robust and as even-handed a manner as possible, and if they are also prepared to address ways and means of making the Convention relevant to changing technologies and methods of organization, I believe that we can hope for a positive outcome.

Dr Krutzsch's last two books, co-authored with Dr Ralf Trapp, are Verification Practice under the Chemical Weapons Convention (1999) and A Commentary on the the Chemical Weapons Convention (1994)

Developments in the Organization for the Prohibition of Chemical Weapons

The period under review, from early September until the first week of December 2000, saw the Organization for the Prohibition of Chemical Weapons (OPCW) wrap up its activities for 2000. International cooperation, assistance, and protection received an especially high level of attention from both the Secretariat and the Executive Council during this period.

Yemen deposited its instrument of ratification on 2 October 2000 and the Convention entered into force for the country on 1 November. Additionally, a second Middle Eastern state, the United Arab Emirates, ratified the Convention on 28 November. It will become a state party on 28 December. Together, these ratifications were the first to come out of the Middle East in the three years since Jordan

became a state party (1997). Ratifications by Yemen and the United Arab Emirates, coming so close together, are hoped to be seen as bellwethers for other states in the region. Six of the fifty-two states yet to join the Convention (12 per cent) can be found in the Middle East — Egypt, Iraq, Israel, Lebanon, Libya, and Syria.

During the period under review, the Convention entered into force for four more of its newest states parties; Mozambique on 14 September, Kiribati on 7 October, and Gabon and Jamaica both on 8 October.

The signing of the UN–OPCW Relationship Agreement on 17 October was welcomed by the Director-General as an opportunity for the Organization to utilise the resources of the UN, such as a larger membership, in pursuit of organizational maturity and universality. The agreement will be implemented on a provisional basis until it is officially adopted by the UN General Assembly and the Conference of the States Parties. The Director-General had the opportunity, during a visit to New York, to address the UN General Assembly and meet with representatives from states parties, signatory states, and states not party to the Convention.

In September, the Secretariat launched an important tool for the promotion of international cooperation and development among the member states to the Convention: the OPCW Associate Programme. It was expected that the Associate Programme would become a permanent fixture in the annual work schedule of the Organization and was one aspect of an ongoing focus on international cooperation initiatives. In his address to the UN General Assembly, the Director-General expressed his hope that the coming years would see the Organization grow from a disarmament and non-proliferation treaty organization to a body promoting peace and prosperity through the responsible use of chemistry.

The Secretariat continued its outreach effort toward those regions identified as integral to the universality and effective implementation of the Convention, namely the small islands of the Caribbean and Pacific, and states in Africa and the Middle East. Over the course of the next few years, each of these regions would be the focus of an increasing number of Secretariat initiatives — workshops, seminars, training courses, multilateral meetings, and bilateral visits.

Executive Council

The Executive Council met in its twenty-first session during 3–6 October and in its twenty-second session during 5–8 December. Prior to its December session, the Council met informally on 4 December to review progress on the destruction of chemical weapons and/or the conversion of chemical weapons production facilities (CWPFs).

In his opening statement to the Council, in each of its sessions held during the period under review, the Director-General highlighted the efforts of the Secretariat to achieve universality, encourage international cooperation and provide protection and assistance to states parties. In summarising the year 2000, the Director-General welcomed to the OPCW the 13 states that joined the Convention in the last year — San Marino, Azerbaijan, Eritrea, Kazakhstan, Colombia, Federal Republic of Yugoslavia, Malaysia,

Mozambique, Kiribati, Gabon, Jamaica, Yemen, and the United Arab Emirates. He also laid out the Organization's agenda for the coming year, at the top of which was helping Russia begin the destruction of its chemical weapons stockpile. The Director-General encouraged states parties to devote more of the Council debate to issues of verification and implementation rather than concentrating on the administrative and staffing matters that have dominated recent Council sessions. Both sessions of the Council noted the Director-General's opening statements.

Status of Implementation of the Convention The Director-General submitted to the Council in its twenty-first session his report on the submission of declaration-related information to the Secretariat, for the period from 1 April to 30 September 2000. As regards initial declarations, 135 states parties had taken the appropriate actions, leaving Mozambique, Kiribati, Gabon, Jamaica, Yemen, and the United Arab Emirates — all recent ratifications/accessions — as the only states parties yet to fulfil this obligation.

The 2000 mid-year verification implementation report, covering the period from 1 January to 30 June, was formally presented in November as a highly protected document. The Council noted the report in its twenty-second session. The Director-General also submitted to the twenty-second session of the Council a report on the status of implementation of Articles X and XI of the Convention as of 31 October. The report highlighted the many meetings, training courses, and workshops organised by the Secretariat over the last year and the Secretariat's programme of outreach to member states and non-member state governments, national authorities, and non-governmental and inter-governmental organizations (NGOs and IGOs). The Council noted the report. Details of this report can be found in the sections on Articles X and XI below.

Destruction/Conversion of Russian Chemical Weapons and CWPFs Russia submitted to the Council in its twenty-first session plans for the destruction of one percent of its Category 1 chemical weapons stockpiles. In phase one of this process, the building of chemical weapons destruction facilities (CWDFs) at Gorny and Shchuch'ye would be completed. Russia was also planning to use mobile CW destruction complexes (located in Maradykovsky and Leonidovka) to speed up the destruction of one percent of its chemical weapons stockpile. These complexes were planned to be put into operation as of May 2001. It was expected that the installation of equipment and the building of facilities during phase one at Gorny would be completed in the last quarter of 2001 so that chemical weapons destruction could begin at the facility in 2002. However, Russia also highlighted the need for "a considerable increase in international assistance", particularly the need for financial assistance to complete construction of the CWDF at Shchuch'ye, if this timeframe was to be fulfilled.

A statement by Russia regarding Category 3 chemical weapons stressed that their government's decision on the destruction of Category 3 chemical weapons was in its final stages and encouraged the Council to take positive action on the two draft plans put to it. The Council considered and approved draft plans for the verification and destruction of

Category 3 chemical weapons at Maradykovsky and Leonidovka at its twenty-first session.

The Russian statement also addressed the issue of Category 2 chemical weapons destruction at Shchuch'ye and expressed its hope that the draft plan for the verification and destruction of Category 2 chemical weapons at the Shchuch'ye CWDF would garner the approval of the Council. The Council, however, considered the draft plan at both its sessions in October and December and declared that consultations on this matter were not complete. The Council, at its twenty-second session, decided to return to the draft plan for activities at Shchuch'ye at its next session in February.

As regards the draft decision on the combined plans for destruction and verification of the CWPf for the production and filling of VX at Novocheboksarsk in the Russian Federation, the Council, at its twenty-first session, noted the ongoing developments and decided to consider the issue further in December. The Secretariat carried out an on-site inspection to ensure that all of the activities required by the plan for the facility, including the destruction of specialised equipment, had been completed.

In December, the Council meeting in its twenty-second session considered and adopted the combined plans for destruction and verification (phase one). However, in regard to the combined plans for the destruction and verification for phase two, the Council requested that Russia and the Secretariat provide all required materials as soon as possible.

Plans for the conversion of other facilities located at Novocheboksarsk were submitted by Russia to the twenty-second session of the Council, including the aminomercaptan production facility at which specialised process equipment would be dismantled and destroyed. A request was also submitted for the conversion of a munitions filling facility at Orgsteklo, Dzerzhinsk, Russian Federation. This facility was previously inspected by the Secretariat and was considered completely demilitarised; both sites could continue to function in a commercial capacity. The Council received these requests but consideration of these matters was postponed until the next session of the Council to allow for the submittal of all required documentation.

Challenge Inspections A debate ensued in both sessions of the Council regarding the issue of abuse of the right to call for a challenge inspection. A draft decision on this matter submitted to the Council by Russia in October referred to the need to institute safeguards against abuse and specified which sanctions to apply against states parties who abuse the right to call for such an inspection. The draft proposal further stated that consultations should be undertaken prior to launching a challenge inspection and if a state party was the subject of abuse, it would be entitled to take strong action to ensure its national security during subsequent challenge inspections. During the Council debate in October, the United States made a contrary statement regarding the proposals contained in the draft decision, claiming that such action was beyond the authority of the Executive Council. Furthermore, the United States argued that such restrictions would effectively undermine the Organization's willingness and ability to conduct challenge inspections at all, and if

abuse did occur, the penalties would be most effective if handled on a "case-by-case" basis.

According to the decision of the Council at its twenty-first session, informal consultations on this matter were conducted during the intersessional period, and they continued during the twenty-second session of the Council itself. By decision of the Council in its twenty-second session, these meetings would continue into the next intersessional period, and would be brought to a future session of the Council when such action was deemed appropriate.

Facility Agreements The Council in its twenty-first session received an update on facility agreements. Over 40 per cent of the agreements required for CWPf's had been approved by the Council and facility agreements were in force for all chemical weapons storage facilities (CWSFs). For Schedule 1 facilities, 15 of the 26 required agreements had been approved by the Council. Facility agreements for only 5 of the 126 Schedule 2 facilities that required agreements had been approved by the Council.

Industry Verification Issues Under this agenda item in its twenty-first session the Council considered the note by the Director-General on the impact of late submissions of annual declarations on the Schedule 3 random selection process; this process governs the selection of Schedule 3 plant sites for inspection. The Convention requires that annual declarations on anticipated activities (ADAA) be submitted not later than 60 days before the beginning of the following calendar year. In the past, only a minority of states parties had made such declarations. This trend had two negative impacts on the verification process: non-declaring states parties were not included in the selection process, and therefore states parties that made their declarations were placed at a disadvantage and forced to bear a larger number of inspections. The Director-General strongly urged the states parties to submit their ADAA for 2001 before 2 November 2000 or the Secretariat would be forced to make alternate arrangements for the selection of Schedule 3 plant sites for inspection. Such alternative options include postponing the selection of Schedule 3 plant sites for inspection until later in the year, when more states parties would have submitted their ADAA, or dividing the selection process into two stages, one in December 2000 and the other later in 2001. After considering the Director-General's note, the Council at its twenty-first session urged all states parties to adhere to the Convention's timelines for the submission of annual declarations and requested the Director-General to report on the status of ADAA submissions at the next session of the Council.

The report of the Director-General to the Council in December was quite encouraging. Twenty-one states parties had submitted their ADAAs for 2001 before the 2 November deadline and an additional 15 states parties made their declarations between 2 November and 4 December. Additionally, 19 states parties submitted ADAAs for 2001 for Schedule 1 facilities and 26 states parties declared such information with respect to Schedule 2 activities. Of those states expected to make an ADAA for 2001 relating to Schedule 3 facilities, only Iran and Russia failed to do so,

and the Council was assured that this situation would be corrected in the near term. Iran, in fact, submitted its ADAA before the end of the Council's twenty-second session. At the twenty-second session of the Council, the Director-General reported that 95 per cent of inspectable Schedule 3 plant sites had been included in the received ADAAs for 2001, and as such the Secretariat found it unnecessary to implement any of the alternative measures described above. The Council noted this report at its twenty-second session.

The issue of the frequency of inspections at Schedule 2 plant sites had been under consultation in the Secretariat and its findings were presented to the Council at its twenty-second session; the Council received this note. To summarise the note's findings, the Schedule 2 facilities that had already undergone inspection could be divided into three groups dependent upon the type and amounts of chemicals processed, consumed, or produced. The lowest risk group contained 62 per cent of the facilities and it was recommended that these be inspected at a rate of three inspections per facility every ten years. A decision regarding the other two, higher-risk, groups was the subject of further consideration and discussion. Under the Convention, a facility could be inspected a maximum of two times per year; the Convention did not set a minimum. Concerns were raised in the Council at its twenty-second session as to how these criteria were being applied to processing sites, and the Council encouraged the Secretariat to consider this issue further. This issue was only brought to the Council because of how it may impact on facility agreements; however, the Secretariat asserted its right to inspect a site whether or not a facility agreement had been concluded, and to decide itself on the frequency of these inspections. The Council decided to consider the issue of frequency of inspections during the intersessional period; it should be noted that some delegations averred that a decision in this matter was the purview of the Secretariat.

Many industry verification issues would be under examination during the next intersessional period, which the Council emphasised would be the most important one to date. The issues under consideration include boundaries of production, DOC inspections, the recommendations of the Scientific Advisory Board, the frequency of inspections, rounding rules for declared quantities of transferred Schedule 1 chemicals, mechanisms to verify compliance with the ban on the transfer of Schedule 1 and Schedule 2 chemicals to states not party to the Convention, the delineation of plant sites, low concentration issues, and transfer of Schedule 3 chemicals. On the last two issues, the Secretariat and the Council had a mandate from the Conference of the States Parties to take action or at least come to a decision before the next meeting of the Conference — scheduled for May 2001.

Use of Official Languages The issue of the use of the six official languages was included in the agenda of the twenty-second session of the Council, upon a request made by Spain on behalf of a group of 20 states parties. These states parties argued for equitable treatment of all official languages; demonstrated by simultaneous translation of all official unclassified documents, use of a state party's

preferred official language in all correspondence, and a requirement that all Secretariat staff demonstrate fluency in at least two of the six official languages. In debate on this issue and in a draft decision to this effect, it was the last requirement that created the most controversy. It was noted that according to the classifiers recommendations, only a minority of staff posts required fluency in more than one language and that the UN does not maintain a similar requirement. Moreover, frustration was expressed concerning the advantage such a requirement would bestow upon states where one of the six languages was spoken as a mother tongue. The Director-General, in his opening statement to the twenty-second session of the Council, agreed with the spirit of this draft decision when he called for provisions in the 2002 budget for intensive language training in all official languages, which would be made available to the staff of the Secretariat and to delegates as well. He emphasised that the use of all six languages on a regular basis within the Secretariat would be an important sign of organizational maturity, but that such a stipulation would need to be applied in a realistic and non-discriminatory manner and should take note of both budgetary and staffing realities. The Council considered both the national paper and the draft decision submitted on the use of the six official languages, but could not reach a consensus, and thus decided to consider the issue further during the forthcoming intersessional period and return to this issue at its next session.

OPCW Provident Fund Russia requested that this item be included on the agenda of the twenty-first session of the Council. Upon consideration, the Council requested that the Director-General propose amendments to the Charter and Administrative Rules of the OPCW Provident Fund for its approval "as soon as practicable".

Judgement of the International Labour Organization's Administrative Tribunal (ILOAT) and the Second Job Classification The Council in its twenty-first session requested that the Director-General continue to keep the Council informed of developments on this issue and decided that the issue continue to be discussed during the intersessional period. These decisions came after a substantive debate which saw statements from many states parties and regional groups and the presentation of two draft decisions, both addressing the impact of the ILOAT ruling on geographic distribution.

In both sessions of the Council, discussion went beyond the strictly defined scope of the classification of posts — a technical exercise. One issue discussed was the composition of the Secretariat's 'top structure'. There was, however, an emerging consensus that all D-1 posts were not automatically included in the top structure. The current appointments to these posts were not "frozen" and, as such, geographic distribution at the D-1 level would vary over time. As these posts become vacant they would be filled — as with any other professional posts — on the basis of principles laid out in the Convention.

The Council in its twenty-second session received the results of the second job classification, and after an extensive debate, decided to address the issue during the intersessional

period and return to it at the next session in February. The Council did recognise the need for speedy resolution on this issue in order to enable both the Secretariat and the Council to devote their energies to the pursuit of their mandate as regards the worldwide elimination of chemical weapons. The Director-General presented his recommendations on the issue to the Council in his opening statement at its twenty-second session. The Director-General suggested that the Council decide not to implement the second study, which should instead be utilised as a reference tool by Secretariat management.

The Secretariat continued to stress that the job classifications, both the first and second, were technical processes and that it was therefore misguided to link such a mechanism to the goal of equitable geographic distribution within the Secretariat.

Status of Contributions The Director-General submitted two reports to the Council (one to each session) on the status of assessed contributions. Together, the reports covered the period from 30 April 2000 to 31 October 2000. In the period between the two reports, 20 September–31 October, the Secretariat received over NLG 2,000,000 in assessed contributions. As of 31 October, a total of 97 per cent of the assessed contributions for 2000 had been received, but only one half of the states parties had paid their assessment in full. To summarise the final results, 56 states parties (40.4 per cent) had made no contribution toward their assessment for 2000; 22 of these states had not yet paid their contributions for 1998 and 1999 either. The Council “drew the attention” of those states parties in arrears to paragraph 8, Article VIII of the Convention, which strips a state party of its vote in the Organization if the amount owed exceeds the contribution due from the previous two full years. Both reports were noted by the Council in its respective sessions.

Under the same agenda item, the Council also noted two reports submitted by the Director-General (one to each session) on the status of reimbursement of verification costs. The reports cited the reimbursement costs for inspections under Articles IV or V of the Convention and carried out during the period from 1 June 1997 to 30 June 2000. At the time of writing this report, a debt totalling NLG 13,528,689 was shared by four states parties: the United States, Russia, Iran, and India. It should be noted that no reimbursement at all was received between 31 January and 20 September 2000; some remittances were made in October 2000.

In his opening statement to the Council at its twenty-second session, the Director-General warned that an increase in the 2001 budget would be needed, due to inflationary and salary-related expenses, and that the Secretariat would most likely be asking the Conference in May for a supplemental budget for 2001. He also indicated that in drafting the budget for 2002, the Conference should take into account the shortfalls of the 2000 and 2001 budgets.

In other budgetary matters, on 3 October, the Alternate Representative of Pakistan informed the Secretariat that India would serve as the External Auditor of the OPCW for the financial years 2000 to 2002, and as per the decision of the Fifth Session of the Conference of the States Parties, Pakistan would then serve as the External Auditor for 2003 through 2005. Also, the Council in its twenty-first session

approved a new appointment to the Advisory Body on Administrative and Financial Matters (ABAF) — Mr Vladimir A Iossifov (Russia) would replace Mr Victor A Vislykh (Russia) whose resignation the Council noted. The next ABAF meeting is scheduled for 8–12 January 2001.

Agreements on Privileges and Immunities of the OPCW In its twenty-first session, the Council approved the negotiated text of two draft agreements on the privileges and immunities of the OPCW; one with Portugal and a second with Panama.

Dates for Sessions of the Council in 2001 The Council in its twenty-first session adopted a decision confirming the dates for its sessions in 2001: EC-XXIII: 20–23 February; EC-XXIV: 3–6 April; EC-XXV: 27–28 June; EC-XXVI: 25–28 September; and EC-XXVII: 4–8 December.

Other Business The Council in its twenty-first session adopted the list of new validated data for inclusion in the Central OPCW Analytical Database, as no concerns were voiced by any member state prior to the opening of the session. This list was formulated by the seventh meeting of the Validation Group (5–6 June 2000). In its decision, the Council also requested that the Secretariat include the Chemical Abstracts Service (CAS) registry numbers for the chemicals listed in the Central OPCW Analytical Database.

The Validation Group convened in its eighth session during 28–29 November to discuss the report of the coordinators assigned the task of re-evaluating the data included in the Central OPCW Analytical Database. The recommendations of the Validation Group on this subject will be discussed in the Council over the course of 2001. As of 22 November, a certified hard copy version of the Central OPCW Analytical Database was available from the Secretariat on CD-ROM.

Reports were adopted for both the twenty-first and twenty-second sessions at the close of the Council sessions.

Agenda items for both sessions of the Council that were not discussed, include: issues of old chemical weapons and abandoned chemical weapons, international cooperation for peaceful purposes in the field of chemical activities, reporting requirements for verification and inspection results, new inspection equipment, financial and staff rules of the OPCW, and status of implementation of the OPCW Headquarters Agreement. Many of these issues were mentioned by the Director-General in his opening statements and most were slated for discussion either at the next session of the Council or during the intersessional period. As mentioned previously, the next intersessional period would be key to resolving many of the issues that continued to elude agreement.

Actions by Member States

Two countries, Yemen and the United Arab Emirates, deposited their instruments of ratification with the UN Secretary-General during the period under review. The Convention entered into force for Yemen on 1 November. The United Arab Emirates ratified on 28 November and the

Convention would enter into force for the country on 28 December. During the period under review, the Convention also entered into force for four additional states parties — Mozambique, Kiribati, Gabon, and Jamaica.

This brings the total number of states parties, as of 8 December, to 140. By the beginning of 2001, the Convention will have 141 states parties, including the UAE, and 33 signatory states.

In addition to the positive action taken by these states, moves toward accession or ratification had been noted in the legislatures of other countries, both in Africa and Asia.

Secretariat

Declaration Processing Malaysia submitted its initial declaration during the period under review. It was the last of the states parties that joined the Convention prior to September 2000 to do so.

As of the writing of this report, only one of the newest states parties — Mozambique, Gabon, Jamaica, Kiribati, and Yemen — had submitted an initial declaration; Gabon made an initial declaration in early December. The other states parties were obliged under the Convention to submit their initial declarations a month after the Convention entered into force for them. Assistance in this matter was offered by the Secretariat. A new edition of the *Declaration Handbook* was issued during the period under review. The United Arab Emirates would not be required to make its initial declaration until January 2001.

The Council was updated at its twenty-first session on the status of the initial declaration of Panama and planned to provide technical assistance to the country.

Inspections and Verification As of 8 December, 913 inspections had been completed or were ongoing at 431 sites in 47 states parties, including inspections of chemical weapons and chemical weapons-related facilities in China, France, India, Iran, Japan, Russia, UK, the United States and one other state party. Since the first DOC inspection in May, 43 more have been undertaken. The breakdown of inspections is as follows: 14 to ACW sites; 195 to CWDFs; 201 to CWPFS; 122 to CWSFs; 44 to DOC plant sites; 34 to OCW sites; 77 to Schedule 1 facilities; 145 to Schedule 2 plant sites; 65 to Schedule 3 plant sites. OPCW inspectors have spent a total of 80,225 days on mission.

Seven OCW inspections were carried out during the period under review; these inspections were conducted in accordance with the proposed verification measures for old chemical weapons, which took effect as of 1 June 2000. This provisional approach was outlined by the Director-General to the Council at its eighteenth session. To date, four inspections have successfully utilised these criteria.

A summary of all inspections carried out by the Secretariat since entry into force in 1997, and presented to the Council at its twenty-second session, revealed that between January and November 2000 more than twice as many inspections (269) were completed than in the entirety of 1997 (125). Moreover, 141 industry inspections were undertaken, nearly twice the number carried out in 1999 (80). Forty-six states parties had received at least one OPCW inspection.

In terms of progress on outstanding or unresolved verification issues, during the period under review, the Secretariat met with states parties to discuss “revision of considerations in relation to sensitive information kept under lock and key at inspected facilities”. These informal consultations resulted in a recommendation by the Secretariat that “at facilities declared under Article VI of the Convention ... (Schedule 1, Schedule 2, Schedule 3, and DOC/PSF plant sites) ... the relevant container should be maintained for no longer than three years from the date on which the initial inspection was completed and the documents were placed in the container”. For chemical weapons facilities, “no time limit should be imposed for the maintenance of the relevant containers and their contents”.

Destruction As of 1 December, the OPCW had overseen the destruction of 5,353 metric tonnes of chemical agent (Category 1) and 1,477,318 munitions or containers — out of a declared total of 69,863 metric tonnes of chemical agent and 8,389,000 munitions or containers.

In those individual states parties undertaking destruction activities, as of 31 October: the United States had destroyed 17.5 per cent of its Category 1 chemical weapons and 99 per cent of its Category 3 chemical weapons, a state party had destroyed 1.1 per cent of its Category 1 chemical weapons and 100 per cent of its Category 3 chemical weapons, and plans for the destruction and conversion of Indian facilities were under consideration by the Executive Council. Three of the four countries, which have declared chemical weapons stockpiles, had fulfilled their obligation under the Convention to destroy one per cent of their chemical weapons. Additionally, in December, the only remaining chemical weapons at the US Johnston Atoll Chemical Agent Disposal System (JACADS) were destroyed, allowing JACADS to complete its mission — it was the first CWDF to do so. The facility would be dismantled and the site turned over to the trusteeship of the US Fish and Wildlife Service in the coming year. In Tooele, Utah, the largest US CWDF had reached the halfway mark in its destruction of chemical weapons planned for destruction at that facility.

Implementation of Article X During 11–14 September, the Secretariat organised a workshop on the logistic issues of the delivery of assistance under Article X in Bratislava, Slovak Republic. Twenty-five participants, representing 11 states parties, attended the workshop and made national presentations on readiness as regards the provision of assistance. The four main topics addressed by the workshop programme were: the readiness of the Secretariat and the states parties to conduct assistance missions upon request, liability, insurance, and medical matters for those teams dispatched in such a situation, the transportation of civilian and military teams and their equipment, and the management of international units and teams during a mission.

Recommendations made by the workshop participants called for a set of general guidelines to be prepared, the assignation of duty officers within the Secretariat to coordinate assistance missions, steps to ensure the quick dispatch of assistance teams, all states parties to conclude bilateral agreements with the OPCW as soon as possible, and

the continuance of efforts to provide as much information as possible on this topic to the member states.

Russia hosted the Third Annual Assistance Coordination Workshop in Moscow during 9–12 October; the workshop was organised jointly by the Secretariat and the governments of Russia and the United Kingdom. Thirty-seven participants from 28 states parties, in addition to 62 Russian participants, had the opportunity to address issues related to national offers of assistance under Article X of the Convention — both the technical and political aspects. Among the observations/recommendations made by workshop participants was an acknowledgement that only 33 of 140 states parties had informed the Secretariat of their assistance measures and that some of the national offers of assistance were too general to be of use to the Secretariat. Furthermore, the delivery of assistance at short notice would be hindered by gaps in the geographic distribution of the national offers that had been received; there was a notably small number of such offers from Africa and Latin America.

The workshop called on the Secretariat to develop a conceptual approach to the implementation of the provisions on assistance under Article X at the earliest possible opportunity. There was a great desire on the behalf of the participating states parties to continue to hold this workshop on an annual basis and in the future to make such workshops more specialised in scope to allow in-depth exploration of specific technical issues.

The third in a series of courses on the medical aspects of defence against chemical weapons was organised by the Secretariat in conjunction with the National Authority of Iran (the first such course was held in May 1999 and a second course for OPCW medical staff was held in Tehran in May 2000). The course took place in Tehran during 23–26 October and involved 23 participants from 19 member states. The course was designed for new medical professionals, and presented them with the opportunity to learn from Iranian doctors with firsthand experience treating the victims of chemical warfare. Ultimately, these courses aid states parties in the implementation of their own programmes for protection against the effects of chemical weapons.

During 11–20 November a pilot course for live agent training for OPCW inspectors was undertaken in Vyskov in the Czech Republic, as per a training arrangement concluded between the government of the Czech Republic and the Secretariat in early November.

Following on the success of previous courses in Switzerland, the Secretariat organised, in conjunction with the Swiss government, an emergency field laboratory training course, which will take place from 13 to 18 May 2001. The OPCW Protection Network is now scheduled to meet in March 2001 to discuss technology available for detecting the presence of chemical warfare agents and toxic industrial chemicals.

All of the activities listed above and the many other programmes undertaken by the Secretariat since January 2000 under Article X — in Switzerland, Poland, and Sweden — were mentioned by the Director-General in his report on the status of implementation of Article X and XI of the Convention, presented to the Council in its twenty-second session. The report also stated that 18 states parties had

provided to the Secretariat information on their national protection programmes, and 19 member states had nominated experts for the provision of on-site expertise in the matter of protection. As of 31 October, the balance of the Voluntary Fund for Assistance stood at NLG 1,328,541.92, due to the contributions of 23 states parties. Three states had concluded bilateral agreements with the Secretariat to provide assistance under Article X, while an additional seven states indicated their intention to do so. Thirty-one states parties had made unilateral offers of assistance. It should also be recognised that in 2000 the Secretariat received no requests for assistance from any state party. In its pursuit of effective assistance measures to protect states parties from any intentional or accidental release of chemical weapons, the Secretariat tapped the resources of international organizations and agencies. Cooperation in areas such as early warning and professional expertise was being explored between the Organization and other UN agencies, the World Health Organization, and the International Committee of the Red Cross, among others.

Implementation of Article XI The OPCW Associate Programme, which ran as a pilot course from 18 September until 15 December, provided twelve scientists and engineers from developing and newly-developed states the opportunity to learn about the implementation of the technical aspects of the CWC and gain a more complete understanding of the day-to-day operations of the modern chemical industry and the latest developments in chemical safety. Many of the associates had been previously involved in the work of their respective national authorities. The training was carried out at OPCW headquarters in The Hague and at a training facility in the United Kingdom, and participants continued their training at many of the largest industrial facilities in the Netherlands. Due to its success, it was expected that this programme would become an integral part of the annual calendar of OPCW activities.

During 18–19 September, the Secretariat hosted a technical workshop on the “Development of Electronic Tools for National Authorities to Support CWC Declarations in a Common Electronic Format”. Participating were 35 experts in electronic data systems and representatives from the national authorities of 19 states parties. Attendees were briefed on the systems used by other arms control and disarmament treaties for the exchange of data, and it was emphasised that exchange of such information in an electronic format greatly increases work efficiency, clarity, and accuracy both for the Secretariat and the individual member states. A standard electronic format for submission and exchange of declarations (a common transmission file structure or CTFS) would enable communication between national databases and facilitate work in the six official languages. Preparatory work on the national authority software began during the last few months of 2000 and development of the system was scheduled to begin in January 2001.

One national authority training course took place during the period under review. Twenty-three participants from an equal number of states parties attended a “Basic Course for Personnel Involved in the Implementation of the CWC” in Tunis, Tunisia, during 2–10 October. The next basic

national authority training course will be held in The Hague from 26 February to 6 March 2001.

The Director-General's report to the Council at its twenty-second session enumerated the activities of the Organization under Article XI over the course of 2000. The Secretariat provided support to the national authorities of various states parties with the goal of achieving designation for more laboratories, through participation in official OPCW proficiency tests. Also, in the last year, the Secretariat was able to support attendance for scientists and engineers from developing or newly-developed states parties at international fora related to the control of chemical weapons. Ten such conferences and 79 participants from 46 countries were supported in this manner. Scientists and engineers also benefited from the OPCW's internship support programme, which facilitates cooperation with advanced research institutions. Furthermore, the exchange and transfer of chemical technology and the funding of research that contributes to a more complete understanding of chemical and biological weapons and the ways in which to control their production and use were highlighted by the Director-General as integral to the Organization's mandate.

From 30 April to 3 May 2001, the Secretariat and the government of Australia will host a regional workshop on the CWC, with an emphasis on promoting regional cooperation among member states from Southeast Asia and the South Pacific. The 4-day workshop will address three main issues: international cooperation, industry issues, and assistance and protection. And, as part of the Organization's outreach effort to other IGOs, the OPCW and UNITAR were cooperating in the organization of a thematic workshop for the autumn of 2001 on the safe management of chemicals.

During the period under review, the Secretariat released a note on "strengthening the international cooperation and assistance activities of the organization". In this note, it was stressed that the importance of these aspects of the CWC in assuring its effective implementation necessitated a redistribution and streamlining of the activities and organization of the International Cooperation and Assistance Division of the Secretariat. To this end, the Division was re-divided into three branches: the new Assistance and Protection Branch (formed by consolidating the Emergency Assistance and Protection Branches), the International Cooperation Branch, and a new Implementation Support Branch. The first branch would be responsible for all activities undertaken by the Secretariat under Article X. The International Cooperation Branch would focus on economic and technological development and on international cooperation in the field of chemical activities for peaceful purposes, as well as outreach to other international organizations with "relevant mandates". The Implementation Support Branch would provide all means of support to national authorities in their implementation of the CWC. Each branch would be headed at the D-1 level. These changes would help the Secretariat to carry out its mandate in an efficient manner, both in terms of substance and cost.

A draft decision on the implementation of Article XI, facilitated by the Iranian delegation, underwent extensive informal discussions and was readied for presentation to the Sixth Conference of the States Parties for consideration.

Eighth Official Proficiency Test The eighth official proficiency test began on 8 November and involved 12 laboratories in 10 states parties (Belgium, the Czech Republic, India, Iran, the Netherlands, Poland, Romania, Singapore, Sweden, and the UK). The samples were prepared by a laboratory in the Republic of Korea and the evaluation will be carried out by a second laboratory in the UK. The ninth and tenth official proficiency tests were scheduled for April and October 2001 respectively.

Legal Issues As of early December, 48 states parties had submitted their responses to the survey of "national measures that have been or will be introduced by states parties to regulate and control scheduled chemicals and their precursors under the Convention"; distributed by the Secretariat in June. The contents of these surveys revealed that 85 per cent of the responding states already had legislation in place and/or the CWC was directly enforceable under their existing legal system; 15 per cent lacked implementing legislation completely, while 30 per cent of those states parties that reported to possess implementing legislation were in the process of redrafting or preparing additional legislation or regulations to supplement existing laws. Issues that the returned surveys brought to the fore included customs administration and the special situation of free-trade zones. In his opening statements to the Executive Council in both its twenty-first and twenty-second sessions, the Director-General encouraged states parties, and especially the members of the Executive Council, who had yet to return completed surveys to the Secretariat, to do so at the earliest possible date.

Preliminary analysis of the data collected by the survey was presented to the legislative workshops in Seville, Spain, in October and Mbabane, Swaziland in November.

The "Workshop on Legislative Issues Related to the Implementation of the Convention" took place during 26-27 October in Seville, Spain. Sixty government officials from 48 states parties focused their discussion on the interaction between implementation of the Convention and special customs regimes such as common markets, free ports, and free-trade zones.

The "Regional Workshop on Implementation Legislation and International Cooperation Issues" was held during 28-30 November in Mbabane, Swaziland. States parties and signatories from the Southern African Development Community (SADC) participated in the workshop, which was designed to examine the most efficient means through which to produce a legislative/regulatory framework to implement the Convention.

The "International Symposium on Cooperation and Legal Assistance for Effective Implementation of International Agreements" will take place in The Hague during 7-9 February 2001. Over 200 representatives from government, law enforcement, and academia worldwide are expected to participate. Participants will include those individuals nominated by states parties in Latin America and the Caribbean to comprise a network of legal experts for that region.

Official Visits The Deputy Director-General was in China during 3-13 September, where he met with Chinese

government and chemical industry officials, visited an ACW storage site and spoke to students at Beijing University.

The President of Brazil, H.E. Mr Fernando Henrique Cardoso, visited the Organization on 9 October 2000 and addressed a special session of the Executive Council. On 23 October, the OPCW received another head of state: the Prime Minister of Latvia, H.E. Mr Andris Berzins.

The Director-General travelled to New York during 11–20 October. While in New York, the Secretariat arranged for the Director-General to meet with the representatives of states not party to the CWC, signatory states, and member states, on a bilateral and multilateral basis. He also signed the UN–OPCW relationship agreement and had the opportunity to address the UN General Assembly. In his landmark speech, the Director-General addressed the success so far of the OPCW — 7 per cent of the global stockpile of 70,000 tonnes of chemicals agents and 15 per cent of the 8.4 million chemical munitions declared under the Convention had been destroyed — and stressed the danger of chemical weapons as the most “usable” weapon of mass destruction. He also drew attention to the 60 per cent increase in membership since the CWC’s entry into force. Setbacks in the implementation of the CWC, such as Russia’s lagging destruction programme and the high numbers of states not party to the Convention in the Middle East and Africa, were noted. To facilitate progress in these matters, the Director-General encouraged the establishment of a mechanism via which to increase the amount of international aid to Russia for its implementation of the Convention — to the end of the destruction of the world’s largest stockpile of chemical weapons.

Those small countries, without chemical weapons or significant industry, who have yet to become members of the CWC, have cause to do so, stated the Director-General, due to two provisions of the CWC: assistance and protection to its states parties in the event of a chemical attack and the expansion of restrictions on the transfer of scheduled chemicals to or from states not party to the Convention. The protection and assistance aspect of the CWC was also emphasised as the important third pillar of the Convention, along with the fourth, international cooperation (the first and second pillars are disarmament and non-proliferation respectively). The Director-General stated that these third and fourth pillars will be key to continuing effective implementation of the CWC as it enters the new millennium.

A delegation from the Foreign Affairs Committee of the Dutch Parliament visited the OPCW on 22 November. In the same week, the presence of the UN Conference on Climate Change in The Hague precipitated visits to the OPCW by the Brazilian Minister of Science and Technology on 21 November and the Australian Minister of Environment and Heritage on 23 November.

On 30 November, a delegation of the Council of Federation of the Federal Assembly of the Russian Federation visited the OPCW. Represented were the Committee on Security and Defense and the Committee on Science, Culture, Education, Health and Ecology.

Outreach Activities A regional seminar was held in Beijing, China during 4–8 September; participants were drawn from throughout the region, and notably, from Israel,

the United Arab Emirates, Iran, Gabon, Madagascar and the Federal Republic of Yugoslavia.

On 21 and 23 November, the Secretariat organised briefings for participants in the UN Climate Change Conference to enable them to learn about the connections between the work of the OPCW, development, and environmental controls.

The Second Induction Workshop for diplomatic personnel was held in The Hague during 30 November–1 December for diplomats new to the work of the OPCW and the Secretariat. Many of the participants came from missions based in Brussels and London. Forty-six diplomats from forty-two countries attended the workshop, including six individuals from states not party to the Convention — Angola, Chad, Israel, Madagascar, Thailand, and Uganda.

During the period under review, numerous groups of students and future government leaders from many parts of the world — the Netherlands, the United States, China, Iran, Eastern Europe — visited the OPCW and were treated to informational sessions on the CWC, the OPCW, and the ongoing work of the Secretariat. Also, the UN Disarmament Fellowship Programme visited the OPCW on 25 September as part of their 3-month training programme.

Plans for regional meetings and seminars in 2001 are being finalised; perspective locations include Ghana, India, the Pacific Islands, and Jamaica.

Staffing The results of the second job classification exercise were presented to the Executive Council — convened in a special session for the purpose — and to the staff of the Organization on 3 November. Both job classifications (1998 and 2000) were discussed in further detail at the twenty-second session of the Council in December (see above).

Implementation of the second classification exercise rested with the Executive Council. Until then, the Secretariat would continue with the completion of the appeals process from the first classification exercise.

Also, on the controversial subject of geographic distribution, the second classification exercise, if implemented, would not result in a more equitable distribution of posts within the Secretariat, and in fact would result in the downgrading of numerous posts held by staff from under-represented regions.

Current geographic distribution within the Secretariat, at the professional level or higher, was as follows: 9 per cent from the Africa group, 24 per cent from the Asia group, 23 per cent from the Eastern European group, 11 per cent from Latin America, and 34 per cent from the Western European and Others group.

New appointments included Mrs Magda Bauta-Soles (Cuba) as Head of the International Cooperation Assistance Branch, Mr Isam Abugideri (Sudan) as the Head of the Procurement and Support Services Branch, Mr Im-Suk Yang (Republic of Korea) as the new Head of the Inspection Review Branch, and Mr Thomas Cataldo (USA) was appointed as the new Head of the Technical Support Branch.

Mr Mtshana Ncube (Zimbabwe) was re-appointed to a P-5 position as Legal Assistant to the Director-General, and Mr Alan Steadman (UK) was re-appointed a team leader at P-5 level.

As of 1 December, 483 of the allotted 506 fixed-term posts in the Secretariat were occupied. Of these, 341 were in the professional and higher category and 142 were in the general service category. Including staff on short-term and temporary assistance contracts and others the total personnel strength was 531 from around 64 different nationalities. Women compose approximately 12 per cent of the OPCW staff in the professional category or higher, and about 20 per cent overall.

Subsidiary Bodies

Confidentiality Commission A special session of the Confidentiality Commission is planned for 17–18 January 2001 in order to further review the confidentiality policies of the Secretariat, a task assigned to the Commission by the Council at its eighteenth session.

The issues to be presented to this special session of the Commission include the scope and volume of confidential material to be processed and the level of classification applied to documents.

Scientific Advisory Board The report of the third session of the Scientific Advisory Board (SAB), and the Note by the Director-General on this topic, was considered by the Council in its twenty-first session. Subsequently, two Vice-Chairmen were requested to arrange a meeting of experts to further address and analyse the issues raised by the report — low concentrations, riot control agents ... etc.

This meeting took place in November and a facilitator's report on this topic was planned to be presented to the twenty-third session of the Council in February 2001. Worries were expressed by the Director-General at the twenty-second session of the Council that the recommendations of the SAB were being ignored.

The next annual meeting of the Scientific Advisory Board, its fourth session, is scheduled for February 2001.

Future Work

In his opening statements to the Council, in both sessions held during the period under review, the Director-General addressed the issue of discrepancies in the reporting on transfers of Schedule 2 and Schedule 3 chemicals between importing and exporting countries. He called for a meeting between exporters and importers to clarify this problem and devise a solution. This meeting will be held on 17 January 2001.

Planning for the First CWC Review Conference, scheduled for 2003, is set to begin early in 2001, and also in the first half of the year, the Director-General plans to invite chemical industry leaders to OPCW headquarters to discuss industry's role in the Review Conference and the future implementation of the Convention.

This review was written by Pamela Mills, the HSP researcher in The Hague.

Strengthening the Biological and Toxin Weapons Convention

A three week session, the twenty-first, of the Ad Hoc Group (AHG) to consider a legally binding instrument to strengthen the Biological and Toxin Weapons Convention (BWC) was held in Geneva from Monday 20 November to Friday 8 December 2000. As in the July/August session, negotiations took place in a number of forums: the Friends of the Chair (FOCs) continued to hold formal meetings to develop the text for which they are responsible as well as also holding informal meetings and consultations with delegations to explore possible solutions to remove square brackets. The Chairman also continued a series of bilateral informal consultations with the representatives of the states parties participating in the negotiations to address the outstanding key issues in order to explore conceptual approaches to find common ground. These informal consultations by the Chairman took place in the week commencing 13 November, before the start of the Ad Hoc Group session, as well as during the session; over 80 such consultations were held during the four week session. Overall, the November/December session saw a continuation of the change that had begun in the July/August session to less work being carried out in formal sessions and more "give and take" discussion

in informal consultations. Again, as in the July/August session, there were further "bracket bazaar" meetings during the session when a number of square brackets were successfully removed in a series of trade-offs. To a certain extent, the previous more formal methods of work have achieved as much as possible in developing agreed text and in the removal of square brackets, and there is a need now to explore new informal and formal ways of reaching solutions that will attract wide support.

In the November/December session, 52 states parties and 3 signatory states participated; one more state party than in the July/August session as 2 states (Jamaica and Viet Nam) participated in November/December whilst one state (Slovenia) did not. Two additional signatory states (Egypt and Myanmar) participated in November/December.

There was no change to the Friends of the Chair. However, a new development was the recognition by the Ad Hoc Group that for the completion of its mandate, work was required in a number of areas additional to that of completion of the text of the Protocol. Consequently, the Chairman requested that Facilitators should assist the Ad Hoc Group in the following areas:

- Harmonization of timelines for activities and measures in the Protocol — Ambassador Ali Ashgar Soltanieh (Iran);
- Structural harmonization of issues in the Protocol — Ambassador Henrik Salander (Sweden);
- Editorial issues in the Protocol — Dr Ben Steyn (South Africa) and Dr John Walker (UK);
- Declaration on the Establishment of a Preparatory Commission — Mr Peter Goosen (South Africa), Mr Fu Zhigang (China) and Mr Gennady A. Loutai (Russia);
- The Headquarters Agreement with the Host Country — Ambassador Donald A. Mahley (USA) who will be assisted by Ambassador Krzysztof Jakubowski (Poland), Mr Adrian White (Australia), Mr Malik Azhar Ellahi (Pakistan), Ms Katarina Rangnitt (Sweden) and Sra. Rodriguez Camejo (Cuba) as well as additional personnel as considered necessary; and
- Harmonization of Legal Aspects of the Protocol — to be appointed.

The November/December session also saw on the penultimate day, 7 December, the presentation by the two candidates for the Seat of the Organization, the Netherlands and Switzerland, of their responses to the Questionnaire on possible arrangements regarding the seat of the Organization and General Information on the Host City. It will be recalled that this questionnaire was attached to the procedural report (BWC/AD HOC GROUP/52 (Part I), 11 August 2000) of the July/August session as Annex II. In addition to the formal submissions circulated as Working Papers 428 (the Netherlands) and 429 (Switzerland), presentations were made by the two countries outlining the basis of their respective bids.

There was a decrease in the number of new Working Papers (WPs) — to 10 in November/December from 12 in July/August 2000. The 10 WPs (WP.428 to WP.437) were presented by the following states: single papers by Australia, Iran, the Netherlands, South Africa, Spain, Switzerland and the USA; together with joint papers by China, Cuba, India, Indonesia, Iran, Libya, Mexico, Pakistan and Sri Lanka; Italy, Pakistan and Poland; and New Zealand and South Africa. These focused on a number of issues — 2, as noted above, were submissions regarding the seat of the organization, 2 relating to different aspects of declarations, 1 on methodology for random visits, 1 reporting on a practice random visit, 1 relating to investigations, 1 to transfers, 1 to the organization and 1 to reservations in respect of annexes and appendices. The Working Papers presented in the November/December session brought the overall total of WPs to 451 — this number excludes ‘WP.’ numbers assigned to draft procedural reports and includes the Working Papers presented at the second session which were given ‘BWC/AD HOC GROUP/’ numbers. An analysis of the WPs in the Table shows that, ignoring WPs presented by groups of 3 or more states parties, 2 or more WPs have been submitted by 30 states parties with South Africa leading the way with 76 WPs, followed by the UK with 43 WPs and then Japan (17), EU (14), Iran (14), USA (14), Cuba (13), Australia (11.5) and Ukraine (10); 6 WPs have been presented by the NAM and Other States (an index of WPs is available at www.brad.ac.uk/acad/sbtwc/adhocgrp/wpindex.htm).

The outcome of the July/August session was produced as a complete update of the Protocol issued as Annex I of the procedural report (BWC/AD HOC GROUP/54). This was thus the fourteenth version of the rolling text — previous versions having been produced in June 1997 (#35), July 1997 (#36), October 1997 (#38), February 1998 (#39) and June/July 1998 (#41), September/October 1998 (#43), January 1999 (#44), April 1999 (#45), July 1999 (#46), October 1999 (#47), February 2000 (#50), April 2000 (#51) and August 2000 (#52). However, unlike in previous procedural reports there was no Part II containing papers prepared by the Friends of the Chair of proposals for modified text for further consideration. This change reflected the general change in the overall negotiations which have moved towards a more informal exploration of possible solutions.

The November/December session had fewer formal meetings as Friends of the Chair used informal and formal meetings as they judged appropriate to carry forward their work. The FOC meetings focused on definitions and objective criteria (4 $\frac{1}{6}$ meetings), Article X measures (4 meetings), compliance measures (1 $\frac{1}{6}$ meetings), investigations (2 $\frac{5}{6}$ meetings) and declaration formats (2 $\frac{1}{6}$ meetings) with between 1 $\frac{5}{6}$ meetings to $\frac{1}{3}$ meeting on the preamble, general provisions, confidentiality issues, legal issues, organization and seat of the organization. There were 2 $\frac{1}{3}$ meetings devoted to AHG plenary meetings. As already noted, the Chairman held over 80 bilateral consultations during the preceding week and the 3-week session.

The AHG meeting as usual saw a number of associated events involving NGOs. During the weekend preceding the start of the Ad Hoc Group, 18–19 November, there was a meeting of the Pugwash Study Group on the Implementation of the Chemical and Biological Weapons Conventions entitled “Key Issues for the Fifth BWC Review Conference 2001” attended by 60 participants from 18 countries.

On 20 November, an informal meeting was held at lunchtime between NGOs and the delegations of the EU at which short statements relating to the Protocol were made by France as the EU Presidency and by representatives from the University of Bradford, the Harvard Sussex Program, VERTIC, the Federation of American Scientists and the International Network of Engineers and Scientists for Global Responsibility. These were followed by about 45 minutes of discussion on declarations, declaration follow-up procedures, export controls and cooperation. This meeting, attended by about 20 representatives from a dozen NGOs and a similar number of representatives from EU delegations, provided a valuable opportunity for the informed discussion of some of the key issues relating to the Protocol.

The following day, 21 November, saw the presentation and distribution by the Department of Peace Studies of the University of Bradford of a further *Briefing Paper* in its series: no 32, “Scientific and Technical Implications of the Implementation of the BTWC Protocol” and of a further *Evaluation Paper*: no 19, “The BTWC Protocol: Proposed Complete Text for an Integrated Regime” (both are available at www.brad.ac.uk/acad/sbtwc).

Two days later, on 23 November, a lunchtime briefing was held in the World Health Organization (WHO)

headquarters entitled “Global Health Security: filling the surveillance gaps: new alliances against infectious diseases” with opening remarks by Dr David Heymann, Executive Director, Communicable Diseases, followed by a presentation by Dr G Rodier, Department of Communicable Disease Surveillance and Response.

During the weekend of 25–26 November, Italy hosted a seminar in Trieste at the International Centre for Genetic Engineering and Biotechnology (ICGEB) entitled “Cooperation Activities in the Framework of the BTWC — Role of the International Centre for Genetic Engineering and Biotechnology” which was attended by about 50 representatives from the delegations of 41 of the states participating in the Ad Hoc Group.

Political Developments

As usual a number of statements were made during the November/December session.

On 20 November, the first day of the session, Ambassador Tibor Tóth, Chairman of the Ad Hoc Group, said in his opening remarks that it was with a sense of anticipation and some impatience that he opened this, the 21st, session of the Ad Hoc Group which would be the last session for this, the sixth year of the Ad Hoc Group. He expected much from those present — as individuals, as delegations and collectively as the Ad Hoc Group. He noted that after 20 sessions, the Ad Hoc Group had before it the 14th version of the draft Protocol. By comparing the present text with that in the first few versions, it is possible to see the

Table — Working Papers submitted to the Ad Hoc Group by Source																						
Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
AHG/	3	28	29	31	32	34	36	38	39	40	41	43	44	45	46	47	49	50	51	52	54	
Date	Jan 95	Jul 95	Dec 95	Jul 96	Sep 96	Mar 97	Jul 97	Oct 97	Jan 98	Mar 98	Jul 98	Oct 98	Jan 99	Mar 99	Jul 99	Oct 99	Dec 99	Jan 00	Apr 00	Aug 00	Dec 00	To date
FOC WPs	–	1	20	10	9	14	8	10	11	3	6	3	1	2	2	2	–	–	–	–	–	102
Argentina	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	2
Australia	–	–	1	3	–	–	3	–	–	–	–	1	–	1.5	1	–	–	–	–	–	1	11.5
Austria	–	–	–	–	–	0.5	1	–	–	1	–	1	1	–	–	0.5	–	–	–	–	–	5
Brazil	–	2	1	1	1	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	–	7
Canada	1	–	1	3	2	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9
China	–	2	–	–	–	1	–	–	–	–	1	1	1	–	–	–	–	–	–	–	–	6
Croatia	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	–	–	–	–	–	2
Cuba	–	3	4	–	–	–	2	–	–	–	–	–	–	–	1	1	–	–	1	1	–	13
Czech Republic	–	–	1	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	3
European Union	–	–	–	6	–	1	–	–	–	–	2	–	–	–	2	–	–	–	1	2	–	14
France	–	1	2	–	–	1	1.5	–	–	–	–	1.5	–	–	–	–	–	–	–	–	–	7
Germany	–	1	1	–	–	–	0.5	–	–	–	–	–	1.5	–	2.5	1	–	–	–	1	–	8.5
India	–	–	–	–	1	2	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	4
Indonesia	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	2
Iran	–	–	2	–	–	2	–	1	–	–	–	2	1	1	2	–	–	–	–	2	1	14
Italy	–	–	–	1	–	1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	3
Japan	–	1	3	–	–	1	1	3	2	–	–	1	1	2	1	–	–	1	–	–	–	17
Republic of Korea	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	2
NAM & Others	–	–	–	–	–	–	–	–	1	–	–	–	2	–	1	2	–	–	–	–	–	6
Netherlands	–	1	2	–	0.5	–	3	–	–	–	–	–	–	0.5	–	–	–	–	–	–	1	8
New Zealand	–	–	1	1	1	0.5	–	–	–	–	–	–	–	0.5	–	–	–	–	–	–	0.5	4.5
Portugal	–	1	1	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	3
Russia	–	2	–	3	1	2	2	2	5	–	3	–	2	–	3	–	–	–	–	2	–	27
South Africa	–	2	3	6	3	7	6	14	6	2	5	3	7	2	3	3.5	–	–	–	2	1.5	76
Spain	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1	2
Sweden	–	1	1	–	0.5	1	–	–	2	–	–	1	0.5	–	1.5	–	–	–	–	–	–	8.5
Switzerland	–	–	–	–	–	1	2	–	–	–	–	–	–	–	2	–	–	–	–	–	1	6
UK	–	3	4	2	1	1	9	2	5	2	2	1.5	5	2.5	2	–	–	–	–	1	–	43
Ukraine	–	–	–	–	–	–	1	–	–	–	–	2	1	–	2	1	1	1	–	1	–	10
US	–	1	1	1	–	–	1	–	–	–	2	4	1	–	1	–	1	–	–	–	1	14
Others	–	1	1†	–	–	–	2	1	–	–	–	1	2	–	–	–	1‡	–	–	–	2	11
Total	1	23	50	37	21	37	45	35	33	9	21	27	27	13	31	11	3	2	3	12	10	451

Note: † Turkey; ‡ Norway; Working Papers by more than 2 states parties are listed under ‘Others’

progress made from 1997. There are now wide sections of the text that are almost clean which is very pleasing. What had previously been referred to as 'islands of bracket-free text' have grown enormously over the last few sessions. This progress underlined even more those sections of text where there are almost as many square brackets as there are words and Ambassador Tóth noted that the Ad Hoc Group were all aware that not all the text is at an advanced stage and that a lot of additional effort is needed to move these particularly difficult issues forward. At previous sessions the first steps had been taken to address these issues and he was confident that the present session would provide the opportunity for delegations to engage fully in discussing these issues and developing solutions. The time for preliminary discussion is now over; it is time to negotiate solutions.

In this session, Ambassador Tóth looked for continued cooperation in the formal Friends of the Chair meetings — these are the main forum where the text is progressively developed, concepts are clarified and explained and changes are negotiated — as well as in informal meetings and bilateral consultations both by the Chairman and by the Friends of the Chair. He anticipated these methods of work continuing in this session. The Chairman said that he intended to carry forward informal consultations in the same way during the 21st session, structuring these into investigations and compliance measures issues during the first week, transfers, cooperation, objective criteria and legal issues during the second week and organization and other issues during the last week. He would report back continuously in bureau meetings and plenary sessions on how the process is developing and any results achieved. If, as a result of these informal consultations at all levels, support emerges for compromises then he would introduce the 'bracket bazaar' format where proposals for restructuring and streamlining of the text could be considered by the Ad Hoc Group in plenary session. Ambassador Tóth said that he very much hoped that all delegations would look at suggested changes in a spirit of compromise but made it clear that, in this process, no delegation will be spared the pain of compromise.

He concluded by calling on all delegations to provide their continued support in bringing the work of the Ad Hoc Group to a successful conclusion next year. Not only did the Ad Hoc Group have to conclude the negotiations on the draft Protocol but the Special Conference has to be convened that will approve it. He noted that we have to fulfill the mandate and that no delegation should need reminding that the time when the mandate is to be fulfilled is fast approaching. Consequently, primarily due to this deadline, he believed that the Ad Hoc Group needed to make significant progress at this session and why he expected much of everyone — as individuals, as delegations and as the Ad Hoc Group.

The opening plenary session continued with a number of statements. Ambassador Hubert de la Fortelle of France spoke on behalf of the European Union and the associated central and eastern European countries of Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia and also the associate countries of Cyprus, Malta and Turkey. In this he noted that the Fifth Review Conference would open in a year's time and that this

was the deadline set by the Fourth Review Conference to conclude negotiations on the Protocol to strengthen the BWC. He said that the member states of the EU:

today affirm their determination to respect the 2001 deadline which is mandatory for all the States Parties to the Convention.

He went on to review the progress achieved as after five years of negotiation, the Ad Hoc Group has succeeded in bringing points of view closer on the provisions at the heart of the Protocol. These achievements were recalled as follows:

- The general structure of declarations is no longer under discussion and it has now been agreed that declarations will focus on biodefence facilities, maximum biological containment facilities, and on industrial facilities relevant under the Convention;
- The concept of visits has been agreed;
- The principle of a clarification procedure followed by a visit if necessary has also been agreed by delegations;
- The value of the provisions relating to investigations in the event of a strong suspicion that the Convention is being breached is no longer questioned by anyone, and most of the provisions relating to their conduct no longer raise any difficulties;
- It is also acknowledged that a small, independent and cost-effective organization is needed to implement these measures;
- Inclusion in the Protocol of a specific and significant article on cooperation is also one of the items about which differences have been smoothed out. The draft article contains a substantial series of measures that the States parties are invited to adopt, as well as the specific duties of the Secretariat. It also puts forward the idea of a Cooperation Committee about which a number of European Union Member States made innovative proposals a year ago. Overall, Article VII of the Protocol is very much more comprehensive as regards cooperation and assistance than any other such articles in other legal instruments on security issues.
- Furthermore, some progress has been made during the last sessions as regards the way in which issues relating to transfers are addressed: precise and realistic proposals were put forward by a number of European Union Member States.

He then went on to outline a number of steps that need to be taken:

1. Declarations must be tailored in such a manner as to provide for an increased transparency of relevant facilities.
2. Visits should apply to all declared facilities as the justification for declaration triggers is identifying those facilities liable to be diverted for purposes contrary to the Convention. It is therefore important, to improve transparency, that all declared facilities can be visited. We do not think certain declared facilities are more relevant than others.
3. It should be possible to include within the scope of clarification measures those facilities which were not declared but should have been, depending on their particular characteristics. We know that this is a sensitive point, but we believe that this issue is not a matter first and foremost

for challenge investigations. It should be possible to work out a clarification procedure suited to this problem.

4. Investigations should remain credible as, in the end, the possibility of establishing whether or not the Convention has been breached depends on them. From this point of view, it is essential for them to be launched rapidly without unnecessary delay, on the basis of a clear mandate and conducted in the most effective manner possible.

Finally, he mentioned that there are essentially two obstacles to be overcome, from the point of view of EU member states. These are:

- Activities relating to defence against the risk of biological aggression are legitimate, but they also legitimately arouse the interest of the international community. The balance to be struck here is complex as no country would accept that its security should be reduced by excessive transparency, although neither is false transparency acceptable in this area.
- Export controls contribute directly to the security of all States and are an obligation for all States Parties. Their existence is thus justified and necessary. It is for each State to determine the ways in which such controls are to be exercised. European Union Member States have adopted a European Union regulation on this issue which was revised in June of this year; this regulation cannot in any way be regarded as discriminatory.

Ambassador de la Fortelle concluded by stating that the EU member states would fully support the Chairman in his efforts to achieve:

the conclusion of a balanced and effective Protocol which will increase the security of all States through enhanced transparency and cooperation.

Further statements were then made in plenary on a variety of other subjects by a number of different States including South Africa, Brazil, UK, Iran, Italy, Norway, China, Cuba, Pakistan, India and Indonesia. Several of these interventions related to the introduction of Working Papers. South Africa, in noting that this was the start of the 21st session, suggested that the Ad Hoc Group was coming of age and saw this session as being a particularly significant one. South Africa then introduced a Working Paper (WP.430) which addressed the implications of the Annexes and Appendices to the Protocol being subject to Reservations which would follow if language was to be adopted stating that the Annexes and Appendices of the Protocol:

shall not be subject to reservations incompatible with its object and purpose or that of the Convention.

Iran, China, Cuba, India, Indonesia and Pakistan spoke in respect of a Working Paper (WP.432) addressing the settlement of disputes arising as a result of denial of transfers. The Chinese intervention included a statement that subjecting the control of transfer of equipment and materials to stringent export controls was conducive to the prevention of proliferation and in conformity with the object and purpose of the Convention. In regard to transfers, it is important to take a long term view over many years as increased confidence between states parties does not happen at the instant of entry into force of the Protocol — rather

entry into force should be the start of a process that will over years increase transparency and build confidence between states parties to the Protocol.

Further statements were made later in the Ad Hoc Group session by the United States (23 November), Russia (27 November) and India (8 December) as well as by the Netherlands and Switzerland (7 December) to introduce their bids for the seat of the Organization. Ambassador Don Mahley of the United States emphasised that throughout the negotiations the USA has made the point very strongly that:

we believe this to be a crucial security negotiation. We want a Protocol, and we want that Protocol to strengthen the Biological Weapons Convention. The threat of biological weapons is global, growing and is a security concern to each of us.

After noting that biological issues were:

more complex, by an order of magnitude, than any other field of arms control and disarmament

he went on to say that:

Despite this daunting challenge, we have reached constructive agreement on a number of crucial issues in progress towards a successful Protocol. The U.S. believes that we should redouble our efforts over the coming months towards the successful conclusion of a BWC Protocol that meets all of our security and non-proliferation conditions.

Although his statement included language considering that the USA considers the November 2001 date a very important target and that:

we are also prepared to stay at the job until it is done right

he also said that:

The United States will exert every reasonable effort to complete prior to that date a Protocol that will further strengthen international security.

Ambassador Sidorov of Russia announced that on 24 November the Council of the Federation of the Federal Assembly of the Russian Federation had adopted the Federal Law withdrawing the reservations to the Geneva Protocol signed in Geneva on 17 June 1925. He said that:

in this way Russia once again reaffirmed its commitment to the complete prohibition of biological weapons.

He went on to say:

Speaking today on behalf of the Russian Federation, which is one of the Depositaries of the Convention, I should like to urge all the participants of the negotiations to do everything possible for the full implementation of the mandate of the Ad Hoc Group and of the decision of the Fourth Review Conference on the time-frame of the development of the Protocol, that is as soon as possible before the Fifth Review Conference which will be held in November–December 2001. I want to say that the Russian Federation is fully committed to reaching that goal. There is now a unique opportunity to strengthen the Convention regime by way of creating a reliable and cost-effective mechanism for the verification of compliance with it and by way of insuring the unhampered development of cooperation in the biological area.

He urged:

all the participants of the negotiations in the Ad Hoc Group to use most effectively the time left before the Fifth Review Conference. ... The situation we face does not permit us to lose time, thus putting the entire endeavour at risk. In recent years we witnessed the appeals of many delegations to the Ad Hoc Group to intensify our efforts. We believe that such an intensification is ever more appropriate and necessary at the final, finishing stage of the work of the Ad Hoc Group.

Ambassador Sood of India said that India saw the mandate of the Group as:

negotiating a protocol with a range of measures, aimed at strengthening the norm against biological weapons, the principal objective of the Convention.

He went on to say that:

Considerable progress has been achieved in recent years and is reflected in the Rolling Text, even though this may not be easily apparent to the uninitiated.

He noted that:

The Fifth Review Conference of the States Parties is scheduled to take place in less than twelve months and whether a deadline or a target, this increases our awareness of our efforts between now and November 2001.

He went on to conclude that:

we need to develop a protocol which will attract the adherence not just of all States Parties but also bring in countries that have not yet joined the BWC. Anything less would not do justice to our mandate. ... It is in the spirit of strengthening the BWC that my delegation will seek to work during the coming months.

The Emerging Regime

In the opening session, Ambassador Tibor Tóth recalled the expansion of the method of working in the July/August session to include informal sessions and bilateral consultations and said that he expected these methods to continue at the November/December session. He emphasised that the Ad Hoc Group had to fulfil its mandate and that the time when this mandate is to be fulfilled was fast approaching and he therefore expected much from individuals, delegations and from the Ad Hoc Group in moving the text forward.

At the end of the November/December session it was apparent that a number of different approaches had been followed in order to explore how best to make further progress in removing square brackets and developing the text:

- Friends of the Chair had continued to hold formal and informal meetings to consider the parts of the rolling text for which they are responsible in order to further develop the text.
- Bilateral consultations had been carried out between delegations and between the Friends of the Chair and delegations to seek areas in which common ground could be used to make progress.
- Proposals which appeared to attract wide support as a result of these consultations were brought before the Ad Hoc Group in plenary session in so-called "bracket bazaars" in which some proposals were accepted and others not.

- Informal bilateral consultations were held by the Chairman with delegations to explore conceptual solutions. As there had been a slowing down in the removal of square brackets, it was evident that the Ad Hoc Group needed to explore alternative approaches whereby the Protocol as a whole can be considered. It is clear that there are interactions between the different elements in the various Articles and, as such, go beyond the areas for which individual Friends of the Chair are responsible making the removal of square brackets less easy. This slowing down in the removal of square brackets is yet another indication that the Ad Hoc Group is now in its final phase of its work to complete the Protocol. Consequently, the Chairman has intensified his bilateral consultations with all delegations taking care to ensure that any delegation who had requested a meeting had had one. From these bilateral consultations, where it has been possible to identify areas for further exploration the Chairman has provided delegations with written elements related to certain parts of the text in order for delegations to look at these and consider the ideas contained in them so as to come back to him with their views and any ideas for how the text may be developed so as to attract wide support. These written elements have included some from the following areas: declarations, declaration follow-up procedures, investigations, transfers, entry into force, cooperation and issues related to the organization. In order to achieve the compromises necessary to fulfil the mandate of the Ad Hoc Group every delegation has to move away from its own favoured position and begin to embrace the ideas of other delegations. As Ambassador Tóth said in his opening remarks to the session, in the final phase of the negotiations no delegation would be spared the pain of compromise. It is becoming very clear to all involved that the Ad Hoc Group is now poised — and that the necessary momentum is there — for the final push to complete the Protocol in 2001 during which delegations will have to identify and accept compromises so as to arrive at an effective protocol which attracts wide support.

The Seat of the Organization A particular development during the November/December session was the presentation and distribution on 7 December, the penultimate day of the session, to the Ad Hoc Group of the formal responses to the "Questionnaire on possible arrangements regarding the seat of the BWC organization and general information on the host city" which had been provided on 13 October to the Friend of the Chair on the Seat of the Organization, Ambassador Seiichiro Noboru of Japan. The Netherlands presentation was led by Ambassador Chris Sanders and Vice-Mayor Bas Verkerk of The Hague who congratulated all delegations on the progress made towards:

an effective and comprehensive Protocol that would once and for all rid the world of ... the deliberate use of disease as a weapon

and said that the Netherlands believes that the Protocol:

offers us a unique opportunity to strengthen the effectiveness of the BTWC at a time when biological weapons are perceived to be one of the major threats against humanity, while at the same time ensuring that all states, small and big, north and south, east and west, can benefit equally from the ever faster developments in the field of biotechnology and

the unprecedented progress in communications. We strongly believe that a careful balance between these two objectives will enhance the effectiveness of the Protocol and its organisation.

They went on to say that the Netherlands Government is convinced that the location of the Organization for the Prohibition of Biological Weapons in The Hague would contribute to that effectiveness.

In outlining the essential elements of the Netherlands bid, Ambassador Sanders noted that:

the Netherlands has drawn and continues to draw the necessary lessons from the experience gained during the establishment, management and operation of the OPCW and the diplomatic representations thereto.

The bid includes the following elements (see www.minbuza.nl/english/):

- A building to house the future BWC organisation donated by the Netherlands and constructed in close cooperation with the OPBW PrepCom, the Netherlands Government and the host city of The Hague.
- Up to 10,000 m² gross office space (depending on the size of the organisation, with a maximum of 250 workplaces).
- Land, free of charge (exact location to be decided, depending on the eventual size of the building).
- All maintenance and major repair costs for the full implementation phase of the organisation for a period not exceeding 10 years.
- Funding of conference facilities for the plenary meetings of the PrepCom and the Conference of States Parties for a period not exceeding 10 years.
- Free accommodation for the PrepCom for a maximum of 5 years.
- Flexible workplaces, adjustable walls, adjustable work stations, flexible meeting facilities and internal growth capacity for 100 to 250 staff members.
- State-of-the-art ICT facilities, organised through different networks; each floor will have its own patch panel with cable ducts in the corridors. For security reasons, internet facilities will be completely separate from the other network systems and not connected in any way to any of the external networks.
- Adequate parking space.
- A conference room with multiple translation facilities for the Executive Council.
- A spacious restaurant for staff.
- Separate meeting rooms for press conferences and VIP receptions.
- An executive dining room and an executive suite.
- Adequate audio-visual facilities.
- State-of-the-art security facilities.
- A complete ‘package’ of furniture to be selected by the future OPBW management.
- Facilities for socialising, exercise equipment and other keep-fit facilities.
- All the privileges and immunities for staff members and representation members which are currently granted to the OPCW.

Ambassador Sanders finished by saying:

We believe that location of OPCW and OPBW in the same city will bring many benefits to both organisations. Not only

will the two organizations be able to constantly learn from each other’s experiences, they will also be able to jointly help achieve the political mass necessary for the eradication of these inhuman weapons of mass destruction. ... I am confident that together we will arrive at the conclusion that the Hague is the ‘bio-logical’ choice.

The Swiss presentation focused on “*Geneva’s Humanitarian Tradition: the Best Cure for Biological War*” and noted that since the Geneva Protocol of 1925, “Geneva has been home to all international endeavours to ban biological weapons”. It went on to say that:

By choosing Geneva, the Biological Weapons Organisation will directly benefit from the long-standing experience of Switzerland and the Geneva Authorities in hosting international organisations.

It pointed out that:

Geneva hosts more than 1,800 conferences a year and is the meeting point of 2,000 political and economic world leaders and 100,000 government representatives, international civil servants, experts as well as representatives from non-governmental organisations. 33,000 members of the diplomatic community and their families all call Geneva home from home.

It noted that:

148 countries are represented to international organisations in Geneva. There are over 190 permanent delegations with highly qualified staff. 19 international organisations and some 170 non-governmental organisations with consultative status at the United Nations have chosen Geneva as their headquarters.

It said that:

The Biological Weapons Organisation will benefit from Geneva’s long experience in welcoming international organisations, its humanitarian tradition and its people. The Organisation will find a specialised environment of multilateral diplomacy which understands and competently deals with the needs of international organisations and institutions. Experts, diplomats and international civil servants work together in this closely knit community, ensuring efficient knowledge exchange.

It pointed out that:

Most of the international organisations based in Geneva offer useful synergies to the Organisation from a variety of perspectives: humanitarian, disarmament, health, trade and development, science and technology and environment protection.

Insofar as the bid is concerned, the Organization and its Preparatory Commission would benefit from:

- Free provision of office equipment, furniture and fittings (up to a ceiling of CHF 12,500 per workplace and a maximum of 250 workplaces);
- Rent-free premises for five years;
- Free-parking for five years for 150 vehicles;
- Competitive conditions after five years for an unlimited period (subsidised rents);
- If the Organisation prefers to own its premises and construct a building according to its specific requirements it will be offered a plot of land free of charge and an interest-free loan for construction with an amortisation over 50 years;

- A large number of fully equipped conference rooms of various sizes for use free of charge at the Geneva International Conference Centre (GICC)

as well as:

- Comprehensive and professional assistance to new arrivals from the Geneva Welcome Centre which will also help solving any subsequent problems;
- Subsidised office rents for permanent delegations from developing countries;
- Large privileges and immunities that are granted to the international community, permanent missions, international organisations and international civil servants in Geneva, simply and with a minimum of red tape. Exemption from VAT, for instance, is granted by means of deduction at source;
- Guaranteed free access for family members to the local and international job market with its excellent employment opportunities at international organisations, multinational companies, non-governmental organisations and private enterprises;
- A high security level. The Swiss Government's security services and the Geneva Police are constantly at the disposal of foreign missions. Ad hoc security measures are, in joint agreement, rapidly ordered as soon as risks of danger (for example, demonstrations, political crises, international conflicts) surface. Geneva has the reputation to be a safe city with a low crime rate.

The presentation document concluded with the statement:

The Government of Switzerland and the authorities of Geneva are hopeful that their candidature is accepted. They would be disarmingly proud to serve such a noble cause.

Other Developments The current draft Protocol includes language in respect of randomly selected visits that states:

the maximum number of visits which a State Party may receive in any year shall be limited to a number proportional to the cube root of the number of declared facilities in that State Party.

A Working Paper by New Zealand and South Africa (WP.433) provides a detailed analysis of selection methodologies in which the cube root model and a variant of this involving a small constant for selecting states parties for randomly-selected visits are examined. The analysis shows that the cube root model — in which the probability of a visit is proportional to the cube root of the number of facilities within a state party — is likely to result in states parties with only one or two facilities being likely to be overvisited and that this can be ameliorated by a small mathematical adjustment to the cube root model involving the introduction of a small constant less than 1 which is subtracted from the number of facilities. In addition, the analysis demonstrates that maximums are not necessary and that the expected visit loads in particular years are quite acceptable. This analysis is illustrated using a range of fictional countries with numbers of facilities ranging from 1 up to 900 and calculating the 1 year mean number of visits and the 5 year mean number of visits. The paper concludes such a formula can make the visit load manageable for small

states without respreading the visit load disproportionately onto states parties with a large number of facilities and moreover that the amount of variance that large states are likely to experience from year to year should be manageable and acceptable. The names of the fictional states parties make interesting reading as they include: Volkerland, Soutaria, Malikstan and Tiboria as well as Bradforda and Phillipsravia!

The current *Annex D Investigations II. Field Investigations* includes in square brackets a number of different options for the area to be investigated which range from 300 to 15,000 sq. km. A Working Paper by Iran (WP.434) sets out an argument for a limited size of an area of investigation which says that “the ultimate travelling distance of bioaerosols could not be more than 10km downwind from the source of release” and hence that the limit for bioaerosol dispersion should not be more than 10km. The basis for this suggestion is surprising as it ignores the considerable literature relating to past biological warfare trials which have demonstrated that biological aerosols under optimum conditions can travel hundreds of kilometres downwind (see, for example, WHO, *Health aspects of chemical and biological weapons*, 1970 and FOA, *A briefing book on biological weapons*, 1996).

Prospects

The November/December session addressed the programme of work for Ad Hoc Group for 2001 and the procedural report noted that:

The Ad Hoc Group affirmed that the necessary time to complete its work shall be made available in 2001. The Ad Hoc Group decided to hold its twenty-second, twenty-third and twenty-fourth sessions in the following periods in 2001:

- Twenty-second session, 12 to 23 February
- Twenty-third session, 23 April to 11 May
- Twenty-fourth session, 23 July to 17 August

The programme of work for the twenty-second session was agreed with the 20 meetings allocated as follows:

Compliance measures	1
Declaration formats	2
Investigations	0.5
Article X	1
Definitions	1
Seat of Organization	1
Ad Hoc Group/Informal	11
General Provisions	0.5
Preamble	0.5
Legal Issues	0.33
National Implementation	0.33
Confidentiality	0.33
<u>Host Country Agreement</u>	<u>0.5</u>
Total	20

The allocation of over half of the meetings to Ad Hoc Group/Informal sessions continues the change that began in the July/August session and continued in the November/December session to less work being carried out in formal sessions and more “give and take” discussion in informal consultations.

At the end of 2000, it is evident that the Ad Hoc Group has gone as far as it is virtually possible to go in the incremental development of the individual parts of the text that are the responsibility of the Friends of the Chair. The remaining issues are all interrelated and require delegations to consider the Protocol as a whole. Consequently, new approaches have to be adopted to find effective ways of developing the text further.

The November/December session saw a clear commitment by all delegations to the completion of the negotiations by the Fifth Review Conference in November/December 2001. There continues to be real engagement between the delegations who are addressing how to find solutions to the differences of views which augurs well for

the future. The presentation and submission of the bids for the seat of the Organization together with the appointment of Facilitators addressing topics such as the Establishment of a Preparatory Committee and the Headquarters Agreement with the Host Country as well as the harmonization of timelines for activities and measures, of structural harmonization of issues and of legal aspects as well as editorial issues in the Protocol demonstrate clearly that the Ad Hoc Group is poised and ready to complete its work in 2001. It is evident that the Protocol negotiation can indeed be completed before the Fifth Review Conference.

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

The Continuing Trial of Wouter Basson

This report covers the period 4 August–30 October 2000. A more detailed account is posted on the HSP website.

Friday 4 August was the hundredth day of the Basson trial since it began on 4 October 1999. Media reports stated that Basson's legal fees have cost the state R4 million since his arrest on 29 January 1997. This does not include costs of prosecuting Basson, those of the seven-year Office for Serious Economic Offences investigation, nor the ongoing cost of forensic auditor Hennie Bruwer's investigation. As a former employee of the South African Defence Force (SADF), Basson's legal fees are paid by the state.

Throughout the period under review the trial alternated between hearing evidence related to the charges of fraud against Basson and the human rights violation charges.

Evidence in support of the fraud charges relating to the privatization of the CBW research and production facilities, Roodeplaat Research Laboratories and Delta G Scientific, was heard in August. Testifying in court, Project Coast Auditor Petro Theron said that he was not told by Basson of all the deals involving project funds. Basson's defence advocate Jaap Cilliers said in his defence that Basson was in a difficult situation since documents, equipment and chemicals have all been destroyed, hence he is unable to offer proof of purchase. Cilliers also said that at the time of the transactions, international sanctions were being rigidly enforced and the few who dared risk helping South Africa did so under threat of enormous personal danger, which meant ways of protecting them had to be built into the project.

During the cross examination of Petro Theron, Adv Cilliers placed on record that Basson denies making any deceitful proposals, as alleged by the State, in order to defraud the SADF, or that he ever stole any money from the SADF. The denial covered all 23 fraud charges.

Former Minister of Finances, Barend Du Plessis, was called to testify about having authorised the sale of the front companies to former employees of the companies. Du

Plessis denied having known that one of the purchasers, the Managing Director of Delta G, was the nephew of the then-Minister of Defence, Magnus Malan.

Many of the people who were authorised with auditing Project Coast were called to give evidence. The failure to properly audit all of Coast's assets for one reason or another was a recurrent theme throughout their testimony.

The court heard details about the relationship between Basson and Bernard Zimmer. Zimmer, who is based in Luxembourg, gave evidence about the accounts which he had made available to Basson as a conduit for funds and about the WPW group of companies. Zimmer testified about details of transactions involving the accounts he managed on Basson's behalf. His evidence included a denial that \$2.4 million was used in April 1992 to set up a divisible performance bond, as claimed by Basson, in order to pay four Croatian agents for chemicals (methaqualone).

In the last week of August, state prosecutor Anton Ackerman, who is leading the evidence on the charges of fraud against Basson, withdrew from the trial after he had been forced to pay some R12,000 (about \$1500) out of his own pocket to get Zimmer to South Africa. The Justice Department had not reimbursed Ackerman who said he could not continue until he had received payment. It took two weeks before the matter was resolved and Ackerman could return to court.

Forensic auditor Hennie Bruwer gave evidence on the basis of his investigation into the finances of Project Coast. He found that from 1 April 1983 to 28 February 1992, R418.2 million was allocated to Project Coast. From 1 March 1987 to 28 February 1993, the period covered by the indictment, the project had access to R340.9 million, of which R37 million was misappropriated. Bruwer claims the bulk of the funding was spent on the establishment and privatization of Delta G Scientific (R127.4 million) and

Roodeplaat Research Laboratories (R98.4 million) while R66 million was spent on NBC suits. Other expenditure included: R10.6 million to Protechnik (March 1988–February 1993), R8 million to Lifestyle Management (March 1989–February 1993), R1.4 million to Data Image (March 1991–February 1993) and R0.6 million to Organochem (March 1992–February 1993). In 1992–93, R1.9 million was paid to Aeromed for charter flights.

Regarding the defence claim that a second amount of \$2.46 million was used as a performance bond for the purchase of BZ, Bruwer found no such foreign transfer from Coast between 1991 and 1993, and concludes that the funds involved in the Croatian deal with Jacomet constitute the only foreign transfer of this size. Both bank officials and Bernard Zimmer state that no divisible performance bond was ever set up as claimed by Basson. The facts do not correspond with the various explanations offered by Basson to external auditor Petro Theron and to the Office for Serious Economic Offences about application of the \$2.46 million, and Bruwer is convinced that it was never used nor intended for the purchase of BZ.

During the first week of September, several witnesses testified about the Chemical Agent Monitors and the

alleged supply of 12–15 000 NBC suits to UNITA and SADF forces in Angola. Details were heard of the support provided to UNITA by the SADF during the 1980s. None of the soldiers or logistics officers called by the prosecution as witnesses had seen NBC suits in Angola or knew about them having been sent to UNITA.

During 10–25 October, the court moved to Florida to hear the evidence of David and Jane Webster. David Webster is an American attorney who was associated with Basson. [Although CCR staff were unable to travel to attend the proceedings in Florida, an official transcript of the hearings is being provided to CCR and will be reported on in the next quarterly report.]

The trial resumed once again in the Pretoria High Court on 30 October to continue hearing evidence related to the charges of human rights violations against Basson.

This report was written by Chandré Gould and Marlene Burger, of The Chemical and Biological Warfare Research Project at the Centre for Conflict Resolution, an independent institute associated with the University of Cape Town.

News Chronology

August through October 2000

What follows is taken from issue 50 of the Harvard Sussex Program CBW Chronicle, which provides a fuller coverage of events during the period under report here and also identifies the sources of information used for each record. All such sources are held in hard copy in the Sussex Harvard Information Bank, which is open to visitors by prior arrangement. For access to the Chronicle, or to the electronic CBW Events Database compiled from it, please apply to Julian Perry Robinson.

1 August In Rwanda, Foreign Minister Andre Bumaya denies accusations by the president of the Democratic Republic of Congo, Laurent-Desire Kabila, about use of chemical weapons [see also 20 Oct 99]. Speaking to members of the diplomatic corps in Kigali, Bumaya says: "No, we are not accusing [the DRC government]. They are the ones accusing us, accusing the rebels and their allies of having used chemical weapons during some of the clashes, notably at Ikela. As you all know, we have never used such weapons and we do not even have the capacity to have them or stock them." He goes on to say: "Instead, we think that it is an indication that Kabila is looking for an alibi that would enable him to use chemical weapons, especially, in the light of what is contained in a report of the SADC [Southern African Development Community] in which he is reported to have said that he was ready to use them if he realized they were being used on the other side, meaning that he implicitly accepts that he has the chemical weapons and maybe also bacteriological ones."

1 August The US Defense Department publishes the final draft of its Biological Weapons Improved Response Plan, on which it has been working since 1998 in accordance with the Nunn–Lugar–Domenici Domestic Preparedness Program.

2 August At Munster in Germany, the 2nd International Symposium on *Destruction of Chemical Weapons: Technologies and Practical Aspects* comes to a close, having begun on 31 July as part of Expo 2000. Among the presentations, is one by A Haile on possible abandoned chemical weapons in Ethiopia.

3 August In Washington, DC, Acting Veterans Affairs Secretary Hershel Golder writes to Defense Secretary William Cohen seeking release of classified information regarding Project SHAD in order to facilitate processing of claims from veterans who believe they have disabilities resulting from their service in the project. The letter states: "SHAD, as we understand it, stands for 'Shipboard Hazard and Defense'. ... Our understanding of this project is that it occurred over some period of time in which various simulant and active agents, e.g., chemical, biological, or nuclear were used. We understand that much like nuclear tests, SHAD may have involved a series of independent studies, one of which was titled 'Autumn Gold' [see 16 May]." This letter is subsequently obtained through the Freedom of Information Act by CBS News, which, on 20 September, reports that, during the 1960s, the Defense Department had conducted more than a hundred secret biological warfare tests at sea, including Autumn Gold and Copper Head [see 16 May].

4 August In South Korea, protestors rally in Yongdong County, calling on the government to release the results of its feasibility study for the secret chemdemil facility there [see 17 Jul]. The approximately 700 demonstrators also demanded the resignations of the defence and environment ministers. The rally follows a three-day meeting between local residents, the military and the government which had failed to agree on the establishment of a proposed consultative body. According to a defence ministry official "we failed ... mainly because of strong opposition from the private sector, especially Yongdong residents". The defence ministry also wants to create a separate

joint on-site inspection team, comprising experts from the military, government and private sectors. The inspection is planned for mid-September, possibly with the participation of an OPCW inspection team.

4 August In The Hague, the OPCW Director-General announces the status of laboratories designated for the analysis of authentic samples following the sixth and seventh official proficiency tests, which had run during 1999–2000. Final promulgation of the results of the sixth test had been delayed while the criteria for designating laboratories were considered by the Executive Council and the Conference of the States Parties. All twelve of the previously designated laboratories retain their designated status and an additional laboratory, the Laboratory of Military University of CBR Defence in Russia, receives accreditation. However, three laboratories, in China, the Czech Republic and South Korea, failed the sixth test and therefore are temporarily suspended from receiving samples until they pass a test again, in accordance with the recently-adopted decision of the Council.

5 August Iraq has built an underground tunnel system for “top secret research” on banned weapons according to the Kuwaiti newspaper *Al-Qabas*. Quoting “informed Iraqi sources” the paper says that research “to develop certain programmes” has been going on for several months with the help of Russian experts. Measures have been taken to avoid detection by reconnaissance satellites, and the tunnels are designed to withstand attack by even the most advanced US weapons, according to *Al-Qabas*.

7 August In Geneva, the twentieth session of the BWC Ad Hoc Group [see 10 Jul] comes to an end. The chairman of the group, Tibor Tóth, tells journalists that “good progress” has been made in a number of areas. A feature of the session has been a new emphasis on bilateral consultations between the chair and individual delegations. *Arms Control Today* later reports that this emphasis had “stimulated the negotiations, which had begun to slow”, but also observes that the AHG nevertheless “did not make specific progress on the most important issues”. Commentary on the session from the Chemical and Biological Arms Control Institute in the United States drew attention to the continuing dispute over export controls between some non-aligned countries and members of the Western Group and also to the dispute within the Western Group regarding on-site activities. On this last matter, CBACI observes: “While the US supports field and facility investigations when compliance is in question, it does not necessarily support the concept of random facility visits as it has emerged in the talks. Other [Western Group] delegations seem to feel that such visits are critical to building confidence in compliance with the treaty.”

8 August President Clinton signs the FY 2001 *Department of Defense Appropriations Act*, HR 4576, into law. For the second year running [see 5 Nov 99], Congress has refused to provide any funds for the CWDF at Shchuch'ye in Russia. In his comments on the Congressional actions embodied in the legislation, President Clinton says: “Regrettably, the bill also denies or reduces the necessary funds for key programs included in my request. The resulting cuts are troubling. I am disappointed that the bill does not fund the chemical weapons destruction facility at Shchuch'ye, Russia, which is vital to our security and international nonproliferation efforts.”

9 August The US Central Intelligence Agency posts on its website an unclassified version of its latest six-monthly *Report*

to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, covering the period 1 July through 31 December 1999 [see 28 Jan]. The report had earlier been transmitted to Congress as required under Section 721 of the FY 1997 *Intelligence Authorization Act*. The report repeats much of what earlier reports in the series had said. Only Iraq and Iran are mentioned as having active BW programmes, although it is noted that Sudan “may be interested in a BW program as well”. Iran, Iraq, Libya and Sudan are all identified as having current CW programmes. India, Pakistan, Egypt and North Korea are also included in the report, but not in connection with CBW technology acquisition. Key suppliers are identified as Russia, North Korea and China while western countries were “not as important as sources for WMD-related goods and materials as in past years”, although the report adds that entities in Western Europe remain “significant suppliers” for the WMD programmes of Iran and Libya.

10 August In the United States, Motorola BioChip Systems and Iconix Pharmaceuticals announce that “they have entered into a strategic relationship to enable the creation of a next-generation chemical genomics database”. According to a company press release, “integrating data generated from Motorola’s CodeLink Expression Bioarrays in to Iconix’s first-of-its-kind database brings scientists conducting microarray experiments closer to understanding their results in the context of specific molecular interactions between chemicals and the proteome”.

10 August In Washington, DC, the Nonproliferation Policy Education Center (NPEC) convenes its Nonproliferation Policy Reform Task Force to discuss *The Biological Weapons Protocol: How Practical, How Desirable?* Speaking are Barbara Hatch Rosenberg, Amy Smithson, Alan Zelicoff and Robert Kadlec. NPEC executive director, Henry Sokolski, moderates the meeting.

Zelicoff, who had once been a member of the US delegation to the BWC Ad Hoc Group, speaks of the role of on-site visits within the projected BWC Protocol. Having denigrated the trials conducted by the British government [see 20 Sep 94], he goes on to describe a set of visits, done under US Energy Department auspices, at the Lovelace Inhalation Toxicology Research Institute, the University of New Mexico School of Medicine, and Sandia National Laboratories (where he works). These, he says, demonstrate the need for “more inspections on a mock basis at industrial and multipurpose sites”.

11 August In the US Defense Department, the Joint Vaccine Acquisition Program (JVAP) announces that it is seeking information about potential sources for a vaccine against ricin as part of its programme to develop, license or acquire an initial stockpile of vaccines to protect US forces against biological warfare. Later, on 20 September, JVAP also announces that it is seeking potential sources for a Q-fever vaccine. Besides ricin and Q-fever, vaccines on the JVAP list are for tularemia, smallpox, botulism, equine encephalitides, plague and anthrax.

14–22 August In Ukraine, the government and the OPCW Secretariat co-host a regional basic training course in Odessa for personnel involved in the implementation of the CWC. Participating are 23 national authority representatives.

15 August Mozambique deposits its instrument of accession of the CWC. In 30 days time, on 14 September, it will thus become the 136th state party to the treaty.

16 August The Baghdad *al-Jumhuriyah* carries a long interview with former UNSCOM inspector Scott Ritter, who had arrived in Iraq with a film crew at the end of July to make a documentary about the country's weapons activities [see 29 Jul]. The documentary is reportedly being financed by a \$0.4 million line of credit from an Iraqi-American businessman, with completion of editing planned for end-September. Ritter had set out his belief that Iraq was now "qualitatively disarmed" in the June issue of *Arms Control Today*, and he has repeated some of it during the newspaper interview. He says that he is writing a new book, which will try to tell the truth about UNSCOM.

16 August In New Delhi, the lower house of the Indian parliament, the Lok Sabha, passes the *Chemical Weapons Convention Bill, 2000*. The bill, which had earlier passed the upper house, the Rajya Sabha [see 26 Jul], now passes to President Narayanan. His signature of the bill is reported on 31 August.

18 August In Monterey, California, the US National Institute of Environmental Health Services (NIEHS) convenes a multidisciplinary meeting of researchers to start planning for a joint US-Vietnamese research programme on dioxin pollution and other aspects of Agent Orange [see 29 Jul]. The US Congress has agreed to fund such a programme provided Vietnam also provides support. The meeting has been arranged to coincide with the 20th International Symposium on Halogenated Environmental Organic Pollutants and POPs. Before the meeting, NIEHS Director Kenneth Olden had said: "The Vietnamese government has agreed to discuss these issues with the NIEHS at a separate time and place. The Monterey meeting, therefore, is aimed at getting the US advice on the feasibility of conducting studies in Vietnam to learn more about the health and environmental aspects of Agent Orange and dioxin. We'll use this advice and information as we develop a dialog with the Vietnamese government and Vietnamese researchers about possible research agendas." Among the participants in the meeting is Le Cao Dai, executive director of the Agent Orange Victims Fund set up in Hanoi by the Vietnam Red Cross. *Nature* reports that topics suggested at the meeting include a study on the carcinogenic effects of dioxin, an examination of developmental diseases (neurological and growth) in children exposed to the chemical, and new methods for assaying and analysing residual contamination.

21–24 August In Saratov, Russia, an international conference on *Biological Approaches to Chemical Weapons Disposal* takes place at the Biochemistry and Physiology of Plants and Micro-organisms Institute of the Russian Academy of Sciences. There are presentations on the development of ecologically safe methods for disposing of the detoxification products of blister gases (such as the mustard gas and lewisite that are heavily stockpiled in the region, at Gornyy) and on the bioremediation of soils polluted by CW-agent decomposition products. Among the participants is an EU official from the TACIS programme, which is developing a two-year Euro 3 million project to monitor the destruction of chemical weapons in the region and which has already brought in Euro 0.8 million of equipment. Reporting this, ITAR-TASS states that the EU project "envisages measures of environmental control near Gornyy village and regular health check-ups of the local people and employees of the [projected chemdemil] plant, as well as provision of information about these activities to the local population and other interested persons".

22 August From the western Russian port of Baltiysk, the research vessel *Professor Shtokman* sets out on a ten-day

expedition to inspect the state of chemical weapons dumped in the Baltic after the second world war. Vladimir Peka, director of the Atlantic Department of the Oceanology Institute of the Russian Academy of Sciences, and Academician Tengiz Borisov, lead the environmental and oceanological experts on board. They intend to examine the state of the weapons and check for contamination. It is later reported that the researchers pinpointed 69 ships or parts of ships containing chemical weapons. Describing activities in the Skagerrak between Denmark and Sweden, Borisov says: "We swiftly found scuttled ships. And exposed cyanides at 40m depth. Apart from arsenic and yperite there was one surprise — traces of sarin, strong toxic agent. It rather swiftly dissolves in water. And if we found it, it means our arrival was in time with the loss of leak-proofness of another lot of scuttled shells". A better-equipped mission is now being prepared to retrieve the objects and bury them on land. According to the acting head of the Russian Baltic Fleet, Vice-Admiral Vladimir Valuyev, corroded shells would begin to leak in the next five years, thus polluting the sea and affecting fish stocks. He added that an international project to tackle the problem would cost \$2.5 billion, while the potential damage done could reach \$4.5 billion annually. The expedition leaders plan to convene an international conference on the Skagerrak problem in the near future.

22 August President Clinton determines that a number of proposed preconditions for US aid to Colombia should be waived. In particular, he overrules the stipulation by the US Congress that the \$1.3 billion assistance package for Plan Colombia should be conditional upon Colombian acceptance of *Fusarium oxysporum* being field-tested in Colombia as a potential biological control agent against coca cultivations [see 14 Jul]. A non-governmental organization that has been campaigning against such biological control, The Sunshine Project, later quotes from the *Memorandum of Justification for Presidential Determination 2000-28*, which says that the anti-drug fungus is not to be used until "a broader national security assessment, including consideration of the potential impact on biological weapons proliferation and terrorism, provides a solid foundation for concluding that the use of this particular drug control tool is in our national interest".

22 August The US military is to receive a new smallpox vaccine that is to be provided, so it is now announced, by BioReliance Corporation (formerly, Microbiological Associates, Inc) of Rockville, Maryland. BioReliance has been chosen by Dynport LLC [see 12 Nov 97] as the principal provider for development and manufacturing services supporting the Smallpox Vaccine Biodefense Program. Dynport LLC is the US-UK joint venture which acts as the prime systems contractor for the Defense Department's Joint Vaccine Acquisition Program (JVAP) [see 11 Aug]. According to BioReliance, it will initially make about 300,000 doses of the vaccine, starting by the end of the year.

Later, on 20 September, it is announced that OraVax Inc [see 20 Nov 98] of Cambridge, Massachusetts, has won a 20-year \$343 million contract to develop and manufacture 40 million doses of a new smallpox vaccine for the Centers for Disease Control. The vaccine will be based on the same vaccinia smallpox virus strain used in routine vaccinations before the WHO announced the eradication of smallpox in 1980 but will use more modern production techniques. In contrast to the earlier JVAP contract, the vaccine will be used to create a national defence stockpile for the purpose of protecting civilians against the threat of bioterrorism [see 7 Aug 98]. OraVax will also manage the sites around the US where the vaccine will be

stored, although the sites will not be identified for national security reasons. The manufacture of the vaccine is to be sub-contracted to BioReliance which expects to be able to begin deliveries of licensed vaccine to the stockpile by mid-2004. OraVax is owned by a UK company, Peptide Therapeutics, which plans to market the vaccine to other countries. It is also announced on 20 September that Peptide Therapeutics is to enter into a strategic partnership with the US pharmaceutical and biotech group, Baxter Healthcare. Under the deal, Peptide will now begin to manufacture components of Baxter's vaccines at its OraVax facility and Baxter will get the option to become the US marketing partner for Peptide's yellow fever vaccine, which is about to be submitted for FDA approval.

23 August In Japan, Kobe Steel Ltd is joining with US companies in the Lake Kussharo project for the destruction of old chemical weapons — the 26 50-kg mustard gas bombs held in a temporary storage facility after having been retrieved from the lake. One such company, GEOMET Technologies (which is the Defense Systems subsidiary of Versar Inc [see 5 Oct 99]) is to set up and operate a mobile laboratory to monitor the chemdemil neutralization process that is to be used. Another US company, Teledyne-Commodore [see 5 Feb 97] is providing access to a proprietary chemdemil process that combines neutralization and persulphate oxidation.

23 August In Iraq, Deputy Prime Minister Tariq Aziz, speaking to reporters, denounces UNMOVIC and states that its inspectors will never be permitted to enter the country: "I have said that Iraq will never cooperate with [UN Security Council] resolution 1284. This means it will never receive Blix or any person related to this resolution."

23–24 August At the UN in New York, the UNMOVIC college of commissioners meets for its second session [see 23–24 May]. Observers from the IAEA and OPCW are in attendance. The chairman reported on the results of the first UNMOVIC training course and on recruitment. He also introduced discussion papers on operating procedures under a reinforced system of ongoing monitoring and verification and on a draft action plan for the resumption of activities in Iraq. The commissioners also have before them an informal paper on the experience of UNSCOM in respect of the modalities for the inspection of "sensitive sites". Commissioners stress the need for guidelines and standard operating procedures to assist chief inspectors in the conduct of their activities. The UNMOVIC secretariat will continue to consider operating procedures and the college would return to the issue at its next meeting. One of the commissioners circulated a paper on sampling and another introduced a paper on satellite imagery. The college agreed that a further paper on sampling procedures would be prepared by the secretariat in the light of observations made by commissioners and that the imagery paper would be studied by the secretariat.

24 August OPCW Health & Safety Branch head Brian Davey receives a formal apology from Professor Jonathan Moreno, author of *Undue Risk: Secret State Experiments on Humans*, and from the president of the New York publishers of that book, W H Freeman and Company, in regard to allegations that the book had made against him. The letter, which is posted on the publisher's website (and also that of Amazon.com), states: "The purpose of this letter is to express to you, and to the members of your family, the profound regret of each of the undersigned, and of Freeman, at the inclusion in the first printing of "Undue Risk" of references to you which we now recognize to be false. By this letter, we intend to correct the record by retracting

passages in the book which suggested (1) that you had engaged, during your service as a physician in the South African Defense Forces (SADF) in the 1980s, in experiments with biological agents so unethical and morally culpable as to justify investigation for possible prosecution in the International Court of Justice, and (2) that your position with the Organisation for the Prohibition of Chemical Weapons had placed you 'beyond the reach' of the investigatory power of the Truth and Reconciliation Commission ('TRC') established by the Mandela government of South Africa. We now unequivocally withdraw and retract all statements, implications and suggestions made by the passages concerning you at pages 295 to 296 in the first printing of "Undue Risk". Based on evidence you have provided to us, we accept that you cooperated voluntarily and extensively with investigators of the TRC, provided valuable information to them, were prepared to go to South Africa to testify at the trials of others at the request of prosecuting authorities, and that neither the TRC nor South African prosecutors, after investigation, found any basis for any charges against you. We apologize to you for the inclusion of such passages in the book which was distributed in the United States and internationally as a hard cover book. We also regret and apologize for the fact that these false passages were also published on the Freeman website. As you know, the entire text of the passages referring to you has been and will continue to be removed from all subsequent printings, including any soft cover edition."

25 August From Chechnya, reports and rumours of CBW continue to be heard. Quoting unidentified "Russian military and Interior Ministry sources", ITAR-TASS today reports from Gudermes that "several dozens of Chechen rebels from Shamil Basayev's unit have been poisoned on the instruction of Basayev and Khattab for attempting to escape hostilities and return home". Other rebels had been told that these men became poisoned while filling chemicals into shells for attacking Federal positions. The same unidentified sources are also quoted as saying that about 20 rebels in Khattab's unit had been poisoned for expressing doubts about the prospects for further resistance to Federal forces, and to mask these murders Khattab had spread a rumour "about the use of chemical weapons by the Federal force".

Two weeks previously, the Moscow *Izvestia* had reported an epidemic "among guerrillas in the Argun chasm" and had stated that the Second Deputy Chief of the Russian General Staff, Valery Manilov, "assumes that the epidemic may have been caused by careless handling of biological weapons".

And the Russian human-rights non-governmental organization Memorial is reporting that a recent occurrence of illness among 15 inhabitants of Starye Atagi, some of whom died, may have been due to percutaneous absorption of a nerve poison from T-shirts of a kind used for camouflage that had mysteriously appeared in the village still in their plastic wrappers.

28 August The UN Secretary-General transmits to the Security Council UNMOVIC's second quarterly report [see 2 Jun]. The report covers the period from 1 June to 31 August, including the second meeting of the college of commissioners [see 23–24 Aug]. UNMOVIC chairman Hans Blix reports that, as of 31 August, there are 42 people from 20 nationalities holding professional posts within UNMOVIC. Further interviews are ongoing. The Commission has recently held its first training course [see 11 Jul], which involved 44 people from 19 countries. On the basis of these training and recruitment activities, the report concludes that "the Commission could plan and commence a number of activities in Iraq which would be necessary to prepare for monitoring, verification and inspection

envisaged by the Security Council". It is later reported that in his initial draft report, Blix had stated that UNMOVIC was "now in a position to start activities in Iraq". However, this statement was watered down on the insistence of the Chinese, French, Russian and US commissioners. According to a "Security Council diplomat" quoted in the *Washington Post*, "the US and Russia agreed that it was not appropriate to give the impression that Mr. Blix and the commission was ready to go back into Iraq. They cautioned that this might create a climate of confrontation at an inappropriate time". An unidentified US official added: "While UNMOVIC has finished its first stage of preparation, it's a plain fact that they are not yet ready to launch a full-scale program in Iraq".

28 August–15 September In Canada, at Defence Research Establishment Suffield (DRES) in Alberta, a Joint Field Trial of outdoor biological point-detection techniques is conducted under the auspices of the Canada–UK–US CBR memorandum of understanding. There is a special Visitors Day on 8 September. The US Joint Program Office for Biological Defense describes the JFT process, which it inaugurated and of which this trial is the sixth annual event, as being for the purpose of identifying new technologies and devices that could transition into biological defence systems. The process also serves the objectives of international test-standardization and data-exchange. Besides Canada, the UK and the USA, there are observers from France, Israel, the Netherlands, Singapore and Sweden.

29 August In Fort Polk, Louisiana, the US Army Joint Readiness Training Center, which is planning aerial releases of BW-agent simulant during field training exercises for the new Biological Integrated Detection System (BIDS), publishes a Finding of No Significant Impact from the environmental assessment of the planned releases. Killed spores of the bacterium *Bacillus subtilis* are to be the simulant. Such releases have been taking place since January at the Army Chemical School at Fort Leonard Wood, Missouri, where there have been several BIDS training courses this past year. News of the impending releases subsequently causes disquiet among the local populace.

30 August French Defence Minister Alain Richard, in an interview published in *Le Figaro*, is asked about the apparent cases of "Gulf War syndrome" among French veterans [see 6 Jun] that have been publicised by the *Association des victimes civiles et militaire du Golfe*. Avigolfe, formed on 14 June, is collecting and collating information on some 80 such cases. The minister is evidently keen to preempt public controversy on the matter, and denies the existence of inexplicable illnesses among French veterans. He states that "all the cases that have given rise to pension demands correspond to illnesses already known and clearly identified".

31 August In Geneva, while addressing a plenary session of the Conference on Disarmament, Ambassador David Peleg of Israel speaks thus: "In spite of continued efforts to extend the peace process towards the goal of a comprehensive peace, there are still states in the Middle East which threaten Israel's security and continue to negate its very right to exist. One of these states, Iraq, devoted a major part of its vast income from oil to developing weapons of mass destruction, including nuclear weapons. ... It developed chemical and biological weapons and used the poison gas which it had developed both against its own population and against Iran. During the Gulf war, its missiles were fired at Israeli cities and at cities in Saudi Arabia. These

same missiles were capable of carrying non-conventional warheads. It should be noted that, besides Iraq, other states in our region have also developed chemical weapons and ballistic missiles armed with chemical warheads and still continue with these efforts". On Israel's attitude towards the CWC, Peleg adds the following: "Israel has signed the Chemical Weapons Convention but has not yet ratified it. One of the factors which Israel will have to take into account when making a decision as to ratification is that none of the Arab states with chemical weapons capability or suspected of holding chemical weapons have signed, let alone ratified, the Convention. Some have openly declared that they have no intention of doing so. It is a sobering thought for us that some of our neighbours contemplate the use of poison gas against us".

31 August In The Hague, the director of the Verification Division of the OPCW Technical Secretariat, Ron Manley, has an overview article about worldwide chemdemil in the latest issue of *OPCW Synthesis*. In the article he notes the novel technology being used by Italy at Civitavecchia for destroying old chemical weapons, which comprise Adamsite and munitions charged with mustard/phenyldichlorarsine mixture. He writes that the phosgene-filled shells recovered in Slovenia have been destroyed in hermetically isolated chambers by alkaline hydrolysis of the agent. On Chemical Weapons Production Facilities, he records that a total of 61 facilities have been declared by 10 countries, namely Bosnia & Herzegovina, China, France, India, Iran, Japan, Russia, the USA, the UK and the state party of withheld identity. The total number of member states that have declared stocks of chemical weapons remains four.

31 August US Army Dugway Proving Ground is using the Small Business Innovative Research Program for seeking expressions of interest in developing a high-output near-monodisperse aerosol generator. It describes its objective as follows: "Design and build a portable, high-output, low shear-force, near monodisperse (almost uniform in particle size) inkjet-type aerosol generator with aerosol particle size control that is capable of generating variable final dried-down particles of sizes from one to ten microns diameter as desired. The aerosol will be generated from a slurry containing biological particles of approximately 1 micron and aggregates thereof. This solicitation seeks effort to design and develop a portable, high-output, low shear-force aerosol generator that can generate near-monodisperse biological aerosol with adjustable dried-down sizes of 1–10 microns, at the rate of approximately 75,000 to 1.5 million particles/min, as measured with the Aerodynamic Particle Sizer. Develop an overall system design and conduct a feasibility study to illustrate the proof-of-principle of the aerosol generator."

31 August–3 September In Washington, DC, the Association for Politics and the Life Sciences assembles for its twentieth annual meeting. Among the plenary speakers is Edward Eitzen of the US Army Medical Research Institute of Infectious Diseases who speaks on "The role of USAMRIID in defense against biological warfare and terrorism". There are also a number of other presentations, panels and roundtables: "Facing the biological weapons threat: past, present and future" (Marie Chevrier, Kay Mereish, James Leonard, Matthew Meselson and John Steinbrunner); "Strengthening the Biological Weapons Convention: an international perspective" (Marie Chevrier, Malik Azhar Ellahi, Edward Lacey, Fu Zhigang); "Lies, misinformation, and false allegations about the use of biological weapons" (Marie Chevrier, Milton Leitenberg, Matthew

Meselson, Raymond Zilinskas, Masaaki Sugishima, Barbara Rosenberg); "Threat and response: the fate of the former Soviet Union's biological warfare program" (Raymond Zilinskas, Alan Zelicoff, Andy Weber, Paige Stoutland and Amy Smithson); "Biodefense in an age of asymmetric threats" (Carol Linden, Ray Zilinskas, Seth Carus, Gerald Parker, Gary Resnick and Robert Kadlec); "Biological weapons: threats and responses" (Marie Chevrier, David Siegrist, Jeanne Guillemin, Wendy Orent and Paul Ewald).

1 September OPCW Secretariat data indicate that, as of today, a total of 69,859 agent-tonnes of chemical weapons have been declared to the OPCW by member states as required under Article III of the Chemical Weapons Convention. Of the four declared possessor states [see 31 Aug], a precise figure is publicly available only for the United States, which is known to have declared 27,773 agent-tonnes. The stocks declared by the Russian Federation must presumably have equated to the figures officially released in connection with its chemdemil programme, which totalled 40,000 agent-tonnes [see 26 Oct 95]. So, taken together, the stocks declared by India and the member state of withheld identity [see 4 Aug] do not appear to amount to much more than about two thousand agent-tonnes, if that.

1 September On Dutch television, after a *2Vandaag* documentary detailing allegations of chemical warfare in Sudan [see 14 Jun London], OPCW spokesperson Michael Berdennikov states that Sudan, when it joined the CWC [see 24 May 99], had declared to the OPCW that it did not possess chemical weapons. He also says: "None of the [OPCW] member states, even though they are fully aware of the declaration of the Government of Sudan, have so far requested us to carry out either a challenge inspection on the territory of that country or to carry out an investigation of alleged use of chemical weapons". With respect to the investigation conducted in Sudan, Berdennikov states that "three laboratories have carried out analysis of a variety of samples from alleged chemical weapons attacks, and none of those analysis in fact carried out by professionals in well-equipped laboratories have indicated that there was any presence of chemical weapons in any of the samples [but see also 14 Jun London]. The only report was of arsenic occurring at levels well-beyond the environmentally natural present level".

1 September President Clinton, announcing his decision to leave to his successor the decision on whether to deploy a National Missile Defense system, comments on steps taken by his administration to fend threats to the national security. These include arms-control, and he states: "We also negotiated and ratified the international convention to ban chemical weapons and strengthened the convention against biological weapons".

1 September In Chicago, *The Bulletin of the Atomic Scientists* publishes an article, "Polyakov's run", by former CIA analyst and US Foreign Service officer Raymond Garthoff, who is now a senior fellow of the Brookings Institution. The title of the article is an allusion to a recent book by David Wise, *Cassidy's Run*, which described how US intelligence had mounted a disinformation and deception operation against the chemical-weapons programme of the USSR during the period 1966-69. Dr Garthoff now states that that operation, which involved channels additional and subsequent to the one described in the book, was extended into the area of biological weapons. He writes: "Accounts suggest that multiple channels, including [double-agent GRU Colonel Dmitri] Polyakov, were

used to convey the misleading message that the United States was undertaking a clandestine biological weapons program, despite President Nixon's public announcement in November 1969 and the US signature [of] the Biological Weapons Convention in April 1972. Soviet suspicions of US perfidy in negotiating the [BWC] were seemingly confirmed by these clandestine disinformation channels." He says that the US CBW deception operations probably continued until the mid-1970s. And he notes how writers such as Kanatjan Alibekov, who have detailed the Soviet bioweapons programme of the 1970s and 1980s, "bear witness that Soviet scientists were constantly spurred on by being told that the United States had a huge biological weapons program".

1 September In Colombia, the \$7 billion international initiative against drug production in the country, Plan Colombia [see 22 Aug], comes into operation with funding principally by the Colombian government but also with assistance from the United States, Europe and Asia. The Plan is controversial and is regarded by some elements, not as an anti-drug effort, but as a counterinsurgency programme in disguise, which is a view that promotes perception as biological warfare of the projected use of biological control agents against coca cultivations [see 14 Jul]. A spokesman for the principal insurgent group in the country, the Revolutionary Armed Forces of Colombia (FARC), tells a Brazilian newspaper that it will be fighting the Plan, observing: "We've already had to confront US military plans. This has been the case ever since *Marquetalia* [the first government offensive against FARC, in the 1960s: see 31 May 99]. There they launched the black pox, which prevented people from walking. It isn't the first time we face germ warfare and the Americans."

5 September At Beijing University, OPCW Deputy Director-General John Gee delivers an address on "The Chemical Weapons Convention, Multilateral Disarmament and Northeast Asia" in which he relates the prospects for the CWC regime, including its four pillars of disarmament, non-proliferation, assistance and cooperation, to economic, political and security issues in northeastern Asia. Among the data about implementation of the CWC that he relates is the fact that "a total of ten States Parties, including China, have made declarations of either present and/or past capabilities to produce chemical weapons", these ten parties having declared 61 CWPfFs. Over the following week, Dr Gee visits several other parts of China, including, so Xinhua reports, "Nanjing, Chongqing, Wuhan and Shanghai to study the issue of chemical weapons left by Japanese troops during WWII and the implementation of the convention by Chinese chemical enterprises". Xinhua also quotes him on the unique character of the Chinese implementation, which has "corresponding organizations in all localities at the provincial level to deal with the issue". According to a subsequent report in OPCW *Synthesis*, in Chongqing and Shanghai he had visited two chemical plants both of which had been declared to the OPCW and one of which had received an OPCW inspection in 1998; and in Nanjing he had visited the trust warehouse for chemical weapons abandoned by Japanese forces during World War II.

6 September In the Saratov region of Russia, a delegation from the German Bundestag, led by the chair of the foreign affairs subcommittee on disarmament, arms control and non-proliferation, Uta Zapf, is visiting the chemdemil facility that is under construction at Gornyy with German assistance [see 20 Jul]. ITAR-TASS reports that German aid, in the form of supplies of technological and laboratory equipment, will have totalled DM 39 million by the end of the year and that, for the future, the

expectation of the Russian side is that the volume of aid will be at least tripled. Zapf said that she would raise the matter for discussion when the Bundestag commences its budgetary deliberations in September. Since 1993, 610 million rubles have been allocated to Gornyy from the Russian federal budget, which amounts to only 13 per cent of the total project costs. Zapf is interviewed by the newspaper *Junge Welt* on her return to Berlin. She says that Germany annually allocates between DM 8–10 million to Gornyy and that this year it should be just under DM 10 million. She expresses her caution at a proposed significant rise in funding for the Gornyy facility. Already two-thirds of the foreign ministry's disarmament aid budget goes to Gornyy, which could be increased by two or three million Deutschmarks if more progress was made on site. Considering the budgetary cuts in other areas of the foreign ministry's work, Zapf says it would not be possible to grant more money to Gornyy only to be spent on construction work for which the Russians are responsible. Zapf also points out that the Gornyy project is now also supported by the European Union [see 17 Dec 99].

6 September In New York, after meeting bilaterally within the framework of the three-day UN Millennium Summit that commences today, President Clinton and President Putin issue a joint statement on a strategic stability initiative that contains the following: "They will continue to work to begin negotiations to conclude a Fissile Material Cutoff Treaty and to strengthen the Biological Weapons Convention". The statement also includes the following on missiles: "The United States and Russia are prepared to expand their discussions of issues related to the threat of proliferation of missiles and missile technologies. These discussions will include annual briefings based on assessments of factors and events related to ballistic and cruise missile proliferation. Annual assessments will address potential threats to international security. With a view to preventing the proliferation of missiles and weapons of mass destruction, political and diplomatic measures will be discussed and undertaken, using bilateral and multilateral mechanisms."

7 September Kiribati deposits its instrument of accession of the Chemical Weapons Convention. In 30 days time, on 7 October, it will thus become the 137th state party to the treaty.

7 September The US Institute of Medicine releases a further report from its study of health effects of particular exposures during Gulf War service, which concludes that there is not enough evidence to link long-term health problems among Gulf-war veterans to possible exposure during the war to nerve gas, to the nerve-gas prophylactic pyridostigmine bromide, to depleted uranium, or to vaccines against anthrax or botulism.

7–10 September In New Orleans, the Infectious Diseases Society of America assembles for its 38th annual meeting. Among the speakers is Dr Ted Cieslak of the US Army Medical Research Institute of Infectious Diseases at Fort Detrick, who talks of bioterrorism. "My agent of choice is anthrax. Nothing else comes anywhere near the projected kill ratio of anthrax except smallpox, which would have at least as great if not greater destructive capacity." As to why there have as yet been no large-scale bioterrorist attacks, he says "first of all, we have been lucky", continuing, however: "we are seeing more events, which for obvious reasons we don't want to publicize". He goes on to speak of "anthrax hoaxes", of which a good many have been reported these past years [see 14 Jan], saying: "But, for every one you have read about in the press, there are dozens you have never heard about. In fact, there were well over 300 of these

anthrax hoaxes perpetrated last year. And the reason you don't hear about them is that we keep them quiet." Each and every one of them had easily been identified by the FBI as a "lame" hoax. As to smallpox: "Allegations have been made by two high level Soviet defectors that other nations have the virus. The allegation is that those other countries spirited it away during the days when smallpox was still endemic and never declared it to the World Health Organization. But a more pressing problem, I think, is that the entire genetic sequence of smallpox is known and published. And someday the technology will exist to take the virulent genes of smallpox and create them from scratch, and then splice those genes into cowpox or monkey pox."

8 September Gabon deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, on 8 October, it will thus become the 138th state party to the treaty.

8 September Jamaica deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, on 8 October, it will thus become the 139th state party to the treaty.

8 September US Ballistic Missile Defense Organization Director Lt-Gen Ronald Kadish testifies on challenges facing the National Missile Defense (NMD) programme during a congressional hearing by the Subcommittee on National Security, Veterans Affairs and International Relations of the House Committee on Government Reform. In his prepared statement General Kadish comments on the technical criticism of NMD that had been presented by the Union of Concerned Scientists in its *Countermeasures* report. He writes thus: "The chemical weapon early release submunitions highlighted in the ... report are expected to present the NMD system with more targets than it could handle. But even free-flying submunitions pose engineering, dispersal, and lethality hurdles that we must not assume states of concern will overcome with ease. The weights of the reentry heat shields, fusing, and dispersal mechanism may be expected to severely restrict the available volume and weight for chemical agents. The agents in early release submunitions also will have to survive atmospheric reentry. For submunitions carrying chemical agent to be effective, however, they must have a sufficiently dense distribution within the impact area. To accomplish this, they need to be released from the missile at a relatively low altitude above the target. In that case, a mid-course defense could kill the incoming RV prior to the release of submunitions. However, if released early in the missile's trajectory, in the ascent phase, for example, the submunitions would disperse over a wide area and might not achieve the lethal concentration levels required near the target. Therefore an aggressor employing submunitions would be faced with the choice of delaying release and leaving the missile vulnerable to intercept or employing early release submunitions that would have reduced effectiveness. If our defense forced a state of concern to adopt submunitions, we would have succeeded in preventing that state from using nuclear weapons, which cannot be deployed in this way."

The UCS subsequently writes to General Kadish to observe that his remarks had related only to CW warheads, not to the BW warheads on which *Countermeasures* and subsequent UCS/BMDO correspondence had laid greater emphasis. The UCS letter asks: "Is there a reason BMDO believes [atmospheric reentry survival] technology could not be applied to submunitions? We show in considerable detail in our report that heatshields for submunitions can be built using materials that have been available for over 30 years."

10 September In Rwanda, weapons disseminating the chemical irritant CS were employed during the genocide of 1994, so the London *Observer* today reports, citing at least one instance in which CS was used by the Interahamwe Hutu militia to flush sheltering Tutsis out of buildings before hacking them to death. From an undercover investigation, the newspaper further reports that such chemical weapons are currently available for purchase from at least one British firm for supply to a private company in Rwanda.

12 September From Kazakhstan, there is mention in the *Washington Post* of the failure of the 1996 US–Kazakh ‘Stepnogorsk Initiative’. This project had linked Kazakh authorities to an entrepreneur, John Allen, chosen by the US Defense Department to run a joint venture whereby the Stepnogorsk BW facility would be converted to the manufacture of pharmaceuticals [see 5 Apr 95, 14 May 96]. The initiative collapsed in acrimony and the Pentagon ended up paying Allen \$2.1 million after he accused the government of breach of contract. The newspaper goes on to report the disillusionment of some former BW scientists with the US-backed conversion programme. Scientist Alik Galiyev is quoted as saying that “the Americans just want to destroy; they don’t want to create anything” while the head of Biomedpreparat [see 24–26 Jul], Yuri Rufov, added that he and his colleagues “need real assistance, not just lessons in marketing. We gave up everything we had before, and we haven’t got anything in return”.

12 September In Washington, DC, Japanese Defence Agency Director Kazuo Torashima and US Defense Secretary William Cohen agree to establish a regular consultative body to improve the defence capabilities of the two countries. Kyodo news agency quotes Secretary Cohen as wanting to promote US-Japanese dialogue “especially in the field of simultaneous terrorist attacks by chemical and biological weapons”.

12 September The US Secretary of Defense, as directed by the FY 2000 National Defense Authorization Act, transmits to the Congress a report on the *Military Situation on the Korean Peninsula*. The report contains an account of North Korean military forces, which includes the following: “Realizing they cannot match Combined Forces Command’s technologically advanced war-fighting capabilities, the North’s leadership focuses on developing asymmetrical capabilities such as ballistic missiles, special operations forces, and weapons of mass destruction designed to preclude alliance force options and offset our conventional military superiority”. It goes on to say: “North Korea possesses weapons of mass destruction. A large number of North Korean chemical weapons threaten both our military forces and civilian population centers. We assess North Korea is self-sufficient in the production of chemical components for first generation chemical agents. They have produced munitions stockpiles estimated at up to 5,000 metric tons of several types of chemical agents, including nerve, choking, blister and blood. We assess that North Korea has the capability to develop, produce, and weaponize biological warfare agents, to include bacterial spores causing anthrax and smallpox and the bacteria causing the plague and cholera.”

13 September In Burma, in newly developed towns between Mae Ai and Mae Sai along the border with Thailand, more than two thousand people have died of infectious diseases including anthrax and typhoid since July, so the *Bangkok Post* reports, quoting unidentified “border sources”. The affected population is from the United Wa State Army, which earlier in the year the

Burmese military government had relocated to the border region from central and northern Shan state.

13 September French Defence Minister Alain Richard appears before the National Defence and Armed Forces Commission of the Assemblée Nationale for a special hearing on health hazards to which French forces might have been exposed during the Gulf War. Commission president Paul Quilès speaks in his opening remarks about the inquiries into unexplained illnesses among veterans of the Gulf War that have long been proceeding in the United States and Britain. Noting the public concern now being expressed about French veterans, he says that he has proposed that his Commission should conduct an investigation and now asks the Minister for cooperation with such an initiative. Minister Richard, speaking of “transparency”, welcomes the proposal and promises to ensure that the investigation has due access. He speaks, too, of certain specific factors to which some people have attributed Gulf War illnesses, such as depleted uranium and pyridostigmine. He describes what his ministry has been doing in regard to the three hundred applications for disability pensions it has so far received from Gulf War veterans. Many of these applications have been resolved, but others are outstanding. He says that, together with the Health Ministry, he has proposed the establishment of an independent group of experts to analyse veterans’ health data, including such new information as may be submitted by veterans. This proposal is welcomed by the Commission, some of whose members recommend that working relations be established with American and British investigators, both by the independent expert group and by the Commission’s own projected investigation.

13 September In the US House of Representatives, the National Security, Veterans’ Affairs and International Relations Subcommittee of the Government Reform Committee conducts hearings on *The Biological Weapons Convention: Status and Implications*. Testifying are Roger Majak, Assistant Secretary of Commerce for Export Administration, Susan Koch, Deputy Assistant Secretary of Defense for Threat Reduction Policy, Donald Mahley, Special Negotiator for Chemical and Biological Arms Control, Department of State and Jack Brock, Managing Director, Acquisition and Sourcing Management, General Accounting Office. Opening the session, subcommittee chairman Christopher Shays comments that “regrettably, we are not joined this morning by a representative from the Pharmaceutical Research and Manufacturers of America (PhRMA), who declined our invitation to participate. In working with the administration on these issues, PhRMA has not been shy about expressing a position in favor of a more workable, cost-effective process to control biological weapons. As world leaders in conquering disease, American pharmaceutical companies have an unassailably positive role to play, and an undeniable responsibility to participate, in this discussion. We trust their timidity will be overcome at a future hearing.”

Testifying first, Mahley says that “as Secretary Albright has informed key allied counterparts, and as Under Secretary Holum has told the Ad Hoc Group, we still hope a satisfactory Protocol can be achieved by the 2001 target date”. However, he also adds that “having made a lot of progress in the negotiations does not mean we have reached a point where an ‘end game’ is either present or on the predictable horizon”. Later, during questions, Mahley comments as follows on whether the fifth BWC review conference is an absolute deadline for completion of the Protocol: “The United States does not agree with that. We certainly think that that’s an objective, we certainly think we’re prepared to work very hard toward it. But we are not

prepared to accept an unacceptable protocol simply to have something on paper that will be done by that time. That, again, is a position which is not universally shared." On the US position on the negotiations, Mahley says that "the United States will not accept a Protocol that undermines rather than strengthens national and international efforts to address the BW threat". Listing some of the "most crucial" outstanding issues, Mahley details how on-site activities will allow for the protection of both national security and commercial proprietary information, how the US biodefence programmes will be protected from revealing new technologies and vulnerabilities, and how the USA and like-minded states can continue to stem the proliferation of BW-related equipment, technology and materiel. On verification of the Protocol, Mahley says: "The United States has never ... judged that the Protocol would produce what is to us and effectively verifiable BWC. There is, however, real value in increasing the transparency associated with biological activity." Later, under questioning, Mahley summarizes this as follows: "The Protocol should provide a supplement to the efforts internationally to stem biological weapons proliferation by complicating the life of a potential proliferator".

Next to testify, Koch echoes Mahley on verification by saying that "we do not believe that the Protocol being negotiated will be able to provide the kind of effective verification that exists in other arms control treaties. That is, it will not provide a high degree of confidence that we could detect militarily significant cheating. We therefore recognize that this Protocol will not 'solve' the problem of biological weapons proliferation, even among the BWC States Parties who opt to join. But it can contribute to the more limited goal of strengthening confidence in BWC compliance by enhancing international transparency in the biological sphere. We see this as an important and useful contribution to our nonproliferation efforts." According to Koch, the Protocol must not undermine US or allied biodefence programmes, it must not weaken the existing system of export controls and must also protect national security information unrelated to BW technology. She also expresses unambiguous support for national export controls and multilateral political arrangements such as the Australia Group. Koch goes on to compare CWC implementation with the projected implementation of the Protocol, although she emphasizes that "there are likely to be as many differences as similarities." Between April 1997 and June 1999 the Defense Department had spent \$26 million directly supporting OPCW inspections. All told, total DoD costs for preparation and execution of the CWC from FY 1992 to FY 2001 amount to \$518 million. Koch also reveals that the Defense Department will be hosting a mock challenge inspection in 2001, involving OPCW inspectors. On the subject of the national trial visits and inspections which were mandated by Congress [see 29 Nov 99], Koch says that "we are well along in our planning, including identifying funding, appropriate facilities, and both on-site and analytical personnel. We are working with other agencies to integrate DoD activities into the Administration's wider National Trial Visit/Inspection effort, with the goal of conducting an initial 'transparency visit' exercise later this year or early next year at a DoD facility." Koch concludes her testimony with the assessment that "under the provisions envisaged in the current US negotiating position, we can effectively protect national security assets".

Majak follows with testimony on the Commerce Department's initial experience with CWC industry inspections and implications for the Protocol. He states that "all industry inspections have been completed successfully, and while a few significant issues have arisen, there have been no findings of non-compliance." Majak states that each inspection costs the facility anywhere between \$15,000 to \$63,000 and costs the

government an average of \$50,000. Considering the preliminary lessons learned from CWC implementation, Majak says "the inspections to date demonstrate that it is possible to meet the requirements of a relatively rigorous international inspection regime at reasonable costs to both government and industry, and to manage the risks of revealing valuable company confidential business information." However, Majak repeats what the previous witnesses have said regarding the differences between the implementation of the CWC and the Protocol. On the statutory national trial visits, Majak says his department is working with PhRMA and BIO to seek out potential industry sites and observers to participate in such exercises. Under questioning later, he adds: "We have been in contact with a number of private companies and industry associations to try to line up a facility that is both willing and suitable for a trial inspection. We were in fact a few weeks ago, we thought, relatively close to having such a facility identified. Unfortunately, in the meantime, the facility was sold to a new owner, and the new owners were less willing to subject themselves to this than the previous owners." He concludes his testimony by saying that "the US position in the BWC negotiations has been carefully crafted to reflect these modifications of the CWC model, offering a regime that would provide transparency rather than verification of compliance with internationally agreed prohibitions on biological weapons."

In his testimony, Brock addresses three main subjects that the subcommittee had asked the GAO to investigate, namely how companies had protected proprietary information during CWC inspections, whether any companies had experienced adverse publicity from being inspected, and how much inspections had cost the companies inspected. The GAO could give only preliminary answers to these questions as by 1 September only nine Schedule 1 and 2 facilities in the USA had been inspected. On the first question, Brock states that "we found that chemical companies believe that they have been able to protect their proprietary information, in part because of provisions within the Convention and US law and through extra measures taken by companies before and during inspections". According to Brock "companies we spoke with have indicated that there has been no adverse publicity related to the inspections under the Chemical Weapons Convention". On the question of the costs of inspections, the GAO had only been able to obtain data from the first seven companies to be inspected by the OPCW and had not been able to audit their costs. The totals ranged from \$6,000 to \$107,000, the wide variation being due to the types of costs reported, how the costs are calculated and the nature of the different facilities.

13-27 September In China, a team of Japanese experts excavates around 2,800 artillery shells, including 897 chemical munitions and 2.7 tons of contaminated soil, from a site near Beian in Heilongjiang province. This is the first time that Japanese personnel have excavated munitions in China. The site had been unearthed by local residents in 1997. All the munitions are packaged and transported to special facilities near Qiqihar around 300 kilometres away, to await destruction. This is the first such operation since China and Japan signed a memorandum of understanding on the clearing-up of the abandoned chemical weapons in China [see 30 Jun 99]. Negotiations between the two sides are continuing on how to dispose of the recovered weapons. Before his departure from Tokyo for the excavation, the head of Japan's Office for Abandoned Chemical Weapons, Akio Suda, provided more details on the clean-up in a *Newsweek* interview. He says that his team of 75 Japanese specialists will actually work side-by-side with around 150 Chinese experts during the

excavation work. When questioned about the total number of chemical weapons abandoned in China, Suda says: "Neither side has sufficient information. Japan doesn't know exactly how many shells are on Chinese soil, and the Chinese government doesn't know either. Japan is determined to dispose of all abandoned chemical weapons. That is our responsibility." Suda says that Japan and China have yet to decide which technology to use to neutralize the munitions. On the Dunhua site, where China consolidated over 500,000 chemical shells in the 1950s, Suda says that it is the "main challenge" and there is at least a theoretical risk of a chain explosion. Excavation there will be carried out by mechanical devices and robots and site preparation alone will take several years. Addressing Japanese media reports that the cost of the operation could eventually reach \$10 billion, Suda says this "sounds too high."

18 September In Amman, the Jordanian State Security Court hands down sentences of death on 6 of the 28 defendants in the Mount Nebo case of attempted terrorism [see 30 Jan]. Four of the six are still at large, having been tried in absentia; of the other defendants, six are acquitted, the rest sentenced to jail. As the trial advanced, nothing more was heard of the nerve gas that had figured in the original indictment and in US press reports that attributed the FBI.

18 September In Washington, DC, the Middle East Institute and the Iraq Foundation host a meeting on *Saddam Hussain: War Crimes and Crimes Against the Iraqi People*. Giving the keynote speech is US Ambassador-at-Large for War Crimes Issues David Scheffer who says that the primary objective is "to see Saddam Hussain and the leadership of the Iraqi regime indicted and prosecuted by an international criminal tribunal". Detailing Saddam Hussain's criminal record, Scheffer says that the US government considers it beyond any doubt that Hussain has "brutally and systematically committed war crimes and crimes against humanity for years". Scheffer says that Iraqi use of chemical weapons in the Iran-Iraq war was a war crime as "the use of chemical weapons has been a war crime since the 1925 Chemical Weapons treaty, to which Iraq is a party." He also describes the attack on Halabja and the wider Anfal campaign as war crimes and crimes against humanity. Scheffer then goes on to outline what the USA has been doing to facilitate the indictment and prosecution of members of the Iraqi regime. He says that "the de jure case against Saddam Hussain and his top associates is rock-solid." On the de facto case, the US government has given the Iraq Foundation copies of 176 CD-ROMs on which are millions of captured Iraqi documents smuggled out of northern Iraq by Human Rights Watch and the US government. Further documents captured by US forces from Kuwait and southern Iraq are also to be declassified and given to the Iraq Foundation. Scheffer's staff have also been reviewing classified US documents relating to Iraqi war crimes during the Gulf War, some of which will eventually be declassified and others of which could be released to an international tribunal under special arrangements. Scheffer's speech also identifies the twelve Iraqis named as war criminals by the UK-based non-governmental organization, INDICT. Scheffer also rejects calls to wait until the International Criminal Court begins its activities as the statute will not enter into force for at least another two years and the ICC would anyway not have retrospective jurisdiction. On 19 September, Scheffer repeats much of this before the Congressional Human Rights Caucus.

Also speaking is Christine Gosden of Liverpool University, on "Chemical Warfare Against the Kurds". She says that her team has been able to identify 281 locations throughout northern Iraq where Iraqi forces used chemical weapons. According

to Gosden, "today there are high incidences of cancers, cardio-pulmonary disease, congenital abnormalities, and other major medical disorders."

18-19 September In Rome, at the Istituto Diplomatico Mario Toscano, a round-table and focus-group meeting on *Biosecurity and Bioterrorism* is organised by the Landau Network Centro Volta in collaboration with ICGEB Trieste and with the support of the Italian Foreign Ministry Unit of Policy Planning and Analysis. The meeting concentrates on threat assessments of biological weapons proliferation and of bioterrorism and considers the potential impact of advances in biosciences and biotechnology on the illicit use of biological and toxin agents, and on biosafety. Progress in the BWC Ad Hoc Group and the role of international organizations such as the ICGEB and WHO in the BWC protocol are also discussed. According to the introduction to the compilation of presentations "the documents presented and discussed are meant to be a scientific and independent contribution to the Italian delegation who will attend the next Review Conference on the Biological and Toxin Weapons Convention." The final document of the meeting concludes that "concern about bioterrorism by non-state actors has been greatly exaggerated and does not reflect a considered estimate of the problems involved in obtaining, producing and disseminating biological agents. ... Exaggeration of this subject is not a harmless practice. It induces and solicits interest in these agents precisely amongst those groups that one does not want to possess these weapons."

19 September UN Secretary-General Kofi Annan, talking to reporters, says he does not see any sign that Iraq is ready to admit UNMOVIC inspectors, but adds: "in this life I don't think one can say never or forever". He had been speaking the day previously with Iraqi Deputy Prime Minister Tariq Aziz [see 23 Aug]. In Stockholm, UNMOVIC Executive Chairman Hans Blix says: "You can guess that nothing serious will happen until after the American elections".

20 September In the US Senate, the Health, Education, Labor and Pensions Committee considers S 2731, *The Public Health Threats and Emergencies Act of 2000* [see 14 Jun]. The Committee reports favourably on the bill and recommends it be passed, as amended. The Senate passes the bill on 26 October. It has now been incorporated, along with other healthcare legislation, into HR 2498, *The Public Health Improvement Act of 2000*, which is signed into law by President Clinton on 13 November (Public Law No. 106-505).

20 September In Utah, at the Tooele Chemical Agent Disposal Facility (TOCDF), the chemdemil incinerator is successfully restarted after having been closed down since the nerve-gas leak four months previously [see 8 May].

21 September In Bulgaria, Sofia public prosecutor Nestor Nestorov tells reporters that the search for the murderer of Georgy Markov [see 21 Oct 98], killed in London by poisoned umbrella in September 1978, has now ceased, but Bulgarian authorities would still be furnishing information to their counterparts in the United Kingdom, where inquiries still continue.

21 September In Switzerland, Green Cross International launches its "Destroy Chemical Weapons Now!" campaign. The campaign is designed to stimulate public awareness about the dangers posed to the environment by existing stocks of chemical weapons. According to a Green Cross International press

release, "the strategy of the Green Cross campaign will be to create and enhance awareness on all levels; among the public through a 'bottom-up' information and advertising campaign, and within political circles using 'top-down' networking and appeals to influential figures. It is necessary to strengthen the political resolve to enforce the Chemical Weapons Convention, and more specifically to generate financial backing needed — particularly for Russia". On 25 June, Green Cross International's president Mikhail Gorbachev had written to many heads of state and political figures urging them to commit financial assistance to Russia's chemdemil programme.

On 4 October, a motion is introduced in the Swiss Federal Assembly calling on the Swiss government to draft a proposal to parliament presenting a comprehensive policy, as well as active Swiss contributions, for the promotion of worldwide chemdemil. The motion also says that the government should use the different instruments of Swiss foreign and security policy in a coordinated way and that Switzerland should aim to contribute around two per cent of the total amount of international cooperation. According to the motion, Switzerland's contributions should promote the actual destruction of chemical weapons. The Swiss government submits its response to parliament on 15 November. The response emphasizes that under the CWC the responsibility for the destruction of chemical weapons rests with the possessor states. It also notes that Switzerland has previously kept a distance from direct involvement in the financing of destruction activities due to the varied experiences of other donors and that to be effective a financial contribution would need to be considerable. The response notes that Russia has estimated the international assistance required at around \$6 billion. If Switzerland were to contribute two per cent of this amount, that would total around \$120 million, which far exceeds the budget of the entire aid programme for Russia. On 12 December, Gorbachev addresses the Swiss parliament and the upper house passes the motion.

21 September In the US Senate, the International Security, Proliferation and Federal Services Subcommittee of the Governmental Affairs Committee conducts a hearing on *Iranian WMD and Missile Proliferation*. Testifying is the Deputy Director of the DCI Nonproliferation Center Norman Schindler. In his opening remarks, Schindler says that "the Iranians regard these as extremely sensitive programs and go to great lengths to hide them from us. As a result, our knowledge of these programs is based on extremely sensitive sources and methods. This precludes me from providing many details on the programs in open session". Schindler's statement covers the nuclear, chemical and biological programmes as well as the motivations behind them.

On the chemical programme Schindler says "we believe the program remains active despite Tehran's decision to ratify the Chemical Weapons Convention (CWC). Iran has a large and growing CW production capacity and already has produced a number of CW agents, including nerve, blister, choking and blood agents. We believe it possesses a stockpile of at least several hundred metric tons of weaponized and bulk agent. Tehran's goals for its CW program for the past decade have been to expand its production capability and stockpile, reach self-sufficiency by acquiring the means to manufacture chemical production equipment and precursors, and diversify its CW arsenal by producing more sophisticated and lethal agents and munitions".

On the Iranian biological weapons programme, Schindler says "the program is in the late stages of research and development, but we believe Iran already holds some stocks of BW agents and weapons. Tehran probably has investigated both

toxins and live organisms as BW agents, and for BW dissemination could use many of the same delivery systems — such as artillery and aerial bombs — that it has in its CW inventory. Iran has the technical infrastructure to support a significant BW program. It conducts top-notch legitimate biomedical research at various institutes, which we suspect also provide support to the BW program. Tehran is expanding its efforts to acquire biotechnical materials, equipment, and expertise from abroad — primarily from entities in Russia and Western Europe. Because of the dual-use nature of the equipment, Iran's ability to produce a number of both veterinary and human vaccines also gives it the capability to produce BW agents. Tehran continues to develop its BW capability despite being a party to the Biological Warfare [*sic*] Convention."

21 September In the US House of Representatives, the Military Procurement Subcommittee of the Armed Services Committee conducts a hearing on *Department of Defense Chemical Agents and Munitions Destruction Program*. In his opening statement, subcommittee chairman Duncan Hunter notes that, as of 1 September, the USA has destroyed around 6,670 tons, or 21 per cent of its stockpile.

22–24 September In Italy, at Courmayeur, an international conference on *Countering Terrorism Through Enhanced International Cooperation* is convened by ISPAC — the International Scientific and Professional Advisory Council of the UN Crime Prevention and Criminal Justice Programme. A paper on 'Terrorism and weapons of mass destruction' is presented by Milton Leitenberg of the University of Maryland Center for International and Security Studies. His presentation includes the observation that "it is the combination of the enormous and overblown official US emphasis on a domestic bioterrorism threat, and the US government's neglect of biological weapons arms control that is likely to spur a wider international resurgence of interest in biological weapons."

25 September In the US House of Representatives a private bill, HR 5290, to "provide relief for Salah Idris of Saudi Arabia and El Shifa Pharmaceuticals Industries Company relating to the bombing and destruction of the El Shifa Pharmaceutical plant in Khartoum, Sudan, and for other purposes" is introduced by Rep Dana Rohrabacher (R-Calif), who also submits a draft resolution, H RES 593, that would enable the US Court of Claims to consider the bill. Salah Idris already has his own lawsuit in the Court of Claims [see 27 Jul].

26 September In the US House of Representatives, the International Relations Committee holds a hearing, *UN Inspections of Iraq's Weapons of Mass Destruction Programs: Has Saddam Won?* Testimony is received from Richard Butler and former Congressman Stephen Solarz.

Asked about the present state of Iraq's CBW programmes, Butler responds that the Iraqis "have ... rebuilt their chemical warfare factories, and the same is true of their biological warfare factories. They are simply back in business."

Asked about his impressions of UNMOVIC and the political situation in which it is operating, Butler says, according to the transcript: "I have been concerned about a number of aspects of UNMOVIC. First, it has been given the right mandate; it has been told to bring to final account the weapons of the past [which] is actually exactly the same list as the one I gave in 1998; it's still there. But that's where the similarities between UNMOVIC and the operation I led end. It has the same mandate, but nothing else is the same. It has a different political responsibility, the head of UNMOVIC works for the secretary gen-

eral. I didn't, I worked for the Security Council. He has less independence; he's not able to recruit staff in as independent of a way as I did. He's much more subject to continual riding of shotgun on him, political direction, by members of the Security Council. And in that context, I call attention to this again. There's something that's been overlooked, and I want to put it on the record. On the 14th of April 2000, the Russian ambassador wrote a letter to the Security Council saying, we may have agreed to UNMOVIC getting underway, but we tell you — this is in writing, look it up — we tell you that we will not approve of any arms control or monitoring arrangements of which Iraq does not approve. That sounds to me awfully like a Russian letter putting the fox in charge of the chicken coop. That's not the way we operated under UNSCOM. So, I have grave doubts that if Iraq changes its present position and lets UNMOVIC into Iraq, that it will be permitted to do anything like a satisfactory job. That is not to say a disrespectful word to Dr. Hans Blix or his staff; I think they are professionals, they would want to do a good job. But whether Iraq and some of the members of the Security Council will allow them to do so is another matter. Finally, there was report — this gets to the core of your question Mr. Chairman — there was a report that Dr Blix, the head of the new organization, had drafted a report to the security council saying that he was ready to commence inspections. But within a small private meeting of the commission of advisers, he'd been asked to amend that and slow it down, and that the United States representative present that day had not objected to that position, as advanced by Russia, France, and China. I wasn't present during that meeting and I don't know if those media reports on that are a fair representation of what happened. You'll have to ask the administration about that. But that's what I think you're referring to. But I do know this, that last Friday when the Security Council, in full session, took Dr. Blix's report, that indicated in its modified version that he was more or less ready to start, there was a resounding silence. Where was the council saying good, and turning to Iraq and saying he's ready, are you — not a word. And I think that's a matter of grave concern."

Asked whether Iraq is developing "viral agents that would be weapons capable", Butler answers as follows: "I don't know that degree of detail today. I will rest on what I said earlier. What we know of the past, and what we know of his motive, means and opportunity, I think it would be folly to assume that he is not doing just that."

26–28 September The US Army Research Institute of Infectious Diseases organizes its fourth annual live satellite broadcast on *Biological Warfare and Terrorism: Medical Issues and Response* [see 21–23 Sep 99]. The broadcast is aimed at military and civilian medical care providers, epidemiologists, laboratory workers, pharmacists, first-responders and others. Day 1 of the broadcast covers five major threat agents. Day 2 presents ten principles for managing the clinical aspects of a BW attack. Day 3 uses scenarios to evaluate the public health and medical response to bioterrorism.

28 September In the European Union, the new Community legislation on the export of dual-use goods and technology comes into force [see 22 Jun].

28 September In the US Defense Department, the Office of the Special Assistant for Gulf War Illnesses releases three new reports. One is a final version of the case narrative on the An Nasiriyah Southwest Ammunition Storage Point [see 4 Aug 98 and 13 Jan]. The report concludes that: "It is likely chemical weapons were present during Desert Shield before the US occupation, but unlikely chemical weapons, biological weapons,

or bulk chemical agents were present in this complex during the US occupation. Given the inspections by the US and United Nations and the results of the sampling conducted by US personnel, the release of chemical warfare agents due to Coalition bombing also is unlikely." Another final version of a case narrative is released which deals with the possible presence of chemical weapons at a cement factory outside Kuwait City [see 15 Apr 99]. This report concludes that: "The weight of evidence leads us to assess that the presence of chemical warfare agents or munitions at the cement factory is unlikely, and that any resultant exposure of US forces to chemical warfare agents at the cement factory is also unlikely." The third report is the second edition of an environmental exposure report on oil well fire contaminants [see 5 Nov 98].

28 September In Washington, the Cato Institute releases a study, *Constitutional Problems with Enforcing the Biological Weapons Convention*, arguing that the BWC Protocol "will undermine the privacy rights that US citizens expect and that the Fourth Amendment guards, will interfere with the safeguards that the appointments clause was designed to guarantee, and will compromise the intellectual property rights that the Fifth Amendment protects".

29 September On Johnston Island in the Pacific, US Army chemdemil operations at JACADS enter their final phase, as destruction of the stockpile of VX landmines commences. Altogether, some 96 percent of the original Johnston Island CW stockpile, including the nerve-gas artillery projectiles shipped in from Germany a decade previously, have now been incinerated. JACADS closure is scheduled to commence in January 2001.

29 September–1 October In the UK, at Wiston House, there is a Wilton Park conference on *Eliminating Chemical and Biological Weapons in the Twenty-First Century: What Needs to be Done?* A total of 75 people participate from 23 countries (Australia, Austria, Canada, China, Czech Republic, Finland, France, Germany, Hungary, India, Israel, Japan, Netherlands, Poland, Portugal, Qatar, Russia, Singapore, Sweden, Switzerland, UK and USA) and the OPCW.

30 September In Munich, Edmund Stoiber, Minister-President of Bavaria, talks of the threat to Germany from long-range missiles, possibly with chemical or biological warheads. Speaking to the CSU military and security working group he criticises the federal government for underestimating the threat from Russia and warned that Germany could soon fall within range of missiles launched from Iraq, Iran, Libya, Pakistan or India. According to Stoiber, the scenario of Munich or Berlin being attacked with nerve gas is no longer unimaginable.

1 October On US television, CBS News *60 Minutes* presents a documentary on smallpox, subtitled "years after eradicating the virus among the general population, some countries may be using the smallpox virus as a biological weapon". Among those talking to camera are Dr Ken Alibek, who speaks of bioweapons work on smallpox in the USSR; and Dr David Kelly, who had been a member of the secret trilateral-process UK/US inspection team that had visited Vektor [see 10 Dec 99] in Siberia in January 1991, and who now speaks of his discovery during that visit of Soviet smallpox work. Later in the documentary there is mention of "circumstantial evidence" of smallpox work having been found in Iraq by an UNSCOM inspection that Dr Kelly had led in that country, he himself saying to camera that Iraq "has the capacity to produce and to weaponize" smallpox virus. He does not say that Iraq had actually done so, but anchorman Mike

Wallace is then to be seen saying: "The UN was unable to determine this, but a highly placed Middle East intelligence source told us that Iraq does have the virus and that they got it from a Russian scientist who stole it from a lab in Siberia". No substantiation or any other confirmation of this assertion is presented, other than Wallace speaking of the late King Hussein of Jordan "who, in his dying declaration letter, warned of the danger of smallpox 'being reintroduced to the world'". Later, Wallace says: "The problem gets worse. A recent US military report says North Korea has the capability to develop, produce, and weaponize smallpox [see 12 Sep US]. And a still-classified intelligence report confirms [sic] there are three countries which are major threats for smallpox: Iraq, North Korea and Russia."

2 October In Guam, where old mustard-gas and other chemical weapons continue to be discovered, there is concern about the possibility of larger discoveries in the future, so the US House of Representatives is told by Congressional Delegate Robert Underwood, speaking of the safety of his constituents. He says that the University of Guam has recently presented documentation to military officials indicating that "a huge shipment of mustard gas" had been brought to the island in 1945, but there is no documentation of the mustard gas having later been taken away. A spokesman for the US Army Corps of Engineers had raised the possibility of the mustard gas having been dumped at sea. Underwood has asked the Defense Department to perform a historical record survey to determine the final disposition of the chemical weaponry that had been brought to Guam.

2 October Yemen deposits its instrument of ratification of the CWC. In 30 days time, on 1 November, it will thus become the 140th state party to the treaty.

2 October On UK television, BBC *Panorama* presents a documentary entitled "Britain's secret war on drugs" by reporter Tom Mangold. The documentary includes an update on the opium-poppy biological-control project that the UK, together with the US, is funding under the auspices of the UN Drug Control Programme in Uzbekistan [see 28 Jun 98]. The Institute of Genetics in Tashkent, which used to work on bioweapons against Western agriculture, is testing a fungus, *Pleospora papaveracea*, which attacks the roots of opium poppies. In 1998/99 the UK government contributed £100,000 to the project through the UNDCP. The director of the institute, Professor Abdusattar Abdusattar is interviewed for the programme and demonstrates the effect of the fungus on a plantation of opium poppies obtained by the US government from Afghanistan. Abdusattar also says that he eventually plans to genetically modify the fungus to select more aggressive strains. Also interviewed is Mike Greaves, a consultant to UNDCP, who says that 130 other plants species have been tested and do not get infected but that "we are still working on the safety aspects to be absolutely sure."

The documentary also describes the coca biological-control project that is approaching the stage of field-testing in Colombia [see 22 Aug], possibly under the auspices of Plan Columbia [see 1 Sep]. The US State Department has provided \$23 million to fund work on the biocontrol strain of *Fusarium oxysporum* that has been developed by plant pathologist David Sands. According to Sands: "It's biological warfare or green warfare. I just want you to understand my opinion is it's a good thing if it's done to eradicate something that the entire world feels is noxious." Sands is later asked if the USA should deploy the fungus even without the consent of the country concerned and answers "I think somebody should."

2 October The US Senate adopts the *Japanese Imperial Army Disclosure Act* [see 10 Nov 99], which requires the full disclosure of classified records and documents in the possession of the US government regarding the activity of the Japanese Imperial Army during World War II. The act extends the remit of the interagency group established by the *Nazi War Crimes Disclosure Act* and renames it as the "Nazi War Crimes and Japanese Imperial Government Records Interagency Working Group". The group will remain in existence for three years and within its first year will locate, identify, inventory, recommend for declassification and make available to the public all classified Japanese Imperial Government records of the USA. It will also report to Congress describing the records and the activities of the group and agencies. Among the exemptions to the act are records which would "reveal information that would assist in the development or use of weapons of mass destruction". The act is passed as Title VIII of the FY 2001 *Intelligence Authorization Act*, HR 4392, which is however vetoed by President Clinton on 4 November. The act is reintroduced as the *Japanese Imperial Government Disclosure Act of 2000* and is passed by Congress on 11 December as Title VIII of HR 5630, the amended FY 2001 *Intelligence Authorization Act*.

2-3 October In Washington, DC, a conference on *Weapons of Mass Destruction: Reactions in the Face of Uncertainty* is convened by Jane's Conferences. Participating are about 120 people, mostly from the United States. The non-American speakers include Dr Jean-Pascal Zanders of SIPRI ("Preventing the proliferation of chemical and biological weapons"), Professor Christopher Davis [see 2-3 Aug 99] ("Russia's biological warfare program"), Colonel Yori Sofrin ("WMD protection: civil defence and deployed forces") and Major Roger Davies ("Perceptions and reality of the WMD terrorist threat — a provocative view").

The Davis presentation includes an overview of the USSR bioweapons programme, especially the role within it of "the organisation known most recently as Biopreparat (Chief Directorate for Biological Preparations)" that had been established by 1973-74 Politburo decisions. He says: "This new organisation was designed to carry out offensive BW R&D and production concealed behind a veneer of legal civil biotechnology research. In fact, at no time did legitimate civilian biotechnology work ever comprise much more than 15% of the activity at ... the 52 sites that came under the aegis of Biopreparat." He says, too, that Biopreparat operated side-by-side with an existing Defence Ministry complex of BW facilities that employed another 15,000 people and had a separate budget. In contrast to the Biopreparat side of Soviet bioweapons work, little is known in the outside world about the Defence Ministry side: "The suspicion is that, at the very least, the basic know-how, expertise, equipment and stock of seed cultures have been retained somewhere within the Ministry of Defence system." Professor Davis also speaks of some of the lines of inquiry that had been pursued in Soviet bioweapons research, such as "the 'Ovchinnikov' bioregulator programme". He raises the question of "a 'sleeping' weapon — as one might term it (i.e. the exposure of a defined population of people to a harmful substance, which attaches itself to human DNA and which is subsequently activated by exposure to another harmless substance, at any given time to give the chosen effect e.g. illness, behaviour change, fertility change, disability)".

2-5 October In Paris, the Australia Group meets in plenary session for what its agreed press statement describes as "informal consultations ... among a group of countries opposed to the spread of Chemical and Biological Weapons (CBW)". The Group reaffirms the common purpose of all participants of

upholding the aims of the BWC and CWC and confirms their commitment to the successful conclusion of negotiations on the BWC Protocol. A number of changes are made to the common lists to reflect the changing technical environment and participants ensure that their national positions on transfers of chemical mixtures are in accordance with recent OPCW decisions. The Group welcomes two new participants, Turkey [see 19 Oct 92] and Cyprus [see 19 Dec 98], bringing its total membership to 32. The Group also acknowledges the importance of transparency in its operations and therefore endorses a new website (to be posted at www.australiagroup.net) and plans for a brochure and detailed paper outlining its role in opposing CBW proliferation. Later, in a report to Congress on the proliferation of weapons of mass destruction, President Clinton states that "the United States continues to be a leading participant in the 32-member Australia Group (AG) chemical and biological weapons nonproliferation regime." He says that at the 2-5 October meeting the members reaffirmed their "continued collective belief in the AG's viability, importance, and compatibility with the CWC and BWC.... At this year's plenary, the regime continued to focus on strengthening and refining AG export controls and sharing information to address the CBW threat, especially from terrorism."

2-10 October In Tunisia, the government and the OPCW Technical Secretariat co-host a regional basic training course in Tunis for personnel involved in the implementation of the CWC. There are 23 participants from 23 states parties.

3 October India is using chemical weapons in Kashmir along the Line of Control [see also 8 Sep 99], according to the opposition leader in the Azad Kashmir Assembly, Raja Israr Abbasi, who has been interviewed for today's Rawalpindi *Nawa-i-Waqt*. He goes on to say that "it is a weakness on the part of Pakistan that it is not even informing the world of the use of chemical weapons by India. ... The Pakistani government can send the UN a report on the use of chemical weapons by India and demand action to be taken against India on the pattern of Iraq." Later, the Islamabad *Pakistan* reports that India has been using chemical weapons along the Line of Control and that several people in the Lipa valley have fallen victim to various kinds of diseases.

3 October OPCW Director-General José Bustani, in his opening statement to the 21st regular session of the Executive Council as posted on the internet, discloses the fact that eleven CWC states parties have now declared either present or past capabilities to produce chemical weapons in a total of 61 CWPFs [see also 31 Aug The Hague and 5 Sep]. He also reports that, by 30 September, 7 per cent of their Category 1, 20 per cent of their Category 2, and 30 per cent of their Category 3 chemical weapons had been destroyed by the four declared possessor weapons-states.

In his remarks on chemical-industry and other CWC Article VI matters, the Director-General observes: "Publicly available literature reveals that there are many more plant sites producing PFIB, thiodiglycol, hydrogen cyanide, and other scheduled chemicals than have actually been declared by States Parties". He continues: "Moreover, I am deeply concerned when I hear suggestions that declarations of industrial sites should be curtailed to the maximum extent possible, in order to minimise any inconvenience to industry, for the reason that Article VI inspections are purportedly conducted solely for 'confidence building reasons'. The unfortunate experience of other international organisations in this regard should be sufficient warning to all of us."

3 October In the US House of Representatives, the Government Reform Committee conducts a hearing on the Defense Department's Anthrax Vaccine Immunization Program, *AVIP: What Have We Learned?* In his opening statement, chairman Christopher Shays recalls the Committee's previous recommendation that AVIP be suspended and the Defense Department's more recent decision [see 10 Jul] to limit vaccinations to only those personnel serving in southwest Asia and South Korea. Shays goes on to say: "The decision to scale back the AVIP addresses the reality of the current shortage but fails to confront the fundamental flaw with the program: Use of an antiquated medical technology to counter a decidedly modern threat. No program based on the old vaccine can be sustained. ... In fact, validating a 1950s-era vaccine process against current biologic manufacturing standards is more like trying to get an Edsel through modern auto safety and admissions testing. To pass muster will require bending the rules or the expenditure of extraordinary amounts of money, money that could be better applied for the approval of an improved vaccine. Without an ensured supply of modern vaccine in hand, continuing to order soldiers, sailors, airmen and Marines to start a course of shots that may never finish constitutes, in my judgement, military malfeasance and medical malpractice." The hearing is subdivided into three panels. The first is made up of Senator Tim Hutchinson and Congressman Jack Metcalf. Metcalf presents his recent report which outlines the discovery that the anthrax vaccine contains squalene, a fact repeatedly denied by the Defense Department [see also 29 Mar 99]. However, today a Defense Department spokesman admits that there was indeed squalene in the anthrax vaccine, but only in "minuscule" amounts and that it had not been added to increase the potency of the vaccinations. The Committee decides to request the GAO to investigate how the squalene got into the vaccine, how dangerous it might be and what research is being done on the effects of squalene. The second panel consists of a number of service men and women and their families who have been adversely affected by the anthrax vaccine. One of them, Barbara Dunn, is the wife of a BioPort employee who had died a week previously and who had received eleven doses of the anthrax vaccine being produced at the BioPort facility. The third panel has testimony from the Food and Drug Administration and from Charles Cragin, the Principal Deputy Assistant Secretary of Defense for Reserve Affairs. In his testimony, Cragin reveals that the Defense Department has so far received five expressions of interest for a potential second course of the anthrax vaccine. He also states that the FY 2001 budget includes research funds to develop a single vaccine which would provide protection against three or more biological warfare agents.

On 11 October, the hearings continue. The focus this time is on the effect of the compulsory vaccination programme on unit readiness and retention, particularly with regard to the Air National Guard and the Air Force Reserve. In addition to serving and former ANG and AFRES personnel, there is also testimony from the General Accounting Office presenting preliminary results from an on-going survey of Guard/Reserve pilots and aircrew members. In his statement, Kwai-Cheung Chan says that the GAO had found that "surveyed Guard and Reserve pilots and aircrew members cited the anthrax immunization as a key reason for leaving or otherwise changing their military status. Since September 1998, an estimated 25 percent of the pilots and aircrew members of the Guard and Reserve in this population transferred to another unit (primarily in a non-flying position), left the military, or moved to inactive status. While several reasons influenced their decision, when asked to rank the one most important factor, the anthrax immunization was the highest, followed by other employment opportunities, and family

reasons. ... Additionally, 18 percent of those still participating in or assigned to a unit reported their intentions to leave within the next 6 months. These individuals also ranked the anthrax immunization as the most important factor for their decision to leave, followed by unit workload and family reasons. ... Eighty-seven percent, or almost 9 out of 10, indicated they would or probably would have safety concerns if additional vaccines for other biological warfare agents were added to the military immunization program."

3 October In the US Department of Commerce, the Bureau of Export Administration issues in final form a rule amending the Commerce Control List of the Export Administration Regulations so as to implement the agreement reached at the 1999 Australia Group plenary [see 4–8 Oct 99] to clarify the scope of controls on saxitoxin, on toxic gas monitoring systems and on cross-flow filtration equipment. It also clarifies application of the rule for mixtures containing AG chemicals that are on CWC Schedule 1. Further, the rule amends the Commerce Control List to authorize unlicensed export of certain medical products containing botulinum toxin, and certain diagnostic and food-testing kits that contain AG-controlled toxins.

3–6 October In The Hague, the OPCW Executive Council meets for its twenty-first regular session. [For further details, see *Progress in The Hague*, above].

5 October In Israel, the 51st annual report of the State Comptroller is transmitted to the Knesset. It includes criticism of the government's public information policy on chemical and biological warfare: "Even today, when the secrecy about the biological threat has been broken, the political echelon continues to prevent the IDF from instructing and preparing the population in peacetime how to act in case of a biological incident".

5 October In the US Senate, the Subcommittees on Near East and South Asia Affairs and European Affairs of the Foreign Relations Committee hold a joint hearing, *Iranian Weapons Programs: The Russian Connection*. Testifying are Robert Einhorn, Deputy Assistant Secretary of State for Nonproliferation and John Lauder, Special Assistant to the Director of Central Intelligence for Nonproliferation.

Einhorn begins his testimony as follows: "Iran's pursuit of weapons of mass destruction and ballistic missile delivery systems continues unabated, and has even accelerated in the last few years. Despite its formal adherence to international arms control and nonproliferation treaties, Iran maintains active programs to acquire nuclear, chemical and biological weapons as well as the long-range missiles to deliver them". Einhorn describes Iran's chemical weapons programme as "one of the largest in the developing world" and says that Iran seeks "the ability to produce indigenously more sophisticated and lethal agents". According to Einhorn, "this trend toward self-sufficiency is worrisome, since it means that Iran could eventually become a supplier of CW-related materials to other nations". On biological weapons, Einhorn's testimony adds nothing new, except to note that "the pace of Iran's biological program probably has increased since the 1995 revelations about the extent of Iraq's biological weapons program".

Much of Lauder's testimony mirrors that given a fortnight previously to the Senate Governmental Affairs Committee by the Deputy Director of the CIA's Nonproliferation Center [see 21 Sep]. However, he adds more detail on the Iran–Russia relationship. With reference to chemical weapons this includes: "Numerous Russian entities have been providing Iran with dual-use industrial chemicals, equipment and chemical production

technology that could be diverted to Tehran's offensive CW program. In 1999, for example, Russian entities provided production technology, training, and expertise that Iran could use to create a more advanced and self-sufficient CW infrastructure". On biological weapons, Lauder says: "Iran is seeking expertise and technology from Russia that could advance Tehran's biological warfare effort. Russia has several government-to-government agreements with Iran in a variety of scientific and technical fields. Because of the dual-use nature of much of this technology, Tehran can exploit these agreements to procure equipment and expertise that could be diverted to its BW effort. Iran's BW program could make rapid and significant advances if it has unfettered access to BW expertise resident in Russia".

6 October In Ogunquit, Maine, Major-General Peter George Olenchuk dies at 78. Olenchuk spent most of his career in the Army Chemical Warfare Service and Army Chemical Corps. He was involved in Operation "Chase" (Cut Holes and Sink 'Em) during which old chemical munitions were loaded on to ships and taken out to sea, where the ships were then scuttled. During the 1960s, Olenchuk was had the command of Fort Detrick. He rose to become Assistant Deputy Chief of Staff for Research, Development and Acquisition from which position he retired in 1975. In his retirement, he was a member of the Army Science and Technology Board of the National Academy of Sciences' National Research Council.

6–7 October In Moscow, there is an international nonproliferation conference organised jointly by the Carnegie Moscow Center and the Center for Policy Studies in Russia (the PIR Center). The conference includes a panel on the chemical and biological conventions chaired by Alexander Kalyadin and addressed by Oleg Ignatyev (Russia), Alexander Gorbovski (Russia), Ian Anthony (SIPRI) and Antonio Patriota (Brazil).

9–12 October In Moscow, the OPCW Secretariat and the governments of Russia and the UK co-host the third in a series of annual assistance coordination workshops. Altogether, 37 participants from 28 states parties attended the workshop, alongside 62 additional Russian attendees.

11 October In Pakistan, President Rafiq Tarar promulgates the *Chemical Weapons Convention Implementation Ordinance 2000*, which implements the CWC throughout Pakistan. Under the ordinance, the Ministry of Foreign Affairs becomes Pakistan's national authority. The ordinance includes penal sanction for violators with a maximum of 25 years imprisonment.

11 October In Syria, a chemical weapons programme is continuing under the presidency of Bashar al-Assad, according to unidentified US and Israeli sources quoted in *Jane's Defence Weekly*. The magazine reports a US official saying that Syria's WMD programmes "began under the father and as far as we know continue under the son", and that, "if they haven't already weaponised a VX warhead, they are pretty close" [see 22 Jun 98].

11 October In Russia, the State Duma adopts a bill *On Social Benefits for the Citizens Working with Chemical Weapons*. The Duma Ecology Committee is pressing for the designation of a Russian CWC National Authority.

11 October The US Institute of Medicine releases the latest report from its study of the impact of Agent Orange on the health of US veterans of the Vietnam War [see 11 Feb 99]. The

report re-evaluates the conclusion of previous reports in the series that there was “inadequate or insufficient” evidence of a link between Agent Orange and adult-onset (Type 2) diabetes. This re-evaluation finds that there is “limited or suggestive” evidence of a connection, but the findings are not conclusive.

12 October In Moscow, the Military News Agency reports that the government has drafted a presidential decree “Concerning the realisation of the Russian pledges taken for the international Convention on the Prohibition of the Development, Production and Stockpiling of All Types of Chemical Weapons and their Destruction”. The draft decree would allocate 3.5 billion rubles (\$122.6 million) for chemdemil activities in 2001, an amount seven times higher than that allocated in 1999. Of the total, 1.5 billion rubles (\$52.6 million) would go to the construction of the chemical weapons destruction facility in Gornyy. The funds allocated by the draft decree are, however, still below the 6.4 billion rubles that the military estimated would be needed in 2001. Military sources blame the fact that Russia missed the first intermediate CWC deadline for the destruction of 1 per cent of its Category 1 chemical weapons on “underfinancing”. They added that efforts to meet the second deadline for the destruction of 20 per cent by 29 April 2002 were “at the verge of collapse”.

12 October In the US Senate, two bills are introduced seeking to implement different recommendations of the National Commission on Terrorism [see 5 Jun]. Both bills are referred to the Judiciary Committee. Senator Biden introduces S 3202, *The Dangerous Biological Agent and Toxin Control Act of 2000*. The bill would strengthen the implementation of the BWC and would close gaps which remain in the laws regulating biological pathogens, as compared with those regulating toxic chemicals. Specifically, the bill would amend Title 18, United States Code, to make it an offence for anyone to possess a biological agent, toxin or delivery system of a type or in a quantity that is not reasonably justifiable for prophylactic, protective, or other peaceful purposes. People would also need to report their possession of listed biological agents, and would not be allowed to transfer such agents to unregistered people. The bill also details financial and custodial penalties for violations.

Senators Kyl and Feinstein introduce S 3205, *The Counterterrorism Act of 2000*. The bill had first been introduced as an amendment to S 2507, the FY 2001 *Intelligence Authorization Act*, but had encountered much criticism from civil liberties and human rights organizations and had also been opposed by the Department of Justice. It was then amended and reintroduced in its current form. Besides implementing many of the wider recommendations of the National Commission on Terrorism, this would also improve controls on pathogens and equipment for the production of biological weapons. The bill calls for the Attorney General to submit two reports to Congress, one on the means of improving controls on pathogens and equipment and the other on enhancing standards for the physical protection and security of pathogens in research laboratories. The bill passes the Senate on 14 November and is passed to the House of Representatives.

13 October In the US National Aeronautics and Space Administration, the Inspector General publishes the report on *NASA Oversight of Russian Biotechnology Research, 1994–1997* that had been produced in response to a press report to the effect that, through grant aid to Russia, NASA had unwittingly benefitted germ-warfare activities in that country [see 26 Jan]. The funding, which totalled \$20 million between 1994 and 1997, was provided under the Russian Science Research

Program to the Russian Space Agency by NASA. Of this amount, \$1.529 million was provided under the “space biotechnology” research discipline to Biopreparat [see 31 May] which passed the money to the five facilities that carried out the research: the State Research Institute for Highly-Pure Biopreparations; the Institute for Immunological Engineering; the State Research Center of Virology and Biotechnology “Vector” [see 1 Oct]; Joint Stock Company Biochim Mash; and the State Research Institute of Applied Microbiology [see 22–24 May]. The director of Biopreparat Yuri Kalinin [see 26 Jan] was the vice-chairman of the Scientific and Technical Advisory Committee responsible for the grant process for the “space biotechnology” theme. Although NASA received warnings from the State Department that some of the institutes being funded had been involved in biological weapons research, NASA was not told to cease collaboration. However, the report found that NASA’s selection and oversight of the projects did not follow State Department guidelines and that NASA officials only briefly visited two facilities. The report concludes that “NASA made one extremely serious misstep. After being provided guidance by the State Department on how to collaborate safely with institutes that had been part of the Soviet biological warfare program, NASA did not follow that guidance. No site visits were scheduled to ensure that NASA funding was not supporting biological warfare research. No funded projects were reviewed for possible biological warfare connections. Indeed, months after receiving guidance from the State Department, that listed “careful vetting of biotech proposals” as one of two key steps to minimize concern when working with such institutes, NASA funded, without reviewing the proposals, three additional projects at institutes that had been part of the Soviet biological warfare program.” One of the projects funded by NASA at the State Research Institute of Applied Microbiology involved studying the freeze-drying of biological materials in space which could be applicable to the freeze-drying food or other materials in space. However, interviewed by *Defense Week*, Ken Alibek [see 23 May] says that when he first started working at Biopreparat, top officials in the Soviet government were discussing using this process to make dry biological weapons agents onboard the Mir space station. Another project at the same facility studied the optimization of expression of recombinant polypeptides which, according to Alibek, “could be used to develop pharmaceutical products — or genetically engineered biological weapons”.

14 October In Northern Ireland, *Andersonstown News* carries an interview with Jim McCann, who, on 16 October 1974, had been one of the republican prisoners who had burned down part of Long Kesh gaol. He states that British forces had used not only CS gas to restore order, but also CR, to which he attributes the subsequent health problems, including cancers, among those exposed. He presents the following account: “[T]hey managed to hem us into one area around the football pitch and then a helicopter appeared from above. It fired gas in clusters, which scattered in mid air, so as to spread the gas over a wide area. By that time we had all been used to CS Gas. It was fired in a large canister and although it was pretty bad if you were caught up in it, it was relatively easy to escape from, because it had a small epicentre. My recollection of that morning is afterwards finding these small cylinders which had CR Gas and MoD clearly marked on them. [...] It was totally effective. Gerry Adams’ memory of its effect was a feeling that he was drowning. I, on the other hand, thought I was on fire. Grown men were shouting for their mothers, we thought we were dying. They didn’t need to use it because anyone could have seen that after the rubber bullets and CS gas we were on our last legs. It was as if they were using us as guinea pigs and that’s why they came

back to take our blood samples. Everyone from loyalist, official to republican will verify what happened.”

The UK Defence Ministry had told Parliament some years previously [see 17 Dec 98] that, although CR had been authorized in October 1973 to be held in readiness for use in Northern Ireland, the ministry had “no records of CR having been used operationally by the Armed Forces.”

15 October In the UK House of Commons, the government responds to the report on weapons of mass destruction by the Foreign Affairs select committee [see 25 Jul]. The response includes this on the committee’s recommendation that the government urge the USA to rescind its “national security exemption” with respect to challenge inspections: “The Government fully supports the terms of the CWC which provide for the use of challenge inspections in cases of serious compliance concerns. The Government will continue to make its views on this subject known to the United States”. Also with respect to the CWC, the government highlights its earlier decision to provide £12 million to the Russian chemdemil effort during 2001–2004. On the BWC and particularly the Ad Hoc Group negotiations the government responds to the committee as follows: “The Government gave a Manifesto commitment to strengthen the BTWC with a legally-binding Protocol. ... We believe that the negotiations are now approaching a crucial phase with just over a year to go if we are to meet the terms of the mandate of the BTWC Ad Hoc Group. It is still difficult to predict with certainty that we can complete our efforts in that timescale given the complexity of the negotiations. We maintain that as our objective.”

15–18 October In Albuquerque, New Mexico, the Cooperative Monitoring Center of Sandia National Laboratories hosts a workshop on *Enhancing the Security of Dangerous Pathogens*. The workshop is jointly sponsored by the Cooperative Threat Reduction (CTR) programme of the US Defense Threat Reduction Agency and the Agricultural Research Service of the US Department of Agriculture. Besides US participants, there are 38 participants from Belarus, Georgia, Kazakhstan, Russia, Sweden, Ukraine, the United Kingdom and Uzbekistan. They consider methods and technologies for making secure the collections of dangerous pathogens at biological research facilities in the countries of the former Soviet Union. A Sandia release states that the workshop supported the Biological Weapons Proliferation Prevention (BWPP) programme that had been established under the CTR programme to increase safety, security, control and accountability of hazardous pathogens, and also to promote transparency in the former Soviet biological-weapons establishment.

16 October In China, the State Council Information Office publishes a white paper on *China’s National Defence in 2000*. In this it is stated that China possesses neither chemical weapons nor biological weapons. In regard to the BWC, the white paper says: “China holds that, in order to strengthen the effectiveness of the BWC, a necessary verification mechanism should be established. In view of the complexity of biological weapons and biotechnology, the verification mechanism to be established must be rational, just and feasible. In order to protect the legitimate security and commercial interests of states parties, concrete measures aimed at preventing the abuse of verification should be provided for. At the same time, there should be concrete measures to promote international cooperation and exchanges among states parties in the field of biotechnology for purposes not prohibited by the Convention.

These measures will be conducive to enhancing the universality of the Convention and the future Protocol.”

16 October At the UN General Assembly in New York, Canada and Poland introduce a draft resolution on the implementation of the CWC into the First Committee. The First Committee considers the draft on 25 October. The representative of Egypt says that while he sympathizes with the general thrust of the draft his country does not consider itself part of any consensus decision, again raising the linkage to Israel’s refusal to join the NPT. Although joining consensus on the draft resolution, the representative of Israel said that the issue of chemical disarmament in the Middle East should be dealt with in a regional context. Israel’s regional security concerns had in fact increased recently but Israel had demonstrated its commitment to chemical disarmament by becoming a signatory to the CWC. The committee adopts the resolution without a vote. The General Assembly adopts it, again without a vote, on 20 November as A/RES/55/33 H.

17 October In Tokyo, where the German Institute for Japanese Studies is presenting a series of public lectures, today’s lecture is by Bernd Martin, Professor of Modern History at the University of Freiburg. His subject is “A Common Past Full of Crimes: Japanese–German collaboration in the development of bacteriological and chemical weapons and the war in China”. The synopsis of the lecture as posted on the internet reads as follows: “It is a known fact that, despite all the declarations made, co-operation between the Axis powers Germany, Italy, and Japan within the Tripartite Pact was none too effective. What has not been known, however, is the fact that in the fields of military medicine in general and biological warfare in particular co-operation did exist to a considerable extent, though carefully hidden from public awareness. Dating back to the 19th century strong links between Japan and Germany had been formed when in the course of the Meiji Reforms Japan had emulated western, mostly Prussian, models to help her own efforts at modernisation. Especially medical science and military medicine had been built up, their curricula set by German medical scientists at Tokyo University. In the 1930s and 1940s, however, roles were reversed: in chemical and biological warfare it was now the Germans that, though reluctantly, made use of the highly advanced Japanese research. In his presentation, the author provides details of the research done and retraces the lines along which the research exchange — especially concerning bacteriological weaponry and experiments on human beings — was carried out, naming the persons responsible and the research institutes at their disposal. Furthermore, he tries to uncover the roots of this kind of ‘perverted medicine’ in the socio-cultural background and the prevailing ideology in both Japan and Germany.”

17 October In Israel, as the situation continues to deteriorate, the army responds to public demand and reopens its distribution centres for gas masks, even though there is no formal gas alert and no suggestion that Palestinians have chemical weapons.

17 October In Kiev, the chiefs of the Ukrainian and Russian emergencies ministries, Vasyl Durdynets and Sergey Shoygu, sign a plan of action for implementing the agreement between their governments on cooperation in coping with industrial accidents and natural disasters. Besides Chernobyl-related work, the two sides note such specific implementing steps as clearing mines and deactivating chemical weapons [see 9 Jun 97 and 2 Dec 97] and ammunition on the territories of the two countries. There is also agreement on survey work in the Black Sea.

Speaking in Moscow two days later about the need, following the Kursk nuclear-submarine disaster, to establish marine rescue centres, Minister Shoygu says that such centres could also be used to monitor, as ITAR-TASS puts it, “the chemical weapons burial sites in the Baltic and Black Seas”.

17 October At the UN in New York, OPCW Director-General José Bustani and UN Deputy Secretary-General Louise Frechette sign an agreement governing relations between the two organizations. The previous day, the general committee of the 55th session of the General Assembly agrees to a Dutch request that an additional item, “Cooperation between the United Nations and the Organization for the Prohibition of Chemical Weapons”, be included in the agenda of this and subsequent sessions. The General Assembly considers this agenda item on 20 October. Many states welcome the signature of the relationship agreement, although Egypt and Syria both raise concerns about the way in which the item was added to the agenda at such short notice. The relationship agreement enters into force provisionally pending its adoption by the OPCW Conference of the States Parties and the UN General Assembly next year.

18 October In France, the composition is announced of the parliamentary mission that is to seek information on the “conditions of engagement of the French military who could have been exposed in the course of the Gulf War to certain specific risks”. A fortnight previously, the National Assembly defence committee [see 13 Sep] had rejected a formal commission of inquiry in favour of a more flexible *mission d'information*, such as has now been composed. The mission is to be chaired by Bernard Cazeneuve, and its membership is to comprise nine other deputies, with all political parties being represented. It will be conducting its inquiries, not only in France (where it will have access to military documents), but also in America, Britain and Canada. Its report is expected during April 2001

19 October From China, Xinhua reports the discovery in Japan of a document from Unit 731 of the Japanese Imperial Army recording the dissemination of plague bacteria [see also 16 Feb 98 and 16 Aug 98] in the northeastern Chinese cities of Nongan and Changchun in an experiment which the news agency says is believed to have killed hundreds of Chinese people. The report states, without further elaboration, that the document had been “found by a Japanese scholar in a library warehouse of a medical college in Japan”. The document, apparently written by an officer in charge of plague research with Unit 731, records in detail the way the plague bacteria was produced and spread, the condition of the affected viscera and the relationship between plague and climate.

19 October In the United Kingdom, *Nature*, which is the leading journal of science, carries an editorial commenting on a recent hearing about Gulf War illnesses before a subcommittee of the US Senate Appropriations Committee. It concludes: “One benefit of the efforts to pin down Gulf War-related illness has been their exposure of the military brass’s tendency to downplay the physical and mental impact of war on all of its participants. In future, governments will accept more responsibility for the long-term welfare of returning troops. In the meantime, there will be no let-up in the political campaign to push for a medical definition of Gulf War syndrome. But as the scant data on who was exposed to what in 1991 fade into the mists of time, scientific grounds for such a definition may well never emerge. The Congress may wish to establish an administrative classification for the health problems afflicting veterans. But it should stop

pressing scientists in effect to invent findings that would support its otherwise admirable impulse to assist them.”

19 October At the UN General Assembly in New York, Hungary introduces into the First Committee a draft resolution on the BWC, while South Africa, on behalf of the Non Aligned Movement, introduces the biennial resolution on measures to uphold the authority of the Geneva Protocol. The latter calls upon all states to observe the principles and objectives of the Protocol and urges states parties to withdraw any remaining reservations to the Protocol. It also requests the Secretary-General to submit a report on the implementation of the resolution to the 57th session of the General Assembly in 2002. The resolution on the BWC notes that the Fifth BWC Review Conference will take place in Geneva during 19 November–7 December 2001. A Preparatory Committee will meet in Geneva during 25–27 April 2001. Regarding the Ad Hoc Group negotiations, the draft calls upon all states parties “to accelerate the negotiations, and to redouble their efforts within the Ad Hoc Group to formulate an efficient, cost-effective and practical regime and seek early resolution of the outstanding issues through renewed flexibility in order to complete the protocol in accordance with the decision of the Fourth Review Conference”. Also introduced by South Africa is a draft resolution on the observance of environmental norms in disarmament treaties.

As requested by the 1999 resolution on the Geneva Protocol, the UN Secretary-General on 6 July had issued a report on the implementation of the resolution. His report stated that by a communication dated 19 October 1999, Canada had withdrawn its reservation to the Protocol. Later, in an addendum to this report, the Secretary-General informs the General Assembly that Estonia had notified the depositary government on 28 May 1999 that it too had withdrawn its reservation to the Protocol.

Later, on 25 October, the First Committee approves the resolution on the Geneva Protocol. The resolution is passed by a recorded vote of 144 in favour to none against, with four abstentions (Israel, Micronesia, South Korea and the USA). On 31 October, the First Committee approves the BWC resolution without a vote. Both resolutions are adopted by the General Assembly on 20 November, the BWC resolution without a vote (A/RES/55/40), and the Geneva Protocol resolution (A/RES/55/33 J) by a vote of 163 in favour to none against, with five abstentions (as in the First Committee vote plus the Marshall Islands).

20 October At the UN General Assembly in New York, OPCW Director-General José Bustani makes a statement under the agenda item on “Cooperation between the United Nations and the Organization for the Prohibition of Chemical Weapons” [see 17 Oct]. In his statement he informs the Assembly of the current status of implementation of the CWC and of the OPCW’s successes in its first three and a half years of operations. He then focuses on the challenges still faced, including chemdemil in Russia and achieving the universality of the Convention. On this last point, he focuses in particular on the Middle East, describing the situation there as one of “utmost concern”. Bustani goes on to say that the non-states parties in the Middle East should “review the approaches which they have been pursuing with regard to the Chemical Weapons Convention and to the regional security agenda in general. Would the security situation in the Middle East improve if all actors were confident that the Damocles sword of the possible use of chemical weapons was no longer hanging over their heads? Wouldn’t an initiative to join the Convention, together with other steps, create a political momentum in which movement on other elements of the security equation would be forthcoming? The fact that

Yemen, Jordan and Sudan have already elected to subscribe to precisely this view indicates that such an approach is not unrealistic in the Middle East environment. Much now depends on the next steps to be taken by other key players. What is needed for the gradual establishment of a zone free of weapons of mass destruction, as proposed by Egypt? Wouldn't accession to the CWC be one of these steps, and a fundamental one at that? I wholeheartedly trust the wisdom of the Egyptian leadership."

Egypt, Iraq, Syria, Libya and Israel all exercise their right of reply to address Bustani's comments on the Middle East. The Arab representatives were surprised that Bustani had not mentioned the security imbalance in the region which prevented them from acceding to the CWC. In particular, they referred to Israel's failure to join the NPT and its possession of nuclear weapons as the real Sword of Damocles in the region. They also criticised his concentration on the Middle East when many other states around the world had also not joined the CWC. The Israeli representative said that Israel had to protect its citizens in a region where other countries possessed chemical weapons. By signing the Convention, Israel was obligated by the moral principle of chemical disarmament.

20 October In Washington, DC, the US and Japan hold the second meeting of the US–Japan Commission on Arms Control, Disarmament, Non-proliferation and Verification. The Commission was chaired by US Under Secretary of State for Arms Control and International Security John Holum and the Director General for Arms Control and Scientific Affairs of Japan's Ministry of Foreign Affairs Norio Hattori. Besides issues related to nuclear and ballistic missile proliferation, the Commission also reviewed the US and Japanese positions on the negotiation of the BWC protocol in the Ad Hoc Group. Both countries reaffirmed their commitment to encourage non-governmental experts to enhance their cooperation in support of the Commission's objectives. Separately, a technical cooperation working group met on 19 October to review the technical assessments undertaken since the Commission's first meeting.

20–21 October In Seoul, heads of state and government from 10 Asian and 15 EU countries participate in the *Third Asia–Europe Meeting* under the chairmanship of the President of South Korea. The final communiqué from the meeting, in the form of a Chairman's Statement, records a wide range of commitments by the assembled leaders. One is expressed as follows: "They reaffirmed their support for [...] an early conclusion of Ad Hoc Group negotiations on measures to strengthen the Biological and Toxin weapons Convention. They further noted the progress made by the [OPCW] in implementing the Chemical Weapons Convention and stressed the need to actively promote universality." The gathering also adopts the *Seoul Declaration for Peace on the Korean Peninsula* which affirms the ASEM partners' "willingness to contribute to measures to build confidence and to enhance peace and security on the Korean peninsula and in the region." This had apparently replaced stronger wording relating to the "proliferation of weapons of mass destruction" at the insistence of China. According to EU External Affairs Commissioner Chris Patten "it's easier to remove weapons of mass destruction from communiqués than it is to remove them from their bunkers. The important thing to do is to remove them from their bunkers."

21 October In Russia, *Izvestiya* carries an interview with the Saratov Region industry minister, Sergey Lisovskiy, about the chemdemil facility being built at Gornyy [see 21–24 Aug], in which he says: "We have deferred the planned opening date of

the facility. It should have taken place by 29 April 2001. In reality, however, it will not be before 2002. The finance Ministry is planning to increase the volume of funding next year: instead of R500m for the entire targeted programme for the destruction of chemical weapons stockpiles in the Russian Federation, R3bn will be allocated. Our facility will get over R1bn." [See also 12 Oct Moscow]

22 October In Germany, *Welt am Sonntag* reports that the Bundeswehr is undertaking genetic research on a scale larger than had previously been publicly known. According to the paper, there are at least 25 research projects underway in Bundeswehr laboratories, ranging from experiments on genetically modified tomatoes, potatoes and soya beans to experiments with anthrax, cholera and plague. The aim of the research, according to the newspaper, is to develop better protection against biological weapons. The article goes on to quote "experts of the federal environment office" saying that the research raises considerable security concerns. The experts indicate that the Bundeswehr's research into antibiotic-resistant potential BW pathogens is particularly "delicate". While the experts quoted accept that the Bundeswehr is not pursuing offensive BW research, they say that the particular projects demonstrate an ignorance of the dual-use implications of defensive research. The article also notes that the research had not been listed in an overview submitted to the Bundestag defence committee. One project funded by the defence ministry which receives special mention concerns the expression of anthrax genes in salmonella. Although for defensive purposes, experts feel that the potential risks from the combination of two highly pathogenic agents should be critically examined. In FY 2000 the Bundeswehr has around three million Deutschmarks to spend on genetic research, so *Welt am Sonntag* reports.

The report attracts much attention in the German media. A defence ministry statement confirms the existence of 26 genetic research projects but emphasises that any research is indeed purely defensive and that "research and development for the production of B-weapons is not and would not either be requested or supported in any manner." The ministry adds that the programme is closely agreed among Germany's NATO allies and that the defence committee of the Bundestag is kept regularly informed. The day after the *Welt am Sonntag* article, the federal environment office distances itself from the views attributed to it saying that the experts consulted were in fact independent scientists who the office had merely suggested the reporter speak to. The environment office also says that after having studied the details it has no concerns about the programmes.

More detail on the Bundeswehr programmes emerges later from parliamentary questioning in the Bundestag. Answering on behalf of the defence minister, his parliamentary state secretary Brigitte Schulte says that R&D projects, studying capabilities for protection against biological weapons, are carried out at military laboratories in Munich and Munster and also in the civil sector when appropriate. She adds that Germany is internationally obligated by the BWC and the Paris Protocols to the 1954 Brussels Treaty not to develop biological weapons and that such activities are prohibited nationally by the "Kriegswaffenkontrollgesetz". She also reveals that the Bundeswehr holds around 500 relevant bacterial, viral and fungal strains for its defensive R&D programme but that no live pathogen strains are currently delivered or exchanged with other states. Inactive samples are circulated between laboratories in Germany and those in Austria, France, the Netherlands, Norway, Sweden, the UK and the US for tests to facilitate the standardization of detection equipment. To a

limited degree, anti-plant pathogens are imported to Germany in the course of scientific cooperation between research institutes.

23 October Colombian Environment Minister Juan Mayr, in London, issues a statement saying that his government has decided against field-testing of *Fusarium oxysporum* as a biological-control agent against illegal coca plantations [see 2 Oct]: "The government has consulted various national experts on this subject and decided not to conduct tests of the fungus. It came to the conclusion that use of any agent alien to Colombia's ecosystem could pose a grave risk to the environment as well as to human health." In Bogota, opposition congressman Rafel Orduz says that the fungus, if used, could kindle "biological warfare" in the Amazon basin, which Colombia shares with Brazil, Bolivia, Ecuador, Peru and Venezuela. The Colombian military would continue its use of the chemical herbicide glyphosate against the plantations.

24 October US Under Secretary of State John Holum, speaking at the International Institute for Strategic Studies in London on "Keeping arms control relevant: ten observations", includes remarks about the BWC Protocol talks [see also 13 Sep]. "First, arms control must have as its preeminent objective strengthening security. [...] Negotiations to strengthen the Biological Weapons Convention are dragging in part because some non-aligned states insist that in exchange for a stronger BWC, we should be prepared to weaken export controls and the Australia Group. That's not a good bargain. [...] Second, build coalitions with your friends. [...] As our current efforts on the BWC attest, it's hard enough to find common ground among Western states, or other aggregates of like-minded countries. The sovereign right to decide one's own self-interest generally will prevail over mutual security, where those are not one and the same. But if we can't always agree, we need at least to consult and to work closely. The US and the UK have a strong tradition of doing this, which serves us both. [...] Fifth, we need to be realistic about verification. [...] But verification will never be perfect, and we should resist efforts by some to insist on that standard. Few would suggest that we should withdraw from the Biological Weapons Convention, for example, because it is difficult to ensure compliance; rather, we should improve it. But, given the nature of the technology, even a strengthened compliance regime, with mandatory declarations and on-site challenge inspections, will not give us full confidence that cheaters will be caught. [...] Ninth, arms control will have to deal with non-governmental organizations and non-traditional tools. Governments will need increasingly to account for the views of business, the NGO community, and others. Businesses are particularly affected, for example, as treaties such as the CWC expand inspection rights. The BWC protocol negotiations are dealing with this issue now."

Asked in an interview for *Washington File* at around this time how efforts were coming along "to bring complete transparency to biological weapons efforts in the former Soviet Union", Secretary Holum responds: "Not as well as we'd like. The bilateral effort hasn't worked. The focus now seeks to strengthen the BWC through multilateral efforts. In 1992 Russia admitted its biological weapons program had not been terminated when it joined the BWC. One of the arguments for developing a Protocol to strengthen compliance with the BWC derives from statements made by then-President Boris Yeltsin."

25 October In Moscow, Finnish Ambassador Markus Lyra and Col Gen Aleksandr Skvortsov, the Deputy Chief of the General Staff of the Russian Armed Forces, sign an agreement whereby

Finland will aid the Russian chemdemil programme in two stages [see also 17 Mar 97]. Under the first stage, Finland will deliver toxic-agent detection and analysis equipment worth 2.4 million Finnish marks (about US \$0.34 million) for installation in Kambarka. In total, Finland has allocated around six million Finnish marks to help in the destruction of Russian chemical weapons.

25 October In Washington, DC, The Henry L Stimson Center publishes *Ataxia: The Chemical and Biological Terrorism Threat and the US Response* by Amy Smithson and Leslie-Anne Levy. In its 319 pages, the report draws upon over 400 print sources and 135 interviews, seeking, in the words of its executive summary, to put the threat of CB terrorism into "proper perspective" and to suggest ways the US government "might use taxpayers' money more wisely to enhance front-line preparedness". Even within the present plethora of US writing on this subject, the Smithson-Levy study is exceptionally rich. Of particular note is the chapter on the activities of Aum Shinrikyo, "Rethinking the Lessons of Tokyo": a comprehensive review of what is now a large literature on the subject, supplemented from interviews conducted in Japan. Here the report records that the sarin attacks on the Tokyo subway system led to 5,510 people being seen by doctors and nurses in 278 Tokyo hospitals and clinics. Of those patients, 17 proved critically ill, 37 severely ill, and 984 moderately ill (meaning that they complained only of vision problems). The remaining 85 percent appeared to be psychogenic patients — the "worried well".

26–27 October In Spain, the government and the OPCW Secretariat co-host a workshop in Seville on legislative issues related to the implementation of the CWC. The workshop is attended by 60 government officials from 48 states parties. Topics discussed include the problem of different codes for trade in dual-use goods, in particular the use of the Harmonized System by customs officials as opposed to the CAS numbers used in the CWC, declaration of the import and export of chemicals between members of customs unions and common markets where such transfers do not require declaration, and the challenges posed by the use of free ports, free trade zones and special regime customs zones. According to the subsequent workshop report, all participants agree that "even for States Parties which already have substantial legislation in place, the way ahead is very challenging. A sustained effort by both States Parties and the policy-making organs of the OPCW will consequently be required for the foreseeable future."

27 October In Russia, the State Duma adopts the federal bill "On removing the reservations regarding the Protocol on banning the use in warfare of asphyxiating, poisonous or other similar gases and bacteriological means which was signed in Geneva on 17th June 1925". Explaining to the Duma why Russia is able to withdraw its reservations, Chief of the General Staff Anatoliy Kvashnin says that Russia does not possess biological weapons. He adds that withdrawal will also "allow us to significantly reduce the concerns expressed by some countries about Russia's observation of the international ban on biological weapons." A foreign ministry statement released to Itar-Tass says that the withdrawal of Russia's reservations to the 1925 Geneva Protocol [see also 29 Jan 92] is "yet further evidence that Russia is devoted to the total banning of biological and chemical weapons". The statement goes on to say that this action "will promote the drawing up in the very near future of a Protocol to the Convention on banning biological weapons in accordance with which a multilateral mechanism for monitoring its observance will be instituted".

27 October In Slovakia, during a ceremony in Novaky to mark the end of the destruction, with US assistance, of the country's remaining SS-23 missiles, the remarks by Defence Minister Pavol Kanis are later quoted by CTK as follows: "relations between Slovakia and the USA had been only complicated by two remnants of the Cold War — a nearby factory producing chemical weapons and the missiles. The factory was closed several years ago".

30 October In Tokyo, German foreign minister Joschka Fischer and his Japanese counterpart Yohei Kono agree seven areas on which they are to focus cooperation. One of them, "contribution to peace and stability of the international community", includes a section on arms control, disarmament and non-proliferation. Among the declared goals are: universal application and complete implementation of the CWC; and an early conclusion to the negotiation of the BWC protocol.

30 October In Paris, during the EU–Russia summit, President Putin, President Chirac, President Prodi and the EU's High Representative for the Common Foreign and Security Policy Javier Solana agree a joint declaration on strengthening dialogue and cooperation on political and security matters in Europe. Among other things, the EU and Russia agree to "extend the scope of regular consultations at expert level on the issues of disarmament, arms control and non-proliferation."

30 October The UK Defence Ministry responds as follows to a question in Parliament about UK assistance to the Russian chemdemil programme [see 15 Oct]: "In July, as part of Spending Review 2000, up to £12 million was allocated to the Ministry of defence for high priority chemical demilitarization and cooperative biological non proliferation projects in Russia. This funding will be available over a three-year period starting in April 2001. A study of possible options for UK assistance is currently under way. No decision[s] on specific projects have yet been taken."

A fortnight previously, *Ural Press* had reported that "Britain will issue £12 million in the next three years to build a plant to demolish chemical weapons in the Shchuchansky district of Chelyabinsk Region".

30 October President Clinton signs into law the FY 2001 National Defense Authorization Act, which the Senate had passed on 12 October and the House on 11 October, acting on a Conference Report completed on 6 October. Authorized for Cooperative Threat Reduction programs is the sum of \$443.4 million, which is \$15 million less than the administration had requested and deletes additional funding for Russian chemdemil support, though it does provide \$12 million for "biological weapons proliferation prevention activities in the former Soviet Union". However, section 1309 makes provision for "Russian Chemical Weapons Elimination" in the following terms:

"(a) Sense of Congress.—It is the sense of Congress that the international community should, when practicable, assist Russia in eliminating its chemical weapons stockpile in accordance with Russia's obligations under the Chemical Weapons Convention, and that the level of such assistance should be based on—

- (1) full and accurate disclosure by Russia of the size of its existing chemical weapons stockpile;
- (2) a demonstrated annual commitment by Russia to allocate at least \$25,000,000 to chemical weapons elimination;
- (3) development by Russia of a practical plan for destroying its stockpile of nerve agents;

- (4) enactment of a law by Russia that provides for the elimination of all nerve agents at a single site; and
- (5) an agreement by Russia to destroy its chemical weapons production facilities at Volgograd and Novocheboksark.

"(b) Report.—Not later than 90 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report that identifies—

- (1) the amount spent by Russia for chemical weapons elimination during fiscal year 2000;
- (2) the specific assistance being provided to Russia by the international community for the safe storage and elimination of Russia's stockpile of nerve agents, including those nerve agents located at the Shchuch'ye depot;
- (3) the countries providing the assistance identified in paragraph (2); and
- (4) the value of the assistance that the international community has already provided and has committed to provide in future years for the purpose described in paragraph (2)."

With regard to US support for the chemdemil facility at Shchuch'ye [see 8 Aug], the new legislation provides no new funding, but the project itself is still authorized as long as conditions (1) through (5) above are met. Condition (4), however, would require new law in Russia.

31 October Israel has been developing improved forms of clandestine chemical weapon since the failure of the assassination attempt on Hamas leader Khalid Mish'al in Amman three years previously [see 25 Sep 97 and 19 Feb 98], so it is reported by the Saudi-owned London newspaper *Al-Sharq al-Awsat*. The newspaper purports to describe the new assassination weapons and the poisons they use, and suggests that they may soon be employed by secret Israeli units operating in the West Bank and Gaza.

31 October The UK government, having been asked in Parliament whether it will consider "requesting a challenge inspection in Sudan by the OPCW to investigate reports and evidence of the manufacture and use of chemical weapons" there, makes the following written response: "We would only consider requesting the OPCW to undertake a challenge inspection where this was warranted by the circumstances of an individual case."

The government then continues its response as though it had been asked only about requesting an investigation of alleged use: "Following allegations of the use of CW in Lainya in southern Sudan in July 1999, 17 environmental samples obtained from the area by Mr Damien Lewis were analysed by DERA, Porton Down for the most likely CW agents and their breakdown products. Although traces of the explosive TNT and its breakdown products were present in 8 of the samples, no evidence was found of the CW agents tested for [see 14 Jun]. Low levels of Arsenic were measured in 15 of the samples at concentrations well within the expected natural limits for environmental samples. We understand that samples from the same site analysed in both Finland and the United States confirmed the UK analyses. The UK therefore concluded that there was no evidence to substantiate the allegations that chemical weapons were used in Sudan. The UK has informed the OPCW and the Sudanese Government of these findings." [see also 1 Sep]

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

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Editors

Matthew Meselson
Department of Molecular and Cellular Biology
Harvard University
7 Divinity Avenue
Cambridge, Massachusetts, 02138
United States of America
[Tel: 617-495-2264. Fax: 617-496-2444]

Julian Perry Robinson
SPRU — Science & Technology Policy Research
University of Sussex
Brighton, BN1 9RF
England
[Tel: 01273-678172. Fax: 01273-685865]

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