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ROUTINE AND CHALLENGE: TWO PILLARS OF VERIFICATION

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The Geneva negotiations on a protocol for verifying compliance with the 1972 Biological Weapons Convention (BWC) have so far been unable to produce agreed provisions for visits of inspectors to declared facilities that are especially suited for possible weapons purposes. A significant factor in this lack of agreement has been the qualified United States support for such visits. Although many US officials have indicated support for the visits, according to Marie Chevrier {*Washington Post*, 21 December 1997} some worry that a strong inspection protocol could create misguided confidence in the compliance of other signatories, thereby undermining budgetary support for military defences. Others are concerned over potential exposure of proprietary information from biological facilities engaged in defence and commercial undertakings.

These issues are not new or unique to the BWC. The “misguided confidence” argument has been part of the debate on every arms control treaty as far back as SALT I. The burden of protecting sensitive information, whether in national security facilities or commercial enterprises, is inherent to the on-site inspection process.

Moreover, the magnitude of the protection burden is directly proportional to the difficulty of distinguishing treaty violations from legitimate activities. The more that there are materials, equipment, human resources and other elements that are common to both legitimate and prohibited activities, the easier it is for a treaty violation to be hidden under the cover of legitimate activities. That is precisely what makes violations of the BWC so difficult to detect. Absent a regime for subjecting legitimate activities to a high degree of transparency, the best way for a violator to carry out a covert programme would be to bury it — piggy-back it — inside a legitimate programme. (As the former Soviet authorities sought to do under their Biopreparat cover.)

Consequently, the more there are common elements between proscribed and legitimate programmes, the more critical is the need for transparency of the legitimate activities. The greater the need for such transparency, however, the greater the challenge to protection of proprietary information. This issue has been confronted in all of the on-site inspection regimes for existing treaties.

The most difficult problems were encountered in the visits required under the Chemical Weapons Convention, where the level of ambiguity between legitimate and proscribed activities is similar in nature to the BWC.

Up to now, the risks to proprietary information have not been judged by US decision makers as sufficient to warrant forgoing the security benefits of incorporating robust verification measures in arms control treaties. Hopefully, the debates on provisions for a strengthened verification protocol for the BWC — whatever the conclusions that result from those debates — will be based on assessments of the benefits and risks to national security rather than parochial concerns.

If this is to occur, however, the strengths and weaknesses of on-site visits have to be addressed in the context of their role in the overall verification architecture.

By employing a “legitimate activity” cover, a treaty violator can avoid the need to conceal the various materials, equipment and activities associated with a proscribed weapons programme — they can be sequestered within a legitimate activity. Only the *purposes* of these elements need be concealed. If the violator can be deprived of the legitimate cover, however, he must conceal the *existence* of all activities involved in the proscribed weapons effort.

Therefore, the defining objective of on-site verification architecture in the major arms control treaties — whether bilateral agreements limiting nuclear delivery means or multilateral treaties limiting conventional weapons in Europe or eliminating chemical weapons globally — has been to deny a potential treaty violator the means for concealing proscribed programmes under the cover of

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legitimate activities. This architecture applied to the BWC would consist of the following requirements:

(1) Each party would be required to submit a “declaration”, identifying by location and description all sites and facilities where there are specified characteristics, such as certain biological agents and equipment and/or activities related to the acquisition, transport and processing of biological materials for legitimate purposes but which could also be especially relevant to possible weapons purposes. A specific intent of this declaration is to establish that the presence of any such specified characteristics, whatever their purpose, at a site that is *not* declared *might* represent non-compliance with the basic prohibitions of the treaty.

(2) Each declared site would be subject to “auditing” visits with no treaty right of refusal. There would of course be limitations such as numerical quotas and rules for conduct designed, *inter alia*, to prevent abuse, but the critical principal should be to make the declared sites “unsafe” for use as cover for proscribed activities. In the current terminology of the Geneva negotiations, such visits would presumably include what are designated as “random” and “clarification” visits, both of which are included in the general category of “non-challenge” visits. In other arms control regimes, non-refusable visits to declared facilities are known as “routine” visits.

(3) Sites that are not declared would be subject to “challenge” visits to resolve issues arising from evidence of the presence of activities that could be part of biological weapons programmes.

The critical element that binds the on-site verification architecture together is that there is no treaty right of refusal for visits to declared sites and that those visits will be carried out in accordance with agreed procedures to meet an agreed minimum level of transparency.

Visits to declared sites are in direct contrast to challenge visits, which are intended for sites not defined in advance. Since any site is technically liable to challenge, such visits must be authorized and conducted under procedures designed to constrain them from being exploited for information gathering outside the bounds of the treaty. These procedures would include requirements for presentation of causal justification for conducting the visit, approval by some treaty-empowered body for adjudicating the case for the challenge, constraints on the amount of transparency that can be imposed, and an ultimate right of refusal by the challenged party.

In combination, these mutually supporting visitation provisions seek to create a synergistic force that presents only bad choices to a state wishing to produce biological weapons:

(1) Carrying out the weapons programme at a declared site — a site that is subject to visits that cannot within the provisions of the treaty be refused. This requires ensuring that all signs of the programme be concealed from the visiting team. Some opponents of a rigorous regime for non-challenge visits argue that the nature of biological weapons programmes is such that this concealment is easily done. Maybe. But how much confidence is the violator to have that this can be done? To what extent is the violator prepared to stake a weapons programme on this gamble?

How does the violator know what kind of information might have been in the hands of the visiting team before it undertook the visit? One argument has been that it takes only a short time after the departure of a visiting team to convert a legitimate biological research facility to production of biological weapons {Alan Zelikoff, *Washington Post*, 8 January 1998}. This is puzzling since it bypasses the issue of covering up all indications that a programme was underway *before* the visiting team arrived. If the cover-up takes place at a facility at which there are otherwise legitimate biological programmes, are all of the personnel working on the legitimate activities privy to the conspiracy? If not, isn't there a risk that the cover-up in anticipation of a non-challenge visit could be detected by citizens who might leak the information further? *Indeed, experience has shown that often it is the cover-up efforts that expose the illicit activity, rather than the illicit activity itself.* All things considered, these are risks that a regime seeking biological weapons probably would wish to avoid if possible. One way of avoiding them is to ensure that there is no regime for non-challenge visits to declared sites, or to ensure that the “rules of engagement” for such visits render them merely symbolic.

(2) Another way to avoid these risks would be to attempt to carry out the weapons programme at a site that is not declared and is therefore not subject to random or other “auditing” visits. This, however, would require perfect secrecy — a “leak-proof” operation. Being perfectly leak-proof means all signs of acquisition, transport, storage, processing, and the related communications, safety, security and personnel actions must be totally concealed. Again, that may be technically possible, but history has demonstrated that total secrecy is seldom if ever maintained indefinitely. The more complicated the activity the more likely that some indications will be exposed, especially when concerted efforts, including advanced technologies, are devoted to discovering them. Any snippets of information indicating, for example, the acquisition or presence of certain biological materials and/or equipment, or employment of biological technicians at an undeclared site, however ambiguous the information, could result in the site being subjected to a challenge investigation. Refusal privilege could ultimately be invoked to block the investigation, but not without causing the activity to be a publicized focus of scrutiny. The more evidence presented to support the challenge the greater is the political burden of refusal, as the challenged site becomes a permanent entry on the “suspect target” list. Given the choices, most producers of weapons of mass destruction prefer to avoid the challenge of “perfect secrecy” by burying the activities under the cloak of an ostensibly legitimate activity, so long as the claim of legitimate activity is not itself at risk of being shown to be false by a “non-challenge” visit.

(3) The third option would be to simply avoid both sets of problems by refusing to become a party to the treaty protocol. That carries its own burden, and helps remove some of the ambiguity for planning countermeasures and designing military target options. The rogues have declared themselves.

It is important to note that the effect of these on-site verification regimes comes from their complementary

nature. The utility of one type of regime is severely reduced — arguably marginalized — if it is not complemented by the other.

Within this architecture the effectiveness of visits to declared sites does not have to be measured against the likelihood that such visits would “catch” a treaty-prohibited weapons programme. Such “catches” have occasionally been made in the routine inspections carried out in other treaties, and they always remains a possibility. Nonetheless, the instances when this has occurred have resulted mainly from slip-ups by the treaty violator — reflecting carelessness, incompetence, hubris, or all three — in allowing the activity to take place under the risk of exposure from the visits. As a practical objective the most important contribution of non-refusable visits to declared facilities is to impede a potential violator’s ability to mask signs of a prohibited weapons programme behind the cover of legitimate activities.

To achieve this effect, however, visits to declared sites must be complemented by the possibility of challenge visits. Otherwise, a weapons programme can be shielded from the risk of exposure to visits simply by carrying it out at undeclared sites. While the violator would still attempt to keep all signs of prohibited biological activity totally secret, the costs of failing to meet this requirement would be reduced by the absence of the threat of a challenge visit. With no treaty provision for challenge, the violator could simply fall back as a last resort on a public denial stonewall, without the burden of having to refuse a challenge visit.

Conversely, the constraints that must be imposed on challenge visits to prevent them from being exploited for critical security and commercial information undercuts their potential for exposing — by themselves — a proscribed programme. But complemented by a no-refusal visit regime for declared sites, the effectiveness measure for a challenge visit to an undeclared site does not have to depend solely on its likelihood of proving the existence of a weapons programme. It only has to demonstrate, through evidence, that the challenged site meets the requirements

for being on the declared list. In that case, the challenged party has been shown to be in non-compliance with the treaty. Compliance could be restored by making an appropriate declaration, placing the site in the “declared” category and thereby automatically subjecting it to non-refusable “auditing” visits from then on. Of course, there is the further possibility that the challenge visit will produce other information relevant to the concerns that gave rise to the challenge.

There have been suggestions (e.g., Zelikoff) that challenge investigations by themselves are the only kind of visits that are needed. Given the potential for abuse of challenge investigations, however, how are they going to be designed to achieve the ability to ferret an illegal programme from the noise level of a legitimate programme without sacrificing the necessary protection of proprietary information? How will the evidential threshold for justifying a challenge investigation be defined for a site already declared to be engaged in legitimate biological activity? Such evidence cannot rest on discovery of the presence of materials and activities arguably engaged in permitted biological activities, since that is what the facilities are declared to be doing.

In the end, all of these considerations have to be balanced against costs and risks. Such cost-risk assessments would be fundamentally flawed, however, if they attempted to evaluate the impact of non-challenge visits and challenge visits separately, rather than as the two halves of an integral structure. This is an architecture within which the weakening or elimination of one pillar has a major impact on the remaining pillar.

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THE CHEMICAL WEAPONS CONVENTION TODAY

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The negotiations on the Chemical Weapons Convention were predicated on a certain set of basic assumptions. Among the most important of these were: (a) that there was general consensus about the need to eradicate this particularly abhorrent weapon of mass destruction globally and in a non-discriminatory manner; (b) that states which hitherto had decades of reservations about accepting verification on their territories were now willing to abandon their rigid rejection of this concept; (c) that the

unprecedented intrusiveness of the challenge inspection system would be so dissuasive that there would be little or no need for actual challenge inspections ever; (d) that the Convention would have no provision for any reservations whatsoever; and (e) that the theoretical abandonment of a chemical weapons option by non-CW holders would be balanced by incentives in the field of technology transfers.

Many of these assumptions have either turned out to be well off the mark, or have just fallen by the wayside in

subsequent years. We are far from certain today that all nations have abandoned the temptation to proceed along the path of chemical weapons. We are far from certain that clandestine production, or preparedness, has been eliminated. We are far from certain that the existing stocks in the hands of the major declared holders are being destroyed at a satisfactory pace. We are far from certain even about the ability of the OPCW Secretariat to deliver on any of the essential technical requirements for a proper implementation of the Convention.

Doubts about the direction and speed of the implementation of the Convention have been created by a wide range of actions by member states. Some of these doubts have been created by a deliberate effort to breach the letter and spirit of the Convention. Others have been created by the gradual emergence of clandestine chemical weapons holders from behind the woodwork of their pious professions of the past.

Most serious also are the reservations which have been expressed by some at the time of their ratification of the Chemical Weapons Convention. The United States, for example, has taken the position that no sample collected in the United States pursuant to the Convention will be transferred for analysis to any laboratory outside the territory of the United States, and that the search of any US facilities by OPCW inspectors would require a judicial warrant first from a United States court. The first of these negates the concept of anonymity in chemical sample analysis which ensures the credibility of results. The second negates the fundamental concept of "anytime, anywhere, without the right of refusal" which underlies the entire verification system of the Convention.

Basically, the verification system of the Chemical Weapons Convention, and the concomitant requirement of inspectors, was initially worked out on the assumption that there were only two or three chemical weapons possessor states. That assumption too turned out to be over-optimistic, with eight or more member states coming out with declarations as chemical weapon possessors. With an inadequate number of inspectors available to carry out the mandate of verification activity, the OPCW has obviously not been able to complete even the initial inspection of all declared facilities within the specified six month period after entry into force.

Many other unexpected problems have also come up in the actual operation of the Convention. The discussion on several important basic technical issues have not yet been adequately addressed, despite the passage of a significant amount of time. Many of these issues have come up as a result of the actions or inactions of states parties, of whom one-third have not filed their initial declarations at all, and many others have filed only incomplete declarations. Within the OPCW Secretariat, the technical issue of how aggregate international data is to be worked out for scheduled chemicals has not yet been decided. Some states are filing exact quantities of chemicals produced, processed or consumed, irrespective of thresholds, while others are basing their declarations only on the quantities that exceed the respective thresholds. All in all, therefore, it is still difficult to have a complete global picture about CWC-

related activities in terms of their impact on the workload of the OPCW.

By and large, however, the major blow which has come to the Chemical Weapons Convention is because of serious inconsistencies that have emerged between the positions that were initially taken during the negotiations, and the facts as they have actually turned out subsequently. South Asia is a case in point. On 19 August 1992, India and Pakistan signed a Joint Declaration against the development, production, or acquisition, of chemical weapons in South Asia. They also agreed not to assist, encourage or induce in any way, anyone to engage in the development, production, acquisition, stock-piling or use of chemical weapons. Five years later, India ratified the Convention as a non-chemical-weapon state, and did not declare any chemical weapons while submitting an initial declaration on 29 May 1997. A month later, however, India declared a large arsenal of chemical weapons, including production facilities, storage facilities, and munitions. This was a rude surprise for Pakistan, as it constituted a blatant violation of solemn agreements.

There were many doubts both in the South Asian region itself, and beyond, that the obvious inconsistencies between the solemn statements and agreements subscribed to by India, and its actual disclosures of an obvious and long-standing clandestine production of chemical weapons, would lead Pakistan not to ratify the Convention at all. Despite that, Pakistan did ratify. It did so after mature consideration of the issue, partly because chemical weapons have no role in Pakistan's defence doctrine, and partly because of the conviction that these weapons must be eliminated and eradicated altogether from South Asia. It is now Pakistan's hope that the declared Indian chemical production facilities and stockpiles would be speedily destroyed, and that measures will be taken to ensure that no clandestine facilities or stockpiles are left over or concealed.

At the time of the negotiation of the Chemical Weapons Convention, great emphasis was placed on the need for universality as an essential component for the success of the system. That universality has not been attained in several regions. Even in South Asia, not all the states of the region have ratified the Convention. In the absence of universality in regions like South Asia, there is no guarantee that possessors or producers of chemical weapons may not seek to prolong their chemical weapons status by mis-using the territory of the other regional states which have not yet ratified the Convention, and who may therefore lie outside the purview of its intrusive inspection system.

Chemical weapons remain a major danger in today's world, almost as they did before the Chemical Weapons Convention was signed. The political conviction is certain in the vast majority of member states that this category of weapons must be eliminated. Unfortunately, the temptation remains on the part of others to continue to somehow hold on to these chemical weapons. There is no doubt whatsoever that the CWC system can work only if it is universal, hence the need to ensure that all those who oppose its objectives from the outside, or who sabotage its functioning from the inside, are brought into line speedily.

A LEAN ORGANIZATION TO STRENGTHEN THE BIOLOGICAL WEAPONS CONVENTION

Graham S Pearson
HSP Advisory Board

Introduction

The Ad Hoc Group (AHG) of the States Parties to the Biological and Toxin Weapons Convention (BWC or BTWC) negotiating a Protocol to strengthen the Convention have touched from time to time on the question of the organisation needed to implement the legally binding instrument being negotiated to strengthen the BWC. Now that the work of the AHG has intensified with the fleshing out of a rolling text for the legally binding instrument, the nature of the organisation is receiving more and more attention as its size and cost are likely to influence the nature and effectiveness of the regime developed by the AHG.

This article briefly considers what can be learned from existing relevant organizations, notably the World Health Organization (WHO) and its counterparts for animal and plant diseases — OIE and FAO — and the United Nations Special Commission (UNSCOM) on Iraq. It then examines the detailed information available for the Organization for the Prohibition of Chemical Weapons (OPCW) to analyse the likely size and strength required for a lean and effective organization to implement the Protocol to strengthen the BWC. It is emphasised that these estimates are necessarily broad as the actual size of the organization will depend on the precise functions and responsibilities that it is given.

WHO, OIE and FAO

The World Health Organization was established as a specialist agency within the United Nations in 1948 by 61 Governments “for the purpose of cooperation among themselves and with others to promote the health of all people”. By July 1996, the number of member states had grown to 190.

The Constitution of the WHO sets the attainment by all peoples of the highest possible level of health as the ultimate objective of the WHO and its member countries. *World Health Report 1996* states that the primary focus of the Organization’s work is to continue to be the enhancement of countries’ capacity to define and implement their own priorities for health developments and public health action, disease prevention and health promotion and to establish sustainable health infrastructures. The 1996 Report concentrates on the work of the WHO in fighting disease and on its work to counter new and re-emerging disease which was strengthened by the World Health Assembly resolution in 1995. This requested the Director-General of the WHO *inter alia*:

to draw up plans for improved national and international surveillance of infectious diseases and their causative agents, including accurate laboratory diagnosis and prompt dissemination of case definition, surveillance information, and to coordinate their implementation among interested Member States, agencies and other groups.

to establish strategies enabling rapid national and international responses to investigate and to combat infectious disease outbreaks and epidemics including identifying available sources of diagnostic, preventive and therapeutic products meeting relevant international standards

It is clear that the emphasis of the WHO is to address the health implications of any serious outbreaks of disease and that the success of its work depends on the rapid reporting to the WHO of such outbreaks. The importance of a global surveillance programme to recognise and respond to emerging disease is paramount as there can be no response until an outbreak has been recognised and reported. It is only then that the WHO can respond rapidly and efficiently to calls for help in such emergencies and achieve its aim of having a team of experts at the location of an outbreak anywhere in the world within 24 hours of the WHO being officially notified of it.

The provision of information to the WHO on outbreaks is thus the foundation of its work to counter such outbreaks. It is in the interests of all countries for such outbreaks to be rapidly notified and countered — hence there is a clear need for the activities of the WHO in being notified of and responding to outbreaks to be kept separate from political considerations which can only introduce delay and increase the difficulties of containing and countering an outbreak. However, central to the WHO’s surveillance network is the timely and rapid provision of information to all concerned frequently through the EMC (Division of Emerging and other Communicable Disease Surveillance and Control) site on the World Wide Web.

The Office International des Epizooties (OIE) was established on 25 January 1924 by an agreement signed by 28 countries. As of December 1996, the OIE had 144 member states. The OIE is located in Paris and as the world organization for animal health, a main objective of the OIE is to inform governments of the occurrence and course of animal diseases throughout the world, and of ways to control these diseases. A principal product of the OIE is the provision of information. Notably, information is transmitted immediately by facsimile, telex or electronic mail to member countries upon the occurrence of any new outbreaks of highly contagious diseases.

The Food and Agriculture Organization (FAO) was established in October 1945 as a specialized United Nations agency following a meeting of 44 states. Today FAO has 174 member states together with the European Commission. The FAO has its headquarters located in Rome and as the world organization for food and agriculture, FAO has a mandate to raise levels of nutrition and standards of living, to improve agriculture productivity, and to better the condition of rural populations. Since its inception, the FAO has worked to alleviate poverty and hunger by promoting agricultural development, improved

nutrition and the pursuit of food security — the access of all people at all times to the food they need for an active and healthy life. The FAO offers direct development assistance, collects, analyses and disseminates information, provides policy and planning advice to governments and acts as an international forum for debate on food and agriculture issues. It is relevant to note that the FAO emphasises that its role as a “neutral forum” is closely tied to its work as an adviser to governments.

An Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) is operated by the FAO. This system was established in June 1994 as an FAO priority programme. The animal diseases component of EMPRES aims to strengthen FAO’s role in preventing, controlling and, when possible, eradicating diseases that are highly contagious and may spread rapidly across national borders. EMPRES aims to contain, control and progressively eliminate the most serious epidemic livestock diseases by mobilizing international cooperation on a regional and global basis, involving early warning, early and rapid reaction, enabling research and coordination.

The WHO, OIE and FAO exist principally to help improve world public and animal health, food and agriculture. In this they have successfully established effective working relationships over time with individual countries which provide timely information to the organizations on the changing situation in their countries. The fundamental role of these three organizations is in alerting the global community to outbreaks of disease and countering them; they have developed their relationships with states to acquire and disseminate information about outbreaks of disease and to establish international global epidemiological networks. Their clearly recognised neutrality is essential for their effective operation. These organizations work together to help countries improve their national capabilities and the information that they provide to their member states and to international organizations will be of immense value to a future organization to strengthen the BWC. However, it is evident that it would be inappropriate — and indeed a retrograde step insofar as the primary roles and functions of the WHO, OIE and FAO are concerned — for any of them to be asked to undertake a monitoring or other role on behalf of the BWC organization for this could compromise their neutrality.

United Nations Special Commission on Iraq

UNSCOM was established in April 1991 by United Nations Security Council resolution 687 (1991), the cease-fire resolution at the end of the 1990–91 Gulf War. UNSCOM was given a mandate to “Carry out immediate on-site inspection of Iraq’s biological, chemical and missiles capabilities, based on Iraq’s declarations and the designation of any additional locations by the Special Commission itself”; and to oversee “the destruction, removal or rendering harmless ... [of all] chemical and biological weapons and all stocks of agents and all related subsystems and components and all research, development, support and manufacturing facilities” as well as to develop “a plan for the future ongoing monitoring and verification of Iraq’s compliance” with its undertaking not to use, develop, construct or acquire any of the above items.

The past six years has seen the carrying out of over 200 UNSCOM inspections mounted from outside of Iraq; over 50 of these have been biological weapons inspections. These inspections mounted from outside Iraq have been limited by the capability of UNSCOM to support such inspections and normally not more than two missions are in country at any one time. Insofar as the ongoing monitoring and verification system is concerned, this became operational some three years ago with inspections being carried out by a team of inspectors located at the Baghdad Monitoring and Verification Centre. Typically, some 700 inspections have been carried out over a six month period; some 240 of these have been biological monitoring of some 90 sites with 893 items of equipment being tagged.

The experience of UNSCOM in respect of biological inspections and monitoring is thus relevant to considerations of an organization to carry out the implementation of a strengthened BWC. However, it has to be recognised that UNSCOM is a unique organization. The staff of UNSCOM in the Headquarters in New York and the Baghdad Monitoring and Verification Centre are made up primarily of personnel seconded by supporting governments together with a small number of UN staff, both professional and support.

Personnel are seconded to UNSCOM by member states of the United Nations for periods of time ranging from a few days (e.g., to participate in a meeting or seminar at the United Nations in New York) to a few weeks (e.g., for a specific inspection mounted from outside Iraq) to several months (e.g., to join a monitoring group in Baghdad) or to several years (e.g., as a member of the UNSCOM staff in New York).

It is the fact that UNSCOM is largely staffed by personnel from supporting governments that makes UNSCOM an atypical UN organisation as it enables the Executive Chairman to request additional staff with specific skills very quickly from supporting governments without the necessity to follow the normal UN procedures for recruiting staff which are lengthy and require an appropriate geographical distribution. This inherent flexibility of UNSCOM is further augmented through the support in kind, such as equipment, provided by supporting governments which avoids the necessity for the normal UN bidding process for the purchase of equipment.

Although this flexible arrangement in respect of personnel has worked, the ability of UNSCOM to create specialist teams of inspectors at short notice has been limited and has resulted in operational penalties. The specialist experts generally have many other commitments and their availability depends on their ability to fit in an UNSCOM activity of a few weeks into their schedule.

The effectiveness of UNSCOM has depended greatly on those members of its staff which have been seconded to UNSCOM for several years or who have participated on a regular basis. It is clear that Iraq has been quick to exploit any gaps in continuity. UNSCOM staff involved in missions to Iraq have essentially learnt on the job. Over the past few years it has been recognised that well qualified scientists are not necessarily well qualified to lead inspections, to be physically fit enough to carry out inspections in a harsh environment, or to have the mental

toughness needed to work under pressure in difficult circumstances. A further example of the importance of continuity is that UNSCOM chief inspectors have increasingly been appointed from the UNSCOM staff, especially for declaration verification missions. This has greatly contributed to the effectiveness of such missions as such chief inspectors are intimately familiar with the nuances of the series of Iraqi declarations and are likely to have also participated in the seminars with Iraqi personnel which have sought to clarify and augment the declarations. An efficient and effective inspection team has to be trained to work as a team; the value of inspections is greatly enhanced when each individual knows what to look for as part of the team. Furthermore, the protection of commercial proprietary information in the context of UNSCOM inspections in Iraq by part-time inspectors, who are seconded to UNSCOM for two to three weeks to carry out a specific inspection and then return to their national positions, has not been a particular problem.

The salaries of seconded personnel are paid by the supporting governments who also pay the costs of the equipment and other services provided to UNSCOM. Such costs can only be estimated. The UNSCOM report S/1995/1038 of 17 December 1995 to the Security Council said that “the Commission estimates that contributions in kind from various Member States have covered about two-thirds of the total cost of its operations.” The same report goes on to note that the cash costs of UNSCOM to date have amounted to around \$20 to \$25 million a year. If anything, it might be expected that these December 1995 figures could be on the low side as in mid 1995 Iraq had only just admitted its biological weapons programme to UNSCOM. A round figure of \$100 million a year would seem reasonable for the total cost of UNSCOM.

The OPCW

The Chemical Weapons Convention (CWC) is the arms control treaty that is of greatest relevance to the BWC. The CWC, which opened for signature on 13–15 January 1993 and entered into force on 29 April 1997, comprises a regime of comprehensive declarations together with both routine and challenge inspections as well as provisions for the investigation of alleged use and the monitoring of the destruction of declared chemical weapons and chemical weapon production facilities. The CWC provides for the establishment of the OPCW located in The Hague with responsibilities for implementing the Convention. The relevance of the provisions of the CWC to the BWC is three fold. First, both conventions prohibit the development and production of weapons which attack people — in the one case by non-living materials (chemicals) and in the other by living materials (micro-organisms) and their non-living products (toxins).

Second, there is an overlap — and rightly so — between the two conventions in that both cover toxins. Thus the CWC and its verification regime applies to toxins — and examples of toxins, such as saxitoxin and ricin, are listed in the CWC Schedules — as does the BWC. Third, it is much more closely relevant than the nuclear Non-Proliferation Treaty, the Comprehensive Test Ban Treaty or the International Atomic Energy Agency’s 93 + 2 programme.

The structure and provisions of the CWC are thus well worth examining as, in order to reach agreement on the CWC, the negotiators had to resolve many issues which will arise in similar, if not always identical, form in the BWC context.

It is therefore particularly relevant to examine the provisions relating to organization in the CWC in order to draw out what is potentially relevant to an organization for the implementation of a strengthened BWC. Article VII of the CWC required each state party to designate a National Authority for domestic implementation. Article VIII established the OPCW as the international authority to achieve the object and purpose of this Convention, to ensure the implementation of its provisions, including those for international verification of compliance with it, and to provide a forum for consultation and cooperation among states parties.

Detailed information is available on the structure of the OPCW and on the costs associated with its activities. In September 1997, there were 405 approved posts, made up of 265 headquarters staff and 140 inspectors {OPCW document, S/14/97, 11 September 1997}. The staff are divided into four Administrative and Other Divisions and two Verification Divisions as follows:

A1	Executive Management	Director-General, Deputy DG, Health & Safety, etc	31	
		Office of Legal Adviser	9	
		Secretariat for Policy Making Organizations	36	76
A2	Administration			74
A3	External Relations			15
A4	International Cooperation and Assistance			10
Sub-total				175
V1	Verification			64
V2	Inspectorate	26 + 140 Inspectors		166
Sub-total				230
Overall Total				405

Close to 60% of the personnel is thus for verification and inspection with the balance primarily in management and administration. For 1998, the budget is based on a total of 491 posts which are made up of 303 (62%) for verification and inspection and the balance of 188 (38%) for management and administration. The increased number of posts is made up of 71 further inspectors and 15 additional posts approved for 1998.

The costs associated with these 491 posts are set out in the 1998 budget. As the CWC entered into force on 29 April 1997, it is more informative to examine the budget for the full calendar year 1998 rather than considering the costs for the part year 1997. The budget information broadly follows the organizational structure although an additional Administrative element is used for common services which are not distributed to specific programmes.

Approximately 60% of the budget is for verification and field operations with the other 40% primarily for management and administration; external relations and international cooperation account for about 6% of the total budget. For 1998 the budget is as follows:

	Dutch Guilders
A1 Executive Management	17,991,500
A2 Administration	13,563,000
A3 External Relations	2,918,400
A4 International Cooperation & Assistance	4,996,400
A5 Common Services not Distributed to Programmes	17,999,000
	57,468,300
V1 Verification	18,912,100
V2 Inspection Management & Field Operations	64,416,600
	83,328,700
Total	140,797,000

The OPCW annual budget is thus about US\$70 million a year (assuming an exchange rate of 2 Dutch Guilders to \$1).

There is, however, an important qualification in respect of the inspection costs included in V1/V2 in regard to the costs associated with the implementation of Article IV (Chemical Weapons) and of Article V (Chemical Weapons Production Facilities) of the Convention. Each state party has to reimburse the costs to the OPCW of verification of storage and destruction of chemical weapons and of verification of destruction of chemical weapons production facilities, unless the Executive Council decides otherwise.

The estimate in 1998 for the reimbursable expenses from those member states where Article IV and Article V verification activities are carried out is some US\$5 million.

It is equally important to recognise that in respect of the strengthened BWC, there are unlikely to be comparable costs relating to the destruction of biological weapons as no state has so far admitted possession of such weapons. After all, Article II of the BWC required each state party to destroy proscribed items within nine months of entry into force. As entry into force of the Convention took place in 1975, the deadline for destruction or diversion has long since passed. Insofar as past biological weapons facilities are concerned, the dual use nature of such facilities is likely to result in such facilities being converted with only biological weapons unique equipment being destroyed. Although it is possible that there will be additional verification requirements for such past biological weapons facilities, the associated costs are unlikely to be large and will not significantly modify the estimates developed in this article for the size and cost of the organisation needed to implement a strengthened BWC.

The detailed information available for the OPCW and its activities can usefully be analysed further. The *1998 Programme of Work and Budget* provides estimates for the numbers of different locations to be inspected, the numbers of inspections, the inspection team size, the inspection duration, and the annual frequency of inspections. These figures are based on the number of inspections that would be conducted in the Russian Federation and in one other hypothetical state party that declares as a chemical weapon possessor; should no state party, other than the Russian Federation, declare as a possessor in time to be inspected in 1998 then more inspections of non-chemical weapon sites would take place in 1998.

Type of inspection	Number of sites	Number of Inspections	Inspection team size	Duration on site, hours	Annual Frequency
CW production facilities	17+19+7	52	3–9	120	0.3–2
CW storage facilities	26+8	68	6–10	120	2
CW destruction facilities	4+4+2	[90]	7–18	Contin.	Contin.
Old and abandoned CW	42	14	5	120	As nec.
Schedule 1	40	30	3–4	48	0.5
Schedule 2	400	68	5	96	1 in 3 yrs
Schedule 3	500	4	5	24	Limited
Total		326			
Article IX and X activities†		8			

†These activities cover challenge inspections and investigations of alleged use. The 1998 budget document states that such activities, in terms of the numbers or durations, cannot be predicted in advance and no estimate is made for their costs. For budgetary purposes, the required personnel and equipment would be drawn from available resources and such resources will be organised to ensure a sufficient surge capability to carry out these activities as required. The planning assumptions are based on 8 such incidents in a year with an unspecified number being the subject of an OPCW inspection/investigation.

The inspection team numbers and resources needed to carry out the 326 inspections planned in 1998 — 224 of which are of chemical weapons facilities and 102 of which are of scheduled-chemical facilities — are detailed in the 1998 budget as follows:

Post	Number
Team Leader	21
Senior Inspectors	100
Inspectors	72
Technical Inspection Assistants	12
Total	205†

†The authorized number of inspectors in 1998 is 211 — however, only 205 are assumed to be available in 1998

The costs for the inspection management and field operations are as follows:

Item	Cost
Salaries and CSC costs	46,616,600
Inspector travel	7,000,000
Inspector per diem	4,000,000
Inspection equipment	5,000,000
Interpretation	2,000,000
Total	64,416,600

Insofar as considerations of an organization to implement a strengthened BWC are concerned, the inspections of weapon production facilities, storage areas, destruction facilities and old and abandoned weapons in the above table can be disregarded as not being relevant.

Indeed, it is evident that the costs of the verification of such chemical weapon production facilities, storage areas, and destruction facilities fall under Articles IV and V and are thus born by the state party concerned. The OPCW budget for inspection management and field operations distinguishes between the chemical weapon-related and the schedule-related facility inspections.

Using the above data, the number of inspector-days actually used in inspections at each of the facilities can be calculated using the average inspection team sizes:

Type of inspection	Number of Inspections	Inspection team size	Duration† on site, days	Inspector-days per inspection	Inspector-days per year
CW production facilities	52	3–9	5+3	6x8=48	48x52=2496
CW storage facilities	68	6–10	5+3	8x8=64	64x68=4352
CW destruction facilities	[90]	7–18	Cont.	12.5x28=350	350x9=3150
Old and abandoned CW	14	5	5+3	5x8=40	40x14=560
Subtotal	224				10,558
Schedule 1	30	3–4	2+3	3.5x5=17.5	17.5x30=525
Schedule 2	68	5	4+3	5x7=35	35x68=2380
Schedule 3	4	5	1+3	5x4=20	20x4=80
Total	326				13,543

†Duration is the number of days on site plus 3 days needed for getting to and from the site.

The 1998 planned overall total inspector-days used in inspections per year is thus 13,543; this is made up of Scheduled facility inspections totalling 2,985 days (525+2380+80=2,985) or 22%, and chemical weapon-related inspections totalling 10,558 days (2496+4352+3150+560=10,558) or 78%. It needs to be recognised that the 1998 figures are based on a high number of chemical weapon-related inspections. As already noted, if no additional state party, other than the Russian Federation, declares as a chemical weapon possessor in 1998, then the number of inspections to schedule-related facilities would increase. In addition, the proportion of inspections to Scheduled facilities will increase as chemical weapons and facilities are destroyed over the coming years. It is therefore judged to be more representative to consider inspections to schedule-related facilities as being some 20 to 30% of the inspection activities of the OPCW.

Consequently the OPCW manpower and budget, using the 1998 budget figures and a figure of 25% as an indication of the proportion of schedule-related facility inspections, can be summarised in broad terms as follows:

Activity	Personnel	Cost
Management & Administration	33%	35%
External relations & international cooperation	5%	6%
CW related verification	47%	}59%
Scheduled facility verification	15%	

Ad Hoc Group

The Ad Hoc Group has increasingly started to address the organization that will be required to implement a legally binding instrument to strengthen the BWC. At the seventh session in July 1997 working papers prepared by the Netherlands {WP.186} and by South Africa {WP.152} were introduced. The Netherlands working paper stated that the language proposed for the Article in the rolling text dealing with organization had been drawn, as might be expected, extensively from the relevant language in the CWC and the Comprehensive Test Ban Treaty. At the same session South Africa also produced two working papers which addressed the laboratory functions {WP.153} and the laboratory support {WP.160} needed in support of

investigations of non-compliance concern. From these papers language was introduced into the rolling text annexed to the procedural report of the seventh session.

At the eighth session in September/October 1997, there was relatively little change to the text in Article IX although a further working paper by South Africa {WP.202} addressed the organisation of the technical secretariat. In the rolling text of 6 October 1997, Article IX on organization and implementational rearrangements was reorganized with much of the detail on the technical secretariat together with additional material being incorporated in a new Annex (H) entitled The [Technical] Secretariat. There is considerable duplication between text on the technical secretariat in Article IX and that in Annex H. This situation was continued in the January 1998 version of the Protocol. Some of this leads to significant variation between the text in one part and that in another — a particular example relates to the role of the Technical Secretariat in conducting visits and investigations. Article IX, para 41 states that the Technical Secretariat functions shall include:

[(f) Conducting [[Non-Challenge][Random]Visits][and] [Clarification Visits][Request Visits][Confidence-Building Visits][Voluntary Visits] in accordance with the provisions of Article III, Part F and of Annex G;]

(g) Receiving requests for [investigations to address a non-compliance concern][field and facility investigations][challenge inspections] and processing them, carrying out the preparations for, and *providing technical support during the conduct of [investigations to address a non-compliance concern][field and facility investigations][challenge inspections]*, and reporting to the [Executive Council] [Consultative Council];]

whereas Annex H para 20 states that the Technical Secretariat functions shall include:

(c) *Initiate and perform investigations of non-compliance concern* in accordance with Article III and Annex D;

(i) [Conducting [[Non-Challenge][Random] Visits][and] [Clarification Visits][Request Visits][Confidence-Building Visits][Voluntary Visits] in accordance with the provisions of Article III, Part F and of Annex G;]

It is assumed that the much better language in Annex H will be incorporated into Article IX in later versions of the rolling text, or that the paragraphs are indeed removed, as proposed by a footnote in Article IX. It is vital that the Technical Secretariat of the BWC organization be responsible for carrying out all visits and investigations.

This article is focused primarily on the optimum size and cost of the future organization. Consequently, attention is concentrated on those elements of the rolling text of most relevance to these aspects. Much of the language in the rolling text is comparable, as might be expected, to that in the CWC for the OPCW. However, the current rolling text has language, albeit in square brackets and to a lesser extent than did previous rolling texts, about the possible role of part-time staff in the Technical Secretariat. Whilst the option of being able to call upon part-time staff — to complement a full time chief inspector and a core inspection team made up of full-time staff — may be valuable for investigations of unusual outbreaks of disease or for investigations of a particularly specialist plant,

part-time staff are unlikely to be appropriate for the baseline functions of the Technical Secretariat in evaluating declarations and in carrying out visits and investigations.

The experience gained by UNSCOM over the past seven years has demonstrated that whilst it has been possible to carry out the work of UNSCOM in Iraq by part time staff, this has worked well for UNSCOM because of its unique nature and focus on the activities of a single state.

There are numerous lessons which show that such a dependence on part-time staff would not be as effective or appropriate in implementing a multilateral arms control treaty. These include the following:

- UNSCOM has functioned through supporting states being approached by the Executive Chairman to provide specific expertise and equipment as required for particular missions in Iraq. This has enabled UNSCOM to react rapidly to developments and operate with much greater flexibility and speed than would have been possible for a fully UN staffed organisation.
- The effectiveness of UNSCOM has depended greatly on those members of its staff who have been seconded to UNSCOM for several years or who have participated on a regular basis.
- UNSCOM chief inspectors have increasingly been appointed from the UNSCOM staff especially for declaration-verification missions. This has greatly contributed to the effectiveness of such missions as such chief inspectors are intimately familiar with the nuances of the series of Iraqi declarations and are likely to have also participated in the seminars with Iraqi personnel which have sought to clarify and augment the declarations.
- UNSCOM staff involved in missions to Iraq have essentially learnt on the job. Over the past few years it has been recognised that well qualified scientists are not necessarily well qualified to lead inspections, to be physically fit enough to carry out inspections in a harsh environment or to have the mental toughness needed to work under pressure in difficult circumstances.
- An efficient and effective inspection team has to be trained to work as a team. The value of inspections is greatly enhanced when each individual knows what to look for as part of the team.
- Part time staff provided to UNSCOM for missions to Iraq generally have many other commitments and their availability is frequently limited.

Whilst the above lessons can be drawn from UNSCOM experience, it is also worth emphasising that the concern about the protection of commercial proprietary information demands that the future organization depend on full-time staff appointed to the organisation on multi-year contracts and with their loyalty to the organization. It is after all the investigations which will probe deeply into the activities at particular sites — and if they are to be credible, will need to address fully the circumstances that led to the non-compliance concern. It is also significant to note the considerable effort that the OPCW has needed to put into the training of their full time inspectorate. A solution depending on part-time staff to carry out investigations is simply not credible.

A Lean Organization

It is evident that, for an effective strengthening of the BWC, there will need to be an organization to implement the legally binding instrument. The organization will need to liaise with the national authorities of the states parties to collect, analyse and evaluate the mandatory declarations, carry out the non-challenge visits, both random and focused, and conduct investigations of non-compliance concerns and of the alleged use of biological and toxin weapons. There is broad agreement that such an organization should be “lean and mean” — and that it should concentrate on those activities necessary for strengthening the BWC.

The organization will need to develop links with other international organizations — notably the OPCW as both the CWC and the BWC will address the prohibition of toxins, as well as the international organizations concerned with human, animal and plant diseases. It will, however, be important to avoid unnecessary duplication of activities with organizations such as the WHO, FAO and OIE which are far better placed to acquire and disseminate information about outbreaks of disease and to establish international global epidemiological networks. Likewise, there are several activities stemming from the Rio Earth Summit of 1992 and from the Convention on Biological Diversity which, whilst being of potential relevance to the BWC, should not be duplicated by the future BWC organization. The language in Article VII (Scientific and Technological Exchange for Peaceful Purposes and Technical Cooperation in respect of [Institutional Mechanisms and] International Cooperation) strikes the right note:

[The BTWCO shall establish a cooperative relationship, maintain working ties and when necessary conclude agreements and arrangements...and develop joint programmes with relevant organizations, bearing in mind the need to avoid duplicating existing activities and mechanisms; [including [OPCW] WHO, FAO, IOE, UNIDO, ICGEB, UNEP and other agencies engaged in the implementation of Agenda 21 and the Convention on Biological Diversity (CDB) in order to, inter alia,]

(a) Derive the greatest [possible synergy][benefits] in such fields as

- (i) the collection and dissemination of information on listed pathogens;
- (ii) sharing information on environmental release of genetically modified organisms;....

(b) Maintain a record of cooperative activities promoted by international organizations in areas considered relevant to the BTWC, to raise awareness of and facilitate access to those activities by States Parties ..., and coordinate with those organizations its own promotional activities;

The square brackets around ‘OPCW’ here should be removed since a cooperative relationship with the OPCW will, for the reasons already stated, be essential.

A less practical approach is suggested in one paragraph of Article IX [[The Organization][and Implementational Arrangements] which unrealistically suggests that the verification responsibilities should be entrusted to organizations such as the WHO:

[The Organization shall conclude an agreement(s) with the relevant specialized international organizations such as WHO which shall be entrusted with the verification respon-

sibilities determined by this Protocol and with the rendering of conference, logistic and infrastructural support required by the Organization.]*

* The view was expressed that tasking other international institutions and organizations such as the WHO with central functions raises legal, organizational and political concerns to be investigated further.

That the unrealistic nature of this paragraph is recognised by at least some members of the AHG is shown by the square brackets around the entire paragraph and the footnote. Such an approach is impractical as it fails to recognise the fundamental role of the WHO, FAO and OIE in alerting the global community to outbreaks of disease and to countering them. A suggestion that such organizations should implement the verification responsibilities of the Protocol would jeopardize the primary function and the neutrality of such organizations as States would be reluctant to provide information if they thought that the organization concerned was going to use it to judge whether they were compliant with the BWC. There is a clear need for the BWC organization (BWCO) to use fully the information collected and disseminated globally by organizations such as the WHO, FAO and OIE — but not to task them to carry out activities on behalf of the BWCO.

A lean BWCO could therefore be expected to have a structure comprising:

- Director-General
- Administration
- International Relations & Cooperation
- Compliance Monitoring & Visits/Investigations

This would comprise a permanent staff. It would be possible to include provision for the Director-General to have the authority, as he judged fit, to augment the teams investigating allegations of unusual outbreaks of disease by additional qualified and trained experts on a part-time basis.

The essential technical expertise and capabilities would be embedded in the organization in the sections concerned with International Relations & Cooperation and with Compliance Monitoring & Investigations. The proposal that there should be a small organizational laboratory supported by accredited international laboratories, which is similar to the arrangements under the OPCW, is sensible. There should be no necessity for the number of staff in the BWC organizational laboratory to be more than the number (4) in the OPCW Laboratory.

By considering the information available on the OPCW it is possible to estimate the possible number of posts needed for a BWCO. The following assumptions for the BWCO have been made for the purposes of this article:

- The numbers of visits and investigations will be about 30% of the 300 to be carried out by the CWC, i.e., about 100 a year and hence the required number of staff to carry out these visits and investigations will be about 30% of the 303 OPCW posts in 1998 for CWC verification and inspection.
- The numbers of declarations made to the BWCO are assumed to be comparable to the numbers made to the OPCW. Although current OPCW numbers for Schedule One, Two and Three facilities are 40, 400 and 500 respectively (totalling 940), these are indicated in

the 1998 budget as being low estimates which may rise to 40, 950 and 1500 respectively (totalling 2450). It is assumed that there will be no comparable declarations under the BWC to those of chemical weapons storage, destruction facilities or of old and abandoned chemical weapons under the CWC although there may be declarations of past biological weapons facilities. Although no parallel is envisaged in the BWC Protocol to Schedule One facilities in the CWC, which are currently estimated as being 40, it is probable that there will be a comparable number of biological defence facilities requiring to be declared. As for the numbers of other facilities likely to be declared this is envisaged as being some tens of facilities in each state party. Consequently, for the 140 states parties of the BWC, the numbers of declarations can be anticipated as being in the range from 1400, if there were an average of 10 facilities to be declared in each state, up to 7000 if there were to be an average of 50 to be declared in each state. It seems probable that the overall number of declarations will be of the order of several thousands, say 4,000.

It is interesting to note that if 100 visits and investigations were carried out annually and if visits to the assumed 40 biological defence facilities were to occur more frequently, say once every two years, (the same frequency as that planned by the OPCW to Schedule 1 facilities) then the number of visits to other declared facilities would be some 80 visits each year. If there were also to be more frequent visits to past BW facilities, say once every two years, and assuming that there were 20 such past BW facilities under government funding or control, then the number of visits both clarification and random to other declared facilities would be some 70 a year — or an average of one such visit to a State Party every two years.

One may analyse the posts and functions in the OPCW in terms of that necessary for a lean BWC organization. Any posts that are unlikely to have a direct analogue in the BWC regime, such as the chemical demilitarization branch or specific chemical weapons-related posts may be disregarded, and the numbers of other posts reduced to reflect the reduced number of inspectors, which have been assumed to be about a third of those in the OPCW. The outcome of the analysis gives the following broad indications; in order to facilitate comparison with the OPCW, external relations and international cooperation have been shown as separate divisions and the corresponding OPCW numbers in 1998 are included:

Post	BWCO	OPCW
Director-General (Security, Health & Safety, Legal Adviser, Internal Oversight, Secretariat for Policy Making Organs)	42	85
Administration (Budget, Human Resources, Information Systems, Travel, Training)	32	77
External Relations	10	15
International Cooperation & Assistance	10	11
Compliance Monitoring (Declarations, Information Processing, Validation, Evaluation and Confidentiality, Organization Laboratory)	44	66
Visits & Investigations	70	237
Total	208	491

It must be emphasised that the purpose of the exercise is to gain a feel for the likely size of a lean BWCO; there may

UNIVERSITY OF BRADFORD
BIOLOGICAL AND TOXIN WEAPONS CONVENTION
PROJECT

The Department of Peace Studies in the University of Bradford has a project to strengthen the Biological and Toxin Weapons Convention which is preparing Briefing Papers addressing key issues relating to the strengthening of the BWC for presentation and distribution to the states parties. Thus far, some 7 Briefing Papers have been produced:

1. The Importance of On-Site Investigations (July 1997)
2. The Necessity for Non-Challenge Visits (September 1997)
3. Discriminating Triggers for Mandatory Declarations (September 1997)
4. National Implementation Measures (January 1998)
5. An Optimum Organization (January 1998)
6. Article X: Some Building Blocks (March 1998)
7. Article X: Further Building Blocks (March 1998)

These Briefing Papers are all available on the project web site at <http://www.brad.ac.uk/acad/sbtwc> which is constantly being updated with the Procedural Reports and Working Papers of the Ad Hoc Group. An objective of the project is to make available on this website the papers presented at the meetings of the Ad Hoc Group as well as other papers relating to the BWC such as the Final Report of the Fourth Review Conference held in November 1996. This web site is a joint CBW project with SIPRI

be scope for further reductions in numbers as some functions might be combined or there may be additional functions required for the BWCO.

As the approved OPCW figures for 1998 total 491 posts, the proposed BWCO with a strength of just over 200 would be well under half of the size of the OPCW. An indication of the order of costs for the BWCO can be deduced by assuming that the costs per staff member in the respective divisions would be the same as those in the OPCW and calculating, using the ratio of the numbers of posts in the BWCO to those in the OPCW from the table above, the appropriate proportion of the OPCW budget costs. The OPCW 1998 budget figures and the corresponding estimated costs for a BWC Organization are as follows:

Function	OPCW (1998 Budget)	Factor	BWCO
A1 Executive Management	17,991,500	42/85	8,890,000
A2 Administration	13,563,000	32/77	5,640,000
A3 External Relations	2,918,400	10/15	1,945,600
A4 International Cooperation & Assistance	4,996,400	10/11	4,542,100
A5 Common Services	17,999,000	208/491	7,625,000
	57,468,300	—	28,642,700
V1 Verification	18,912,100	44/66	12,128,000
V2 Inspection & Field Operations	64,416,600	70/237	19,026,000
	83,328,700	—	31,154,000
Total (in Dutch Guilders)	140,797,000		59,797,000
Total (in US\$)	65,331,050		29,898,850

The overall costs for a BWC Organization are thus estimated as being less than half of those for the OPCW.

Conclusions

This article has considered what can be learned from existing relevant organizations — notably the WHO, OIE and FAO — and concludes that whilst the information obtained, analysed and distributed by these organizations will be essential for a future BWCO, it would be inappropriate, and indeed would jeopardize the primary function and the neutrality of such organizations, to task them to carry out activities for the BWCO. Although the United Nations Special Commission on Iraq has been effective, its nature is unique and such an arrangement of part-time participants would be ineffective for a future BWCO.

The detailed information available on the staffing and budget for the OPCW have been used to estimate the likely overall size and cost of a lean BWCO. It is concluded that such an organization would need about 200 posts and an annual budget of under \$30 million; it would be well under half the size of the OPCW with a budget of less than half that of the OPCW.

This article is based on An Optimum Organization, University of Bradford Biological and Toxin Weapons Convention Project Briefing Paper No 5.

Developments in the Organization for the Prohibition of Chemical Weapons

The year 1998 should be a highly significant one for the OPCW. Not only will it be the Organization's first full year of operations, but it will also see the Organization take up residence in its new headquarters building in The Hague. The first months of the year have seen fewer meetings of the Executive Council, but important work has continued in relation to the implementation of the Convention and also to

the institutional evolution of the Organization. This quarterly review covers the period from just after the second session of the Conference of the States Parties (CSP) in December 1997, to early March 1998.

Implementation of the Convention has proceeded apace with the receipt of initial declarations by the Secretariat and the conducting of initial inspections to verify some of those

declarations. However, many states parties have not even completed the initial stage of submitting declarations, despite the fact that the Convention has now been in force for over nine months, while many others have only submitted partial declarations. Assisting states parties in submitting full declarations will be a major task for the Secretariat in the coming months, but one which must be undertaken to ensure effective implementation of the Convention and to maintain the spirit of voluntary compliance. On a more positive note, since the Organization began the permanent monitoring of chemical weapons destruction facilities in July 1997, its inspectors have witnessed the destruction of approximately 500 tonnes of nerve agents and are witnessing the destruction of binary weapons components in the period reported here. One more state, Mauritania, deposited its instrument of ratification with the UN Secretary-General, bringing the total number of ratifying and acceding states to 107. Efforts to encourage the universality of the CWC are ongoing.

Alongside the tasks of implementing and verifying the CWC's provisions, the work of "institution-building" has continued. This involves activity within the organs and subsidiary bodies of the OPCW, and also in the OPCW's relations with its counterparts in the UN system and with states parties. Examples of this work during the period under review include consideration of the UN relationship agreement and the processing of nominations for the Scientific Advisory Board. Some of the administrative work which this entails may seem far removed from the fields of chemical disarmament and non-proliferation, but is essential for the evolution of a new international organization, and will continue to be the focus of much attention for a long time to come. The number of staff members of the OPCW is set to grow this year, with recruitment underway for the remaining vacant posts and the training of 82 inspector trainees due to finish in mid-1998.

The Secretariat has updated the collection of documents from the second session of the CSP which are publicly available on the OPCW website. Those available include, *inter alia*, the 1998 programme and budget, the report of the Organization on the implementation of the Convention, the report of the Executive Council on the performance of its activities and the report of the second session of the CSP, in addition to the decisions of the CSP and numerous papers by the Director-General. All these documents can be accessed at <http://www.opcw.nl>.

Executive Council

In the period covered by this review, the Executive Council met only once in regular session, during 27–30 January. However, this eighth regular session of the Council had before it a very full agenda, which included many issues carried over from the seventh session or from the second session of the CSP, which both met in December 1997. The Council also met for a short Special Session on 19 December 1997. As reported in the last quarterly review, the Council is scheduled to meet another five times during 1998, although the calling of further special sessions could add to this number. The next regular session of the Council is scheduled to meet from 21–24 April.

Receipt of declarations and notifications The Director-General updated the Council on the receipt of initial declarations by the Secretariat. As of 9 January the Secretariat had received 74 initial declarations, including that of the Russian Federation, which was received on 3 January. This figure has risen to 78 at the time of writing. Although this amounts to approximately three-quarters of all declarations, it means that the rate of non-submission is running at approximately a quarter of states parties. In addition, many of those initial declarations which have been submitted are incomplete. As of 9 January, annual declarations regarding projected activities and the anticipated production of Schedule One chemicals (as required by Part VI, paragraphs 16 and 20, of the Verification Annex) had been submitted by 18 states parties. Nine states parties had submitted annual declarations on anticipated Schedule Two and Three activities in accordance with Part VII, paragraph 4, and Part VIII, paragraph 4, of the Verification Annex.

The submission of implementation-related notifications to the Secretariat is another area of slow return. The Council noted that, as of 9 January, 90 states parties had either not provided all the notifications and declarations required under the Convention, or that, if they had, such notifications and declarations were incomplete. For example, the Secretariat had received only 53 notifications of points of entry for inspection teams and 38 notifications of standing diplomatic clearance numbers for non-scheduled aircraft.

As a response to this low rate of submission of initial declarations, the Secretariat has established a network of experts from states parties and the Secretariat who can be called upon to assist in the preparation of declarations. All experts in the network participated in a two-day seminar, on 11–12 February in The Hague, during which the use of the *Declaration Handbook* and declaration forms was extensively discussed and exercised. The Secretariat has formally recognised the participants of this first network seminar as members of the network. Additional experts are expected to join at a later stage. States parties have now been informed about the network.

National Authorities which require administrative assistance in preparing their declarations have the opportunity to request such assistance from the Secretariat. The Secretariat will then dispatch an expert from the network to the National Authority in question, to provide the on-site support required. The expert will not assume responsibility for the data submitted in a declaration, but will assist in the correct use of the declaration forms, and provide any explanations required to understand the declaration requirements as well as the decisions taken in this respect by the CSP. This new approach of offering on-site administrative support is based on practical experience already gathered. From that, it appears that it is more effective to send an expert to a National Authority to discuss in detail the preparation of a declaration with those who are actually doing it, than to bring National Authority personnel to training courses or declaration workshops. While these latter will continue for as long as there is a demand, the network is intended to establish and improve direct relationships between National Authorities within a region, and between them and the Secretariat, and help to

spread the understanding of the declaration requirements from the “negotiating community” to the “implementing community”. The hope is that the network will eventually become one, not of qualified experts who help others, but of National Authorities who cooperate with each other and the Secretariat in the implementation of the Convention.

By failing to submit full declarations to the Secretariat within the required time, many states parties have fallen into technical non-compliance with the Convention, including the USA, which has not yet submitted its industrial declaration. Some states parties have voiced concern at this situation, stating that it could lead to the “unbalanced implementation” of the Convention. Without an initial declaration the Secretariat cannot begin planning verification activities in a state party, meaning that the Convention’s verification mechanism cannot be applied universally among its states parties. This is particularly sensitive where industrial facilities are concerned as some have been inspected by the OPCW, while others have not, a situation which could affect the competitiveness of facilities which are subject to inspection. The failure to submit inspection-related notifications could have a negative impact on the operational procedures for inspections, once the initial declarations have been submitted. The goal of transparency among member states will be much harder to achieve if only some states parties submit declarations and if others are submitted incomplete. Extra effort will have to be expended to clarify ambiguities caused by incomplete or non-submitted declarations, and this situation could lead to political complications which might divert attention from the implementation of the Convention.

After nine months of operations, it is becoming increasingly difficult for the Council to accept mitigating factors such as the novelty of the Convention and the complexity of its implementation requirements, without simultaneously appearing to condone non-compliance with its fundamental principles. The Council therefore urged those states parties which had not submitted, or had submitted incomplete declarations, to fulfil their obligations forthwith. It also requested such states parties to advise the Secretariat of the reasons for non-submission, so as to facilitate the provision of assistance.

Facility agreements The eighth session of the Council had before it another facility agreement for a Schedule One facility. Decision on this agreement was, however, deferred until the next session of the Council when many more could also be awaiting approval.

The speedy completion of agreements for those facilities requiring them which received an initial inspection in 1997 is a key priority for the Secretariat, considering that the CWC requires that agreements for such facilities should have been completed by 28 October 1997. These delays, and the backlog, which is currently being tackled, are due to a range of circumstances which were unforeseen at the time the deadlines were set. Facility agreements are bilateral agreements between the OPCW and the state party concerned, the negotiation of which requires highly qualified legal staff. However, the legal personnel of the OPCW have been stretched during the first months of operations by having to also deal with a whole range of institutional and

administrative issues. Verification-related staff have had to deal with an intensive rate of inspections, while also suffering from a shortage of personnel. In addition, the finalisation of facility agreements has been hampered by the lack of model agreements, especially for chemical weapon production facilities, which has necessitated extensive bilateral discussions with each of the states parties concerned. Further obstacles to the quick processing of facility agreements were posed by the classification of many as “OPCW Highly Protected” or “OPCW Protected” and by delays in the review of agreements by the member states concerned. However, the Director-General informed the eighth session of the Council that a standard text for each type of facility had been prepared by the Secretariat, and these were now being used, when acceptable to the state party concerned. He also urged states parties to reconsider the levels of classification that they apply to their facility agreements.

Some member states are also concerned that by giving detailed consideration to facility agreements, the Council is “micro-managing” the Organization. Agreements are drawn up by the Secretariat and the state party concerned and should therefore reflect both the views of the Organization and the states parties anyway, without the detailed involvement of the Council.

Perhaps one reason for this is that some members of the Council are reluctant to approve many facility agreements until more experience has been gathered. They may be concerned that any agreements approved by the Council now, could set precedents for future agreements with other member states. This could explain why some Council members find it necessary to study each agreement in detail before it is approved.

The Director-General took this opportunity to update the Council on the status of facility agreements. Only two have so far been approved by the Council, the aforementioned agreement for a Schedule One facility is pending approval, consideration of an agreement for an Old/Abandoned Chemical Weapons (O/ACW) facility was deferred by the seventh session of the Council, and a further 17 have been prepared by the Secretariat and passed to the respective states parties for review and comment. The Secretariat is working on the preparation of another 78 agreements.

Director-General's terms of appointment Between the first and second sessions of the CSP the Director-General was informed that the terms of his appointment had not been included in the decision of the first session of the CSP on his appointment {C-I/DEC.2}. In its decision on the Director-General's terms of appointment {C-II/DEC.4}, the second session of the CSP requested the Secretariat to carry out a comprehensive survey of the terms of appointment of executive heads of other international organizations and specialised agencies in the UN system and directed the eighth session of the Council to take a decision on this issue. This oversight affected the status of the Organization within the UN system.

During the debate at the eighth session of the Council two viewpoints emerged. The first, expressed by some major contributors to the Organization's budget, stated that the importance of the Organization should not be measured

by the Director-General's grade, and that the terms of appointment should be based on the Organization's size, its budget and staff. The second viewpoint however, stated that the terms of appointment should be based on the functions and character of the Organization rather than its size, and should therefore be similar to those of executive heads in organizations with similar responsibilities. It was suggested that, in addition to being the first multilateral organization in the field of disarmament and non-proliferation, the Organization is also expected to be as productive as other similar international organizations, but with a smaller staff and a lower budget.

These two views were intensely debated and the members of the Council were unable to reach a consensus. According to the decision of the second session of the CSP {C-II/DEC.4}, this issue had to be resolved at this session of the Council. Therefore, the first vote in the history of the Organization took place, with the Council deciding by 33 votes to 3 that the Director-General's terms of appointment should reflect those of his counterparts in similar international organizations, rather than being based on the size of the Organization, its staff and budget {see *News Chronology* 27–30 Jan}.

Confidentiality An issue arose during the period under review which neatly illustrates the sensitivities surrounding inspections in industrial facilities and the collection of information by inspectors, and which also highlights the problems raised by ambiguities existing in the text of the Convention. This issue, of whether a copy of the inspectors' notebooks should be provided to the inspected state party upon request, is an example of the type of situation which could not have been foreseen before the implementation of the Convention and which can only be rectified by discussions between the state party concerned and the Secretariat, and sometimes with the involvement of the Executive Council.

Subparagraph 11(c) of Part II of the Verification Annex states that "the papers and correspondence, including records, of the inspection team shall enjoy the inviolability accorded to all papers and correspondence of diplomatic agents pursuant to Article 30, paragraph 2, of the Vienna Convention on Diplomatic Relations". Inviolability excludes direct access to such items, and especially the information stored on them, and also excludes the copying of the notebooks. However, paragraphs 50 ("the inspected State Party shall receive copies, at its request, of the information and data gathered about its facility(ies) by the Technical Secretariat") and 60 ("the inspection team shall provide to the representatives of the inspected State Party its preliminary findings in written form according to a standardized format, together with a list of any samples and copies of written information and data gathered and other material to be taken off-site") of Part II of the Verification Annex can be used to assert the right of the inspected state party to have access to the notebooks used by inspectors during inspections.

These provisions would appear to be contradictory and this subject is a good example of how such ambiguities in the CWC are now coming to light as it is implemented. Subparagraph 11(c) raises the problem of defining the term

"the papers and correspondence, including records" and whether this includes the notebooks used by inspectors during inspections. One view put forward is that the language of paragraphs 50 and 60 should be read in the light of the provisions granting immunity to inspectors, which, it is argued extends to notes and records taken during inspections. Thus, paragraphs 50 and 60 cannot be read to give a state party the right to have copies of the information gathered. The opposite view takes a literal reading of paragraphs 50 and 60, and insists that these words give states parties the right to receive "a list of samples and copies of information and data gathered". While such ambiguities were inevitable in reaching final consensus on such a complex agreement, they raise problems when the stage of practical implementation is reached. When faced with such contradictions in international law, it is customary that any solution respects the spirit of the CWC. In this case, this would require that the inviolability of the inspectors' notebooks be upheld, in order to ensure the unbiased and independent nature of inspection records.

This apparent contrast was raised at the second session of the CSP {C-II/8, paragraph 10.2} by the state party concerned, and the CSP requested the Council to further consider it at its eighth session. In its report, the Council, having considered the legal opinion prepared by the Secretariat on this issue, requested that the Director-General instruct inspection team leaders to provide copies of the content of the notebooks, upon request by the inspected state party, at the end of the inspection. As the membership of the Organization increases and with it the number of inspections to industrial facilities, such problems are more likely to be brought to the attention of the Council. It is to be hoped that the Council, as the body responsible for governing the implementation of the Convention, takes this obligation seriously and considers issues in the context of ensuring an overall effective verification regime.

Confidentiality Commission As reported in the last quarterly review, the second session of the CSP referred to the eighth session of the Council the question of whether the states parties involved or the Organization should pay the costs of proceedings before the Confidentiality Commission {C-II/8, paragraph 16.3}. The Council accordingly considered this issue and decided that the costs of proceedings should be covered by the parties to such proceedings, in line with international practice.

The Director-General informed the Council that Dr Woo-Chul Shin (South Korea) had resigned from the Confidentiality Commission, becoming the second member to do so since its establishment. In accordance with a proposal from the Asian Group, the Council appointed Mr Sung-Chul Kim (South Korea) to fill the vacancy.

Transfers of saxitoxin The Council once again considered the issue of the transfer of saxitoxin for medical and diagnostic purposes. The Friend of the Chair on this subject, Ms Anna George (Australia), presented a draft decision which, if approved by the Council, would apply an interim practical guideline pending the formal adoption of a decision pursuant to Article XV of the Convention.

Whereas states parties must currently notify the Secretariat 30 days in advance of the transfer of saxitoxin to another state party, under the proposed interim practical guideline the transferring state party may make an initial advance notification to the Secretariat of an intent to make transfers (of amounts limited to 5 milligrams) over the next 12 months. Both the transferring and receiving states parties would have to notify the Secretariat of a particular transfer when it was sent and received.

The Council also considered the subject of the retransfer of saxitoxin for research, medical and diagnostic purposes. Currently, saxitoxin can only be transferred from one state party to another, and cannot be retransferred. An interim practical guideline was proposed, similar to the one outlined above, except it would additionally allow retransfer from the recipient state party to a third state party, but no further.

No decision was taken on either of these proposals at the eighth session of the Council, but consideration was deferred to the ninth session.

Transfers of Schedule Two and Three chemicals to states non-party Following on from the legal opinion provided by the Secretariat to the seventh session of the Council, this session again considered the subject of transfers of Schedule Two and Three chemicals to states non-party, and the provision of end-user certificates.

According to paragraph 32(c) of Part VII and paragraph 26(c) of Part VIII of the Verification Annex, the transferring state party “shall require from the recipient state a certificate”, stating that the transferred chemicals will be used only for purposes not prohibited by the Convention, that they will not be retransferred, their types and quantities, their end-use and the name and address of the end-user. These provisions establish a transfer restriction and control regime for transfers of Schedule Two and Three chemicals to states non-party during a transitional period, and thus serve as both a “negative incentive” for states which have not yet ratified the Convention, and as a non-proliferation tool. However, since entry into force there have been occasions when end-user certificates have been completed by the end-user themselves (usually a commercial enterprise), rather than by the competent government authorities. On other occasions, some certificates have included the name and address of an intermediate trader, instead of the name and address of the actual end-user.

With this in mind the Council agreed that the term “shall require from the recipient state a certificate” shall be understood to mean “end-user certificates issued by the competent government authority of states not party to this Convention”, and recommended that the CSP approve this decision at its next session. The subject of transfers of Schedule Two and Three chemicals to intermediate traders in states non-party will be looked at by a subsequent session of the Council.

Schedule Two and Three declarations The Director-General’s report on the status of implementation of the Convention included data on the Schedule Two and Three declarations submitted by states parties.

Only six states parties have so far provided information on the concentration limits applied to their declarations, in accordance with the decision of the second session of the CSP {C-II/DEC.7}. There are also major discrepancies between the import and export data provided by states parties on the transfers of Schedule Two and Three chemicals in 1996. Both the exporting and importing states parties are meant to report the transaction to the Secretariat, but this has clearly not always been happening as the amounts declared as being respectively exported or imported differed substantially. In addition, only 33 states parties have submitted information on the legislative and administrative measures which they have taken to implement the Convention.

Taken together, these factors mean that drawing conclusions from the data provided by states parties on Schedule Two and Three activities is problematical, as many states parties have not provided the Secretariat with the information required under the Convention. This in turn does little to improve transparency between states parties, which is one of the goals of the Convention. The eighth session of the Council therefore passed a decision on the coordinated and transparent application of criteria for declarations related to Schedule Two and Three plant sites. This decision requested states parties to submit information on their implementing measures to the Secretariat, and urged them to comply with the CSP decision on low concentrations. It also requested the Secretariat to submit to the ninth session a report on the criteria applied by states parties in their Schedule Two and Three declarations. In accordance with the decision of the second session of the CSP on the reporting of aggregate national data for Schedule Two and Three chemicals {C-II/DEC.8}, the Council is also to further consider this subject and report to the third session of the CSP in November 1998.

Status of contributions The Director-General reported on the status of contributions to the OPCW by its member states. As of 21 January, the collection rate for contributions to the Preparatory Commission for the years from 1993 to 1997 stood at 96.1%. The rate for the 1997 budget was also fairly high at 85.3%, although 45 states parties (representing 4.2% of the total assessments) had not yet made any contributions. The collection rate for the 1998 budget stood at only 14.4%, with only 8 states parties having paid in full. The Council expressed its concern at the slow rate of contributions considering that full payment is required within 30 days of the receipt of the communication from the Secretariat notifying states of their assessment. The notifications were circulated by the Secretariat in January. The 1997 programme and budget is now completed and has been closed with a surplus of approximately NLG 38 million, relating mainly to under-spending in the areas of salaries and inspection-related costs.

Draft UN relationship agreement The Council was updated on the informal consultations conducted by the Friend of the Chair, Mr Julio Zelner (Brazil), on the draft relationship agreement. Echoing his words to the second session of the CSP {C-II/DG.10}, the Director-General reported that the lack of such an agreement was beginning to pose problems

CWC Ratifications and Accessions

deposited since CWC entry into force

Cuba — 29 April 1997
Turkey — 12 May 1997
Singapore — 21 May 1997
Kuwait — 28 May 1997
Guinea — 9 June 1997
Slovenia — 11 June 1997
FYR of Macedonia — 20 June 1997
Trinidad and Tobago — 24 June 1997
Burkina Faso — 8 July 1997
Ghana — 9 July 1997
Brunei Darussalam — 28 July 1997
Qatar — 3 September 1997
Guyana — 12 September 1997
Pakistan — 28 October 1997
Jordan — 29 October 1997
Iran, Islamic Republic of — 3 November 1997
Russian Federation — 5 November 1997
Nepal — 18 November 1997
Venezuela — 3 December 1997
Mauritania — 9 February 1998

Previous deposits (in date order):

Fiji, Mauritius, Seychelles, Sweden, Norway, Australia, Albania, Maldives, Cook Islands, Spain, Bulgaria, Germany, Sri Lanka, Mexico, Turkmenistan, Uruguay, Paraguay, Lesotho, Greece, Tajikistan, Mongolia, Armenia, Finland, Oman, Romania, France, Switzerland, Croatia, Monaco, Netherlands, Denmark, Peru, Algeria, Austria, Poland, Ecuador, South Africa, Japan, Canada, Argentina, Slovak Republic, El Salvador, Georgia, Namibia, Italy, Côte d'Ivoire, Morocco, Czech Republic, Brazil, Papua New Guinea, United Kingdom, Ethiopia, Costa Rica, Ireland, Republic of Moldova, Belarus, Chile, New Zealand, Latvia, Uzbekistan, Saudi Arabia, India, Portugal, Cameroon, Hungary, Swaziland, Philippines, Belgium, Bosnia and Herzegovina, Lao People's Democratic Republic, Niger, Saint Lucia, Luxembourg, Tunisia, Togo, Bangladesh, China, Equatorial Guinea, Kenya, United States of America, Zimbabwe, Bahrain, Iceland, Mali, Malta, Republic of Korea, Suriname

As of 3 March, 107 states had deposited instruments of ratification or accession.

for the effective implementation of the Convention, particularly for the supply of UN laissez-passers to staff members other than inspectors. A relationship agreement would also facilitate cooperation between the two organizations in the numerous areas in which cooperation is envisaged by the Convention. However, the Council again deferred consideration of the draft agreement to its next session.

Actions by Member States

Ratifications Only one state, Mauritania, deposited its instrument of ratification with the UN Secretary-General during the period under review. The deposit took place on 9 February and the Convention therefore enters into force for Mauritania on 11 March.

Article X matters At the time of writing, contributions to the Voluntary Fund for Assistance (Article X.7(a)) had been received from only ten states parties. In the sequence in which their contributions were received these states parties are: New Zealand, the Netherlands, Canada, Norway, Finland, South Korea, Ireland, Switzerland, Luxembourg and Sweden. A number of other states parties have promised to contribute in the future. These contributions bring the total amount held in the Voluntary Fund to NLG 452,601.69. This amount represents just over 5% of the NLG 8 million deemed by the Director-General to be the minimum amount necessary to deal with a single chemical weapons attack.

No bilateral agreements have yet been concluded between the Secretariat and states parties under Article X.7(b).

At the time of writing, 20 unilateral declarations of assistance under Article X.7(c) have been received from states parties, some of which also announced contributions to the Voluntary Fund for Assistance. However, some declarations merely announce the states parties' willingness to provide assistance when called upon by the Organization. While this is in accordance with the provisions of the Convention, such declarations do not enable the Organization to plan effectively for events.

A meeting to coordinate the provision of assistance under Article X was organized by the Secretariat on 26 January. The meeting was attended by representatives of 33 member states. Officials from the Secretariat provided an overview of declarations, offers and contributions made under Article X.7 and a review of assistance categories in order to identify gaps in terms of equipment and personnel. It was stressed by states parties that, in the initial phase, offers of assistance were bound to be general in nature, but that they would become more specific as more became known about where the most urgent needs existed.

The Secretariat emphasised that if chemical weapons were used, the OPCW would come under intense scrutiny by the international community and the world's media. Failure to perform adequately would have an adverse effect on the Organization's credibility and its influence on the process of international disarmament. The review conducted by the Secretariat showed that the offers made to date have been insufficient. For example, there have not yet been any offers of transportation, field hospitals or

communications, all of which are essential for the provision of emergency assistance. As the material and expertise available for assistance will remain with member states, the Secretariat stressed the importance that information provided is as detailed as possible, in order to facilitate the prompt and efficient delivery of emergency assistance.

The meeting also discussed special circumstances such as disasters involving toxic chemicals. Such catastrophes could confront the Organization with the need to act politically and on humanitarian grounds, beyond what is stipulated in Article X. Divergent views were expressed on this subject. Some felt that the Organization's involvement in chemical catastrophes not involving the use or threat of use of chemical weapons was outside the mandate of Article X. Others considered that it would be difficult for the Organization to avoid becoming involved in such a situation as it is the one international organization with specialised expertise in the field of toxic chemicals.

The full report of this meeting {S/38/98} can be found on the OPCW website at <http://www.opcw.nl>. Another such meeting is scheduled to take place later in the year, probably in June.

Nominations to the Scientific Advisory Board

Following the decision of the second session of the CSP on the Scientific Advisory Board (SAB) {C-II/DEC.10}, the Secretariat has been receiving nominations from states parties for membership of the Board. As of 23 February, the Secretariat had received nominations from 39 states parties across the regional groups.

Once established by the Director-General, the SAB will meet to adopt its rules of procedure. The Secretariat has budgeted for two meetings of the Board in 1998, one of which, according to the terms of reference approved by the second session of the CSP, has to take place prior to, or in conjunction with, the session of the Executive Council which immediately proceeds the third session of the CSP in November. So, it is likely that the SAB will meet at least once in 1998, perhaps in September or early October.

Actions by the Technical Secretariat

Declaration processing Despite the slow rate of submission of declarations, the Secretariat is still facing an extremely heavy workload, while at the same time suffering from a lack of resources. The delays in the installation of the Electronic Document Management System (EDMS) and the resultant inability to process declarations electronically, have only served to compound these problems.

Some progress is however, now being made in the completion of the EDMS, which will allow the speedier and more efficient processing of declarations, and the manipulation of data gathered on inspections. As reported previously, the Secretariat has not loaded any declaration data onto the system yet, and will not do so until an audit of the EDMS has been carried out, and the Council has decided that the system is secure.

The Secretariat has implemented the six start-up measures which were recommended by the audit team in its report last October. On 20–21 January the team performed an audit of these measures and reported that they had been

implemented in accordance with their earlier recommendations. In the light of this report, and pending the installation of the EDMS in the new headquarters building, the Secretariat is now in a position to begin the loading of declaration data onto the system, in preparation for a full audit approximately two months after the move. Therefore, the EDMS should be up and running by the middle of this year.

The number of states parties declaring existing or former chemical weapons programmes and related facilities has increased by one, to nine, with the submission of the initial declaration of the Russian Federation.

Inspections Inspections of industrial facilities are now well underway, and the Secretariat is soon to begin inspections in those states parties which ratified the Convention at the end of 1997. In fact, at the time of writing, inspectors were in the Russian Federation conducting the initial inspection of a former CW agent factory and a munition filling facility. In accordance with paragraph 43 of Part V of the Verification Annex, the initial inspection of all CWPFs in the Russian Federation must be completed within 120 days of entry into force, in other words by early May 1998.

During the eighth session of the Council, the Secretariat circulated a document entitled "OPCW verification activities: a preliminary assessment of some operational issues which have arisen during the first eight months since entry into force". This report surveyed and assessed the operational aspects of inspections conducted in the eight months between entry into force and mid-December 1997. In over 90% of all inspections conducted, the cooperation of the inspected states parties was rated as above average by the inspection teams. Transportation and all aspects of the conduct of inspections were also rated as more than satisfactory by the teams. The preliminary assessment then goes on to review some issues which have arisen during inspections.

In accordance with Part II, paragraph 63 of the Verification Annex, the final inspection report, together with annexed comments by the inspected state party, has to be submitted to the Director-General no later than 30 days after the inspection. This has apparently proved to be an especially difficult requirement and has frequently not been met, due to delays both on the side of the Secretariat and the inspected state party. Factors causing these delays range from the workload faced by the inspection teams, problems with shipment to and from The Hague and the classification of reports as "OPCW Highly Protected" and "OPCW Protected", which necessitates special handling.

During the period reviewed in the document, six states parties placed restrictions on items of approved inspection equipment during 37 inspections conducted on their territory. Restrictions have been placed on approved equipment for a number of reasons, of which the main one appears to have been reconciling the list of approved equipment with national regulations and standards. The use of the Global Positioning System (GPS) by inspection teams was rejected on 17 different inspections.

In a number of cases, delays were encountered at the point of entry or before the inspection team could enter restricted areas at chemical weapons-related facilities. Other in-country incidents required the Secretariat to enter

into bilateral discussions with the states parties concerned. For example, historical production data relating to CWPFs was sometimes unavailable, while issues relating to confidentiality, particularly the monitoring and integrity of inspectors' notebooks, were also raised during bilateral discussions.

Finally, the survey deals with "uncertainties" and "issues requiring further action". Of the final inspection reports surveyed, 27% fell into this category. It is stressed that these were not issues of non-compliance, but rather technical matters which required some type of follow-on activity through routine inspections. For example such issues included discrepancies between on-site observations and initial declarations, the absence of supporting documentation, technical limitations and differing interpretations of the provisions of the Convention.

As reported in the quarterly review in CBWCB 37, states parties can raise objections to the inclusion of inspectors on the list of inspectors designated for inspections to their territory. The world media has widely reported that the USA has indeed used this procedure to prevent Cuban and Iranian inspectors participating in verification activities related to US facilities {see *News Chronology* 11 Feb}. In fact, the Convention gives this right to all states parties under paragraph 2, Part II of the Verification Annex, and other states parties have also invoked this right.

At the time of writing, the Secretariat has carried out 149 inspections. The breakdown of these inspections is as follows: five to abandoned chemical weapons sites; 36 to CWPFs; 26 to CWSFs; 16 to OCW facilities; 24 to Schedule One facilities and 13 to Schedule Two facilities. Permanent monitoring is ongoing at five CWDFs, with inspection teams dispatched on six-weekly rotations from The Hague. During the first eight months of operations, each inspector spent an average of 75 days on inspections and the total number of inspector days expended was just under 8,300.

International cooperation and assistance The Secretariat is organizing two parallel training courses for personnel of National Authorities, which will take place from 30 March–1 April at Ypenburg in the Netherlands. An invitation to the courses, with annexed agendas, has been posted on the OPCW website {S/30/98}.

Further details of the Organization's international cooperation and assistance programmes can be found on the OPCW website, at <http://www.opcw.nl/ica/>.

Official visits During the period under review, the Director-General made a number of official visits to member states. During 19–20 January he visited Bulgaria, where he met with the Minister of Foreign Affairs, Nadezda Mihaylova and other officials from the ministries of defence, industry and foreign affairs, the National Security Commission and the Foreign Relations Committee of the National Assembly. He also addressed the National Association for International Relations. On 4 February the Director-General participated in a mock challenge inspection in the UK. During 5–6 February he visited Finland,

meeting the Minister of Foreign Affairs, Tarja Halonen and visiting the Verifin laboratories in Helsinki.

On 10 February, the Director-General, accompanied by all the Directors, met with the Vice-President of Brazil. The Director-General, accompanied by the Chairman of the Executive Council, Ambassador Menon of India and the Chairman of the CSP, Ambassador Mumbengegwi of Zimbabwe, will meet with President Cardera of Venezuela on 16 March. On the following day he will travel to Brussels to meet the Secretary-General of NATO, Javier Solana, and to address the European Parliament's sub-committee on security and disarmament. Later in the year, the Director-General also plans to travel to Spain and to several states parties in Eastern Europe.

Outreach activities The External Relations Division of the Secretariat is currently planning a whole range of outreach activities and projects with the interrelated goals of encouraging the effective national implementation and the universality of the Convention.

A regional seminar will be held in Tokyo on 18–19 March, in cooperation with the government of Japan and the Japanese Chemical Industry Association. The seminar is intended to focus on the national implementation of the Convention for industrial verification and is expected to be attended by officials from the Japanese authorities and industry, representatives from other states in the region, in addition to speakers from the Organization. Further regional seminars are planned in the Middle East and in the Latin American and Caribbean region later in the year.

Having reviewed the operations of the Brussels Project, the Secretariat will continue to ensure that delegations to the Organization which are based in Brussels and not The Hague are kept informed of activities within the Organization. Of 107 states parties, around 30 have representations only in Brussels and not in The Hague, and a further 60 signatory and non-signatory states also only have missions in Brussels. It is important that these delegations are kept informed of events in The Hague and participate actively in the work of the Organization. For this reason, officials from the Secretariat will travel to Brussels shortly after sessions of the Executive Council and the CSP to provide briefings on the sessions and also to answer questions which delegations might have. These briefings will be organized for each regional group.

A workshop is being planned for the near future in Brussels to bring all the locally-based delegations from the various regional groups together to discuss the national implementation of the CWC and to share their experiences.

Fourth Inter-laboratory Proficiency Test The Director-General reported to the eighth session of the Executive Council that the fourth in the series of Inter-Laboratory Proficiency Tests will take place in April 1998. The evaluation will be performed by the Verifin laboratories in Finland at no cost to the Organization. This is the penultimate test in the first series, and some member states have suggested that those laboratories which have proceeded to this stage should be "pre-designated" before the end of the series, so they are able to be used, if necessary.

Staffing As of 20 February the Organization had exactly 400 members of staff. Of these, 362 are on fixed-term contracts (237 in the professional and higher categories and 125 in the general service category), from a total of 59 member states. The number of posts authorised by the 1998 programme and budget was 491 and recruitment is therefore still ongoing. Senior appointments during the period under review include: Mr Serguei Batsanov (Russian Federation) as Director, Special Projects; Mr Hassan Mashhadi (Iran) as Head, Emergency Assistance Branch; Mr Gonzalo Casas (Uruguay) as Head, Protocol Branch; Mr Nazir Hussain (Pakistan) as Head, Procurement and Support Services Branch; and Mr Mtshana Ncube (Zimbabwe) as the Deputy Legal Adviser.

The period under review also saw the selection of the first P-5 level inspection team leaders. The 13 names are: M Carling (UK); E Carter (Canada); J Carvalho (Brazil); R Coleman (USA); H Gu (China); G Guerra (Ecuador); I Henderson (South Africa); C Jorgensen (USA); J Mazur (Poland); M Meglecz (Hungary); H Naidu-Gade (India); D van Niekerk (South Africa); and E Yesodharan (India).

Inspector Training Group B is currently underway with 82 trainees drawn from 38 member states. The composition of the group is as follows: 32 CW/Munitions Specialists, 28 Chemical Production Technologists, 11 Chemical Production Logisticians, 1 Medical Specialist and 10 Paramedics. The opening ceremony for the inauguration of Training Group B took place at the National Defence College at Ypenburg, the Netherlands, on 16 January and was addressed by the Dutch Minister of Defence, Dr JJC Voorhoeve, and the Director-General. Module A, the basic course, conducted by the Training and Staff Development Branch with instructors from France, Germany, India, the Netherlands, Switzerland and the UK, was completed on 20 February. Module B, the specialist application courses, which is currently underway, is scheduled to finish on 17 April, with facilities offered by Germany, the Russian Federation, Switzerland and the UK.

The Secretariat currently has 126 inspectors and assistants available, and expects to have 135 by June this year. It is expected that 70 new inspectors will be hired

from Training Group B to begin work on 1 August. This will bring the total to 205 inspectors and assistants for 1998.

New Building It was announced during the eighth session of the Executive Council that the Organization's move to its new headquarters in The Hague would be delayed while last minute problems were dealt with between the developers and the OPCW Foundation. The Organization will now move over the period from 27 March to 6 April. After that period, all the divisions of the Organization will be based in the same building, with the exception of the OPCW Laboratory which is located in Rijswijk, a municipality bordering The Hague. The new address of the Organization will be: Johan de Wittlaan, 2517 JR, The Hague. The phone number will be: + 31 70 416 3300 and the fax number will be: + 31 70 416 3158.

Future work The Organization has before it a large number of issues which will have to be tackled during the next few months. Some of these can be generally termed as "institution-building" issues, being related to the Organization and its relations with states parties and other international organizations. Under this heading can be grouped the finalisation of the UN relationship agreement, the negotiation of bilateral agreements with each state party on privileges and immunities (Article VIII, paragraph 50), the completion of the Financial Rules and Staff Regulations and Rules in time for the third session of the CSP and the establishment of the Scientific Advisory Board, for example. Relating to the implementation of the Convention, there is the backlog of facility agreements to be cleared, the installation of the EDMS, the initiation of a review of implementing legislation submitted to the Secretariat and further consideration of the issue of the costs of verification before discussions on the 1999 budget begin. These issues are all additional to the routine work of processing declarations, conducting inspections and expanding the range of the Organization's international cooperation programmes.

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

Strengthening the Biological and Toxin Weapons Convention

A further three-week meeting, the ninth session, of the Ad Hoc Group to consider a legally binding instrument to strengthen the Biological and Toxin Weapons Convention (BWC) was held in Geneva from 5 to 23 January 1998. As at the eighth session, in September/October 1997, negotiations focussed on the rolling text of the Protocol.

Fifty-four states parties and 3 signatory states participated at the ninth session; 4 states parties fewer than in the previous session as 7 states (Bolivia, Ecuador, Ghana, Kenya, Panama, Peru, and Sri Lanka) did not participate

this time whilst 3 states (Democratic People's Republic of Korea, Singapore, and Slovenia) which had not participated in September/October 1997 did in January 1998.

There were 33 Working Papers {WP.233 to WP.265} presented in January 1998, some 4 less than in September/October 1997. As usual these were presented both by states parties (South Africa 6, United Kingdom 5, Russian Federation 5, Japan 2, Sweden 2, Portugal 1, Non-Aligned Movement [NAM] 1) and by the Friends of the Chair (11).

Good progress was made in the January meeting with serious negotiations addressing the language in the square brackets. The sense was gained that the addition of new material to the Protocol had slowed down and some sections have been streamlined and reduced in length — the current version is some 252 pages compared to 241 pages in the October 1997 version. Most of the new material at the January meeting was language prepared by the Friend of the Chair on Confidentiality which tabled some 8 Working Papers. In addition, the Protocol has as an attachment, WP. 262 “Investigations: Exclusion of All Natural Outbreaks of Disease”, which was presented by the NAM and other countries on the last day of the session, Friday 23 January 1998, too late to be incorporated into the new version of the Protocol. It was therefore attached to the Protocol and can be expected to be incorporated into the rolling text at a future session. As usual, a new version of the Protocol is attached to the procedural report of the January meeting {BWC/AD HOC GROUP/39}.

As in September, there is no language for two of the Articles of the Protocol: Article I — General Provisions and Article VIII — Confidence-Building Measures. The principal area in which language was developed in January was in Annex E on Confidentiality Provisions which has grown from 3 pages in October 1997 to 16 pages. In most of the other areas of text, there has been serious and deliberate consideration of the language.

Of the 30 meetings held, 8 were devoted to compliance measures, 4 to Article X measures, 5 to definitions of terms and objective criteria, 1 to legal issues, 7 to the investigations Annex, 1 to organization/implementational arrangements, 2 to confidentiality and 1 to national implementation and assistance. There was no change in the Friends of the Chair who were the same as in September.

The major contentious point of discussion in the January meeting was the selection of dates for meetings in 1998. The September/October 1997 final report stated that “The Ad Hoc Group agreed to have three sessions of three weeks and one session of two weeks in 1998. The three-week sessions will be held as follows: 5 January–23 January, 22 June–10 July and 28 September–16 October. As for the dates of the two-week session, the Ad Hoc Group agreed, without prejudice to the position of delegations on that issue, to take a decision by the end of the January 1998 session, whether the two-week session should be held between 23 March–3 April or between 30 November–11 December 1998.”

In January, the EU and the Western Group argued strongly for the two-week meeting to be held in March 1998 in order to maintain the momentum of the negotiations — it will be recalled that the EU position as stated at the Fourth Review Conference in November 1996 was that the negotiations of the protocol should be completed in 1998 and President Clinton had made a similar statement in his address to the United Nations General Assembly in September 1996. Other states parties at the January meeting were concerned with the possible clash of the March meeting with other meetings on topics such as human rights.

The outcome was a decision to have a one-week session from 9 to 13 March, a three-week session from 22 June to

10 July and a four-week session from 21 September to 16 October. The March meeting will address a limited range of issues: Measures to Promote Compliance (4 meetings), Investigations Annex (3–4 meetings) and Measures related to Article X (1–2 meetings).

The Emerging Regime

The likely regime to strengthen the BWC that is emerging from the negotiations in Geneva continues to be an integrated package of measures which are likely to comprise mandatory declarations together with on-site measures together with measures to strengthen the implementation of other Articles of the BWC — notably Article III, the undertaking not to transfer anything to aid prohibited activities, Article IV, the requirement for states parties to take any necessary measures to implement the Convention nationally, and Article X, the undertaking to assist in the fullest possible exchange of equipment, materials and information for peaceful purposes. Two other issues that are being addressed are the question of what needs to be defined and of what organization will be required to implement the strengthened BWC. Furthermore, the mandate for the regime calls for it to be devised so as to protect sensitive commercial proprietary information and legitimate national security needs.

This review focuses on the progress made in regard to the principal issues relating to declarations, on-site measures, national implementation (BWC Article IV), BWC Article III and Article X measures, definitions, confidentiality and the organization. In addition, other topics such as legal issues and confidence-building measures are touched upon; in the following paragraphs, all references are to the current rolling text {BWC/AD HOC GROUP/39, dated 2 February 1998}. Articles mentioned are those in the Protocol unless specifically identified as being BWC Articles. Unless otherwise noted, square brackets within inverted commas within this report are from the current version of the rolling text.

Declarations Detailed consideration was given to Section D, Declarations, of Article III, Compliance Measures, which has increased from six to eight pages of language as the footnotes which contain detailed definitions have been extended. The text relating to what should be declared has not been changed; the changes come in the elaboration of the definitions contained in the footnotes for terms such as those relating to containment. Section E, Consultation, Clarification and Cooperation (of Article III) increased from 1 to 3 pages as this was developed principally in respect of the procedures to be followed.

On-Site Measures: Visits The first 17 paragraphs Part I, Visits, of Section F, Visits and Investigations, (of Article III) were discussed at the January meeting. In addition, language from WP.243 (Sweden) was incorporated into paragraphs 20 to 42 of Part I; Part I increased from 5 to 6 pages. The terminology for visits was modified so that there are now four categories — the previous category of Ambiguity-Related Visits has been dropped: “(a) [Random Visits] (b) [Clarification Visits] (c) [Request Visits] (d) [Voluntary Visits]”

The language for Random Visits shows that the thinking about how these might be distributed has advanced. The text says:

There shall be no more than [50] Random Visits per calendar year [with the following groups of countries receiving no more than [10] Random Visits each: [Africa, Asia, Eastern Europe, Latin America and the Caribbean, and the Western European and other States...][Such visits shall be distributed [fairly] among the [5][...][regional] groups of countries — [and proportional to the number of the declared facilities of each State Party].] No State Party shall receive more than [10] Random Visits in each five year period....

In addition, language from WP. 244 (Sweden) was incorporated into Annex B, Random and Clarification Visits, providing 6 pages; previously there had been no language.

On-Site Measures: Investigations Insofar as investigations are concerned, there was a lot of reordering of the material with, for example, pre-inspection activities being moved from Article III to Annex D on Investigations. A useful step forward has been achieved through the consolidation into a single Section of language on Field Investigations and Investigations of Alleged Use, and also into a single section of language on Facility Investigations and Investigations of Any Other Alleged Breach of Obligations. Annex D has consequently become reduced from its 64 pages in October to 40 pages now.

National Implementation The text in Article X, National Implementation Measures, has been developed slightly with the language in the first paragraph now referring solely to the taking of any necessary measures to implement its obligations under this Protocol. In the body of the Article the words National Authority now appear in square brackets.

Measures related to Article X Article X of the BWC requires that states parties undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technical information for the use of biological agents and toxins for peaceful purposes. In addition, this Article requires that the BWC be implemented in a manner designed to avoid hampering the economic or technological development of the states parties. The January meeting saw the revision of the language for Article VII, Scientific and Technological Exchange for Peaceful Purposes and Technical Cooperation, into a clearer format which has reduced the length by over a page.

Definitions Further progress was made in the consideration of definitions. The lists of human pathogens was updated with the removal of some of the square brackets and some of the agents; the category “New organisms resulting from genetic manipulations” was removed. An additional animal pathogen, Lumpy Skin disease virus, was added in square brackets together with a tabulation relating the disease, family, genus and type species for the 17 animal viruses and 2 mycoplasmas.

Confidentiality The language for confidentiality provisions was considerably developed particularly in Annex E. Article IV, Confidentiality Provisions, has a new paragraph, 4 bis, which states that “Data required by States Parties to be assured of the continued compliance with this Convention and this Protocol by other States Parties shall be routinely provided to them.” It then sets out that this data shall include the initial and annual reports and declarations provided by states parties under Article III, section D (Declarations) together with general reports on the results and effectiveness of compliance monitoring.

Annex E now has six main sections:

- I. General provisions for the handling of confidential information; [6 pages]
- II. Conditions of staff employment relating to the protection of confidential information; [2 pages]
- III. Measures [to protect confidential information in the course of on-site activities][to ensure the protection of confidential information made available to investigating or visiting teams while they are on the territory of the investigated or visited State Party]; [2 pages]
- IV. Procedures in case of breaches or alleged breaches of confidentiality; [3 pages]
- V. Appropriate procedures to protect confidentiality [of declarations]; [2 pages]
- VI. Procedures for archiving of confidential information. [no language]

It is thus clear that appropriate attention is being given to the protection of confidential information. Some officials note, however, that it would be unfortunate if declarations were to be generally regarded as confidential as there is much to be gained from as much as possible of the declaration information being openly available as it may enhance general confidence in compliance with the Convention.

Organization The language in the rolling text in Article IX on organization and implementational rearrangements and in Annex H The [Technical Secretariat][Technical Body] was taken forward through discussions by the Chair of the Ad Hoc Group, Ambassador Tibor Toth. The section (C) in Article IX on the [Executive Council][Consultative Council] has been developed considerably with language on the composition which includes the depositary states of the Convention and two alternative sets of geographical distribution. There is language addressing the basis on which each geographical region shall designate states from that region for election as members of the Executive Council which seeks to ensure that states with the most significant biotechnological industry are members. One form of language is that: “At least [1/3] of the seats allocated to each geographical region shall be designated on the basis of [the significance of their national biotechnology industry in the region as determined by international data as well as ... (i) the number of declared facilities, (ii) [Special] knowledge and experience in the field of ... biological activities [directly relevant to][not prohibited by] the Convention.”

There is considerable duplication between text on the technical secretariat in Article IX and that in Annex H. This situation was continued in the January 1998 version of the Protocol. Some of this leads to significant differences between the text in one part and that in another — a

particular example relates to the role of the Technical Secretariat in conducting visits and investigations. Article IX, para 41 states that the Technical Secretariat functions shall include:

(f) Conducting [[Non-Challenge][Random]Visits][and][Clarification Visits][Request Visits][Confidence-Building Visits][Voluntary Visits] in accordance with the provisions of Article III, Part F and of Annex G;]

(g) Receiving requests for [investigations to address a non-compliance concern][field and facility investigations][challenge inspections] and processing them, carrying out the preparations for, and *providing technical support during the conduct of [investigations to address a non-compliance concern][field and facility investigations][challenge inspections]*, and reporting to the [Executive Council] [Consultative Council];] [Emphasis added]

whereas Annex H para 20 states that the functions of the Technical Secretariat shall include:

(c) *Initiate and perform investigations of non-compliance concern* in accordance with Article III and Annex D; [Emphasis added]

(i) [Conducting [[Non-Challenge][Random]Visits][and][Clarification Visits][Request Visits][Confidence-Building Visits][Voluntary Visits] in accordance with the provisions of Article III, Part F and of Annex G;]

It is assumed that the much better language in Annex H will be incorporated into Article IX in later versions of the rolling text, or that the paragraphs are indeed removed, as proposed by a footnote in Article IX. There are advantages in the Technical Secretariat of the BWC Organization being responsible for carrying out all visits and investigations.

Prospects

The January meeting saw the successful agreement of a programme of meetings in 1998 that maintain momentum and offer the prospect that given the necessary political will, the substantive negotiations of the Protocol could be completed this year. Further impetus has been provided by President Clinton in his State of the Union address on 27 January 1998 when he said that “Now, we must act to prevent the use of disease as a weapon of war and terror.

The Biological Weapons Convention has been in effect for 23 years. The rules are good, but the enforcement is weak — and we must strengthen it with a new international system to detect and deter cheating.” The associated Fact Sheet released by the White House at the same time says that “under the new initiative announced by the President today, the United States will seek to complete the framework of a strong BWC protocol by the end of 1998.” {See *News Chronology* 27 Jan}

More recently, the European Union has agreed a Common Position that is legally binding on the 15 member states which states that:

Member States ... shall actively promote decisive progress in the work of the Ad Hoc Group, with a view to concluding the substantive negotiations by the end of 1998, so that the Protocol can be adopted by a Special Conference of States Parties early in 1999.

The Common Position sets out the:

measures, including verification measures, which are both central and essential to an effective Protocol to strengthen compliance with the BTWC:

— declarations of a range of facilities and activities of potential relevance under the Convention, *inter alia* so as to enhance transparency;

— provision for visits to facilities in order to promote accurate and complete declarations and thus further enhance transparency and confidence;

— provision for rapid and effective investigations into concerns over non-compliance, including both facility and field investigations;

— a cost-effective and independent organization, including a small permanent staff, capable of implementing the Protocol effectively.

This Common Position includes the vital elements for an effectively strengthened BWC; it will be interesting to see how the Ad Hoc Group negotiations progress in March, June/July and September/October.

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

News Chronology

November 1997 through February 1998

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

3 November Iran deposits its instrument of ratification of the Chemical Weapons Convention [see 27 Jul]. In 30 days time, it will thus become the 103rd state party to the treaty. A 7-article declaration has accompanied the instrument of ratification. It includes the following: “[Iran] reserves the right to withdraw from the Convention under the following circumstances: — non-compliance with the principle of equal treatment of all States Parties in implementation of all relevant provisions of the

Convention; — disclosure of its confidential information contrary to the provisions of the Convention; — imposition of restrictions incompatible with the obligations under the Convention.” The declaration goes on to present certain interpretations of the Convention, for example: “inspection equipment should be commercially available to all States Parties without condition or limitation”. Again: “As stipulated in Article XI, exclusive and non-transparent regimes impeding free internation-

al trade in chemicals and chemical technology for peaceful purposes should be disbanded.” In this allusion to the Australia Group [see 6-9 Oct], the declaration echoes that of Pakistan [see 28 Oct].

4 November In Germany, at Darmstadt, the trial begins of four former managers at Havert Industrie-Handelsgesellschaft charged with illegal exports to Iraq during 1988-90. The goods exported are said to have included chemical-weapons production equipment. {*Frankfurter Rundschau* 5 Nov}

4 November In the US House of Representatives, there is a hearing on progress in the Nunn-Lugar-Domenici programme for increasing national preparedness against terrorism involving weapons of mass destruction [see 9 May 97]. Appearing before the Military Research and Development Subcommittee of the National Security Committee, which is chaired by Representative Curt Weldon, are witnesses from the FBI, FEMA, the Defense Department, the Energy Department and the Army. Among the matters explored in detail is the degree of coördination that exists between the 43 different agencies and departments that have counterterrorism responsibilities, and also the question of whether there should be a national training centre for emergency response teams.

5 November Russia deposits its instrument of ratification of the Chemical Weapons Convention. In 30 days time, it will thus become the 104th state party to the treaty. Earlier in the day, the upper house of the Federal Assembly had unanimously approved the law on ratification passed by the Duma five days previously [see 31 Oct]. The law, which includes substantial provisions on implementation of the Convention, is signed shortly thereafter by President Yeltsin.

5-9 November In Budapest, a NATO Advanced Research Workshop on *Conversion of Former Biological Weapons Facilities* takes place at the Frederic Joliot-Curie Institute for Radiobiology and Radiohygiene under the co-direction of Dr Lajos Gazso and, from Germany, Professor Erhard Geissler. Some 40 people participate, coming from Germany, Hungary, Poland, Russia, Ukraine, the UK and the USA. The presentations include ones on conversion at Porton Down (UK), Fort Detrick (USA) and Stepnogorsk (Kazakhstan). {*ASA Newsletter* 4 Dec} A paper by Colonel Gabor Faludi of the Hungarian Defence Forces Medical Corps gives particulars of a biological-weapons programme conducted in Hungary during 1936-44.

7 November A US National Academy of Sciences panel proposes that Russian and US scientists should collaborate in a 5-year \$38.5 million programme of research on pathogens of BW significance, funded by the US Defense Department. The programme would comprise about 70 joint projects on anthrax or plague bacteria, for example, or viral haemorrhagic fevers; major benefits in disease-prevention and treatment could be anticipated from the projects. The NAS report containing the proposal had been transmitted to the Defense Department on 28 October. The NAS panel, chaired by Joshua Lederberg, had been tasked in 1995 by the Department to make recommendations on ways of engaging former Soviet BW scientists who might otherwise be lured into foreign BW-weapons programmes, and this proposal, called the Pathogens Initiative, is the result. The Academy has already become involved in six pilot projects at two former Soviet facilities within the Biopreparat organization [see 22 Nov 96 and 15 Oct] — the State Research Centre for Virology and Biotechnology ‘Vector’, near Novosibirsk, and the State Research Centre for Applied Microbiology, Obolensk, near Moscow — to which the Depart-

ment has committed \$0.5 million. The Russian Defence Ministry, which is estimated still to have some 150-200 scientists doing BW defence work at four institutions, has thus far remained aloof from this venture of collaboration *cum* conversion. {*Nature* 13 Nov, *Science* 14 Nov}

7 November The US Senate passes the FY 1998 National Defense Authorization bill which the House of Representatives had adopted on 3 October. In the Cooperative Threat Reduction (Nunn-Lugar) programme [see 8-11 Apr], \$55.4 million is authorized for support of Russian chemdemil, of which \$35.4 million is for the planning and design of a chemdemil facility [see 25 Feb] and \$20 million is for the dismantlement of CBW weapons facilities in Russia. These authorizations are heavily conditioned, however. As regards the chemdemil facility, Congress must first see agreements which set a limit to the US financial contribution toward facility costs, which exclude US contribution toward infrastructure costs, and which site the facility. Funding for design and planning of the facility is not to be used for construction of it. The funds are further fenced until the US Defense Secretary certifies to Congress that the Russian government has both approved a destruction plan for chemical weapons and has committed funding for some of the facility costs. And the president is required to certify either that US national security would be compromised by the authorization not being obligated, or that Russia has fully and accurately declared all information regarding its chemical weapons, binary as well as unitary, and production facilities. {*Post-Soviet Nuclear & Defense Monitor* 11 Nov}

8 November President Clinton announces actions in response to the recommendations of his Advisory Committee on Gulf War Veterans’ Illnesses [see 31 Oct]. A special federal oversight board led by former senator Warren Rudman [see 30 Apr] is “to ensure that the Defense Department’s ongoing investigations into events in The Gulf meet the highest standards”. An extra \$13.2 million is to be dedicated for “new research on low-level exposure to chemical agents and other possible causes of illness”. A new benefits system is to be established “to better care for and compensate our veterans”. Ongoing scientific research into the illnesses is to be reviewed by the National Academy of Sciences. And the Departments of Defense and Veterans Affairs are to create a Force Health Protection Program to keep detailed health records on individual service personnel. {*Washington Post* 9 Nov, *Chemical & Engineering News* 17 Nov}

10 November The US Defense Department announces its funding, at \$12 million, of 12 new research projects on Gulf War illnesses. It now has more than 35 active extramural projects on its books.

11 November In Tokyo, during talks between Chinese Premier Li Peng and Japanese Prime Minister Ryutaro Hashimoto, the latter reportedly promises that Japan will speed up efforts to dispose of chemical weapons abandoned in north-eastern China by the Japanese Imperial Army. {Kyodo 11 Nov in BBC-SWB}

12 November In the UK House of Commons there is an adjournment debate on the BW tests carried out during the 1960s and 1970s in the West Country [see 23-25 Sep].

12 November The UN Security Council unanimously adopts resolution 1137 condemning Iraq’s continued violations of its obligations under earlier resolutions and imposing additional sanctions in the form of restrictions on the travel of all Iraqi offi-

cial and armed-forces personnel responsible for the noncompliance, or participating in it. This follows an unsuccessful attempt at mediation in the Iraq crisis [see 29 Oct UN] during the previous week by UN Secretary-General Kofi Annan. The US deploys additional naval and air forces to the Gulf region. Iraq expels the six US nationals currently serving in-country with UNSCOM, whereupon UNSCOM withdraws all of its 68 non-US experts, leaving only a skeleton staff at its Baghdad Centre. Iraq also threatens to shoot down overflying U-2 high-altitude reconnaissance aircraft.

12 November The US House of Representatives passes by voice vote a bill, HR 2709, which would place sanctions on businesses or countries suspected of transferring missile technology to Iran. Attached to the bill as a device for shielding it against presidential veto is a separate measure, S.610, which is the implementing legislation for the Chemical Weapons Convention already passed by the Senate [see 4 Jul]. In the Senate next day, moments before the Congress adjourns for the year, floor consideration of the composite bill is blocked by Senate democrats. So, without implementing legislation, the United States remains in violation of the CWC.

12 November The US Defense Department Joint Vaccine Acquisition Program announces the award of a \$322 million multi-year contract for development and production of vaccines to protect US forces against BW agents [see 13 Oct 94]. The award is to DynPort LLC, a joint venture of DynCorp and the London-based Porton International Inc. {*Washington Post* 13 Nov}

14 November In South Africa, the Truth and Reconciliation Commission is continuing its investigation of Project Coast, the secret CBW programme of 1981-92 [see 7 May and 28 Oct]. The Commission has now received an independent report on Project Coast prepared for it by the Netherlands Institute for Southern Africa. This report has not yet been released, but, according to the Johannesburg *Mail and Guardian*, it identifies a particular former colleague of the leader of Project Coast, Dr Basson, as someone who should now be called to testify before the Commission. {*Africa News* 14 Nov} Another newspaper, *The Sowetan*, states that the report suggests that the allegation of chemical warfare in Mozambique early in 1992 [see 28 Jan 92] in fact related to a test of the Project Coast chemical weapons that were being readied for possible use in South African black townships. {AFP from Johannesburg 14 Nov}

16 November In Iraq, scores of soldiers are reportedly receiving hospital treatment for injuries sustained earlier in the month while moving secret stockpiles of chemical weapons out of Baghdad, so the London *Sunday Telegraph* reports. The only source quoted is an unidentified "doctor", but the newspaper states that, the day previously, an unidentified British official had said: "We are satisfied that the incident took place".

16 November In Sudan, mustard gas is being made at a factory in Wau [see also 12 Sep], in the far southwest of the country, where production began in Autumn 1995 in accordance with a secret agreement between Khartoum and Baghdad to circumvent UNSCOM [see also 6 May]. The factory is controlled by the Sudanese military and has Iraqi technicians to provide expertise. This information, published in the London *Sunday Times* {16 Nov}, is attributed to "military intelligence and diplomatic sources in Kampala".

The newspaper also reports these sources as saying that Sudanese government forces have used mustard gas at least twice against the Sudanese People's Liberation Army near

Juba, the southern capital, once in late 1995 at Nimule, and later at Kuya. The mustard was used in canisters rolled out of transport aircraft, but is said to have missed its targets because of poor coordination between the aircraft and Sudanese ground forces. The newspaper says there may also have been earlier attacks, possibly using a consignment of mustard gas shipped in from Iraq before the Wau factory was producing.

17 November The US Defense Department releases a report by the Army Inspector General on the demolition of Iraqi ammunition at Khamisiyah in 1991 during which CW agents may have been released. The investigation had been ordered a year previously [see 25 Sep 96]. A Department statement says: "The inquiry team developed a detailed timeline of the Khamisiyah demolitions and concluded that no chemical weapons were ever detected during the operation. It found that force protection measures were generally adequate, although not all soldiers performed to standard when an M8 alarm sounded on March 4, 1991. The investigation found 'no certainty' that the munitions demolition operation at Khamisiyah would have proceeded differently had the units been aware that chemical weapons may have been present. Neither did it find any credible evidence that an event similar to Khamisiyah occurred anywhere else in the Kuwaiti Theater of Operations."

18 November Iraq's ability to rearm itself with weapons of mass destruction if the work of UNSCOM should cease now becomes, as the latest UNSCOM-Iraq crisis heightens, the subject of remarkable disclosure of official information.

In the United Kingdom, excerpts from a formal intelligence assessment are released by the Foreign Office. This states that the possibility cannot be ruled out of Iraq having successfully hidden "a handful" of largely complete guided-missiles as well as CBW weapons. "In a crisis these could be available for use within a matter of weeks or perhaps even days". The assessment continues: "Provided it still has key components — and that is unclear — Iraq could within a few months build, with little risk of detection, missiles capable of hitting Israel and key targets in Saudi Arabia. ... If the UN Special Commission were to be removed or prevented from operating for a sustained period, Iraq could produce within a matter of months a small number of chemical or biological weapons, including missile warheads." Large-scale production of CW agents would, however, "almost certainly" be detected. {PA 18 Nov in FBIS-WEU}

In America, *NBC News* presents an unprecedentedly detailed account of the person said to be leading the Iraqi BW-weapons programme, Dr Rihab Taha [see 31 Jan 95]. In the version posted on the Internet, the account contains the following: "Taha was directly responsible for those tests [exposure of animals to airborne anthrax bacteria and botulinum toxin, video recordings of the effects of which are held by UNSCOM] and some believe she may also have been responsible for human trials, although she and the Iraqi government deny it. There is indirect evidence of the need for human subjects. Early in the program, the Iraqis had difficulty obtaining primates for their experiments, even sending, at Taha's direction, a team to Africa in hopes of bringing some back. They returned empty-handed. That shortage of primates and a surfeit of Iranian prisoners of war have made many inspectors suspicious. 'It certainly wouldn't have violated their scruples', one inspector said."

19 November In Washington, a conference on *Countering Chemical and Biological Weapons* is convened by Jane's Information Group, the current issue of one of whose defence-industry trade journals, *Jane's Defence Weekly*, is largely given over to CBW matters. Some 200 people participate, hearing presentations from six senior US defence and other officials. Dr

Gordon Oehler, who has just resigned as director of the CIA Nonproliferation Center, speaks of US failure to control proliferation of nuclear and CBW weapons: "I would have to say that we are not on top of the problem. We are not even staying even. We are slipping." On the biological weapons programme of Iraq he says "we do not know what and how much" has been stockpiled. {*Jane's Defence Weekly* 3 Dec} There is also a presentation by Senator Lugar about America being ill-prepared to manage the threat against American cities posed by terrorist or other CBW weapons [see also 4 Nov].

Jane's Information Group is shortly to release its new *US Chemical-Biological Defense Guidebook*, a 470-page compendium priced at \$850 which it describes as "a comprehensive resource for everything from chemical and biological agent weaponization to emergency response ... an ideal tool for federal, state and local emergency management officials, 'first responders' such as police, fire and emergency medical personnel, the military, and all others with a stake in being well-prepared for a potential chemical or biological weapons attack".

One piece of information purveyed by the *Guidebook* is that the North Korean army conducted some 630 CW training exercises during 1980-91 using "live chemical agents".

19-29 November In China, a Japanese government investigative team of 15 people is scheduled to visit the northeastern city of Qiqihar to prepare for the disposal of some 250 abandoned chemical munitions identified by an earlier team [see 17-28 Sep 96]. The team is also scheduled to visit Nanjing for consultations with Chinese officials on what to do with some 3000 smoke devices believed to have been buried there by Japanese forces. This is the tenth such Japanese mission to China [see 7-19 Oct]. {Kyodo 13 Nov in FBIS-EAS}

20 November Iraq, in a joint statement with Russia issued in Moscow and Baghdad, announces that it will re-admit UNSCOM inspectors who are US citizens [see 12 Nov]. The statement follows an emergency ministerial-level meeting, in Geneva, of the five permanent members of the UN Security Council, which reiterated calls for "unconditional and complete fulfilment by Iraq of all the relevant resolutions of the UN Security Council". The statement also "supported the intention of the Special Commission of the UN Security Council to meet on [the following day] in New York to discuss and advise, among other important issues, ways to make UNSCOM's work more effective on the basis of the resolutions of the UN Security Council. The recommendations from that meeting will be subject to the approval of the Security Council." This emergency session of the P5 had itself followed talks in Moscow between President Yeltsin, Russian Foreign Minister Yevgeny Primakov and Iraqi Deputy Prime Minister Tariq Aziz, after which the Iraq News Agency announced that "Iraq and Russia have reached an agreement" including a Russian commitment to work for the lifting of the sanctions on Iraq. UNSCOM inspectors return to Baghdad next day, and U-2 flights resume on 24 November, having been curtailed six days previously.

President Clinton later gives the US Congress the following account of events prior to this development: "For 3 weeks, the Government of Iraq refused to allow American UNSCOM personnel to enter the country or to participate in site inspections, expelled UNSCOM personnel who are US citizens, threatened the safety of the US Air Force U-2 aircraft that flies missions for UNSCOM, tampered with UNSCOM monitoring equipment, removed UNSCOM cameras, moved and concealed significant pieces of dual-use equipment, and imposed additional unacceptable conditions on continued operations of UNSCOM. Two confrontational actions were undertaken in an atmosphere of

strident, threatening Iraqi rhetoric". {White House press release 1 Dec}

20 November The OPCW Technical Secretariat has now had 34 sites declared to it by states parties in accordance with Art V. Of these chemical-weapons production facilities, 4 have been declared by countries — understood to be two in number — that have in effect requested that they not be identified publicly [see 28 Jul, 8 Aug, 17 Aug, 28 Sep and 29 Sep]; the remaining sites have been declared by China (2), France (6), Japan (1 [see 29 Jul]), the United Kingdom (8 [see 5-9 Aug and 11-16 Aug]) and the United States (13). The Secretariat has also received declarations of 26 sites in accordance with CWC Art IV; of these chemical-weapons storage facilities, 9 are sites within the two unidentified countries while the remainder are in the United States and, apparently, Latvia [see 8-11 Sep]. Declarations in accordance with Part IVB of the CWC Verification Annex, storage sites for old or abandoned chemical weapons, have thus far been made by Belgium, China, France, Germany, Italy, Japan and the United Kingdom. {C-II/2/Rev.2}

20 November US Defense Secretary William Cohen announces a programme to reorganize the Defense Department. One objective is to bring greater coördination to the countering of nuclear and CBW weapons proliferation, to which end three major changes are envisaged in this 'Defense Reform Initiative'. First, the Office of the Assistant Secretary of Defense for International Security Policy, which has mostly been concerned recently with counterproliferation policy and the Cooperative Threat Reduction programme, is to be folded into the existing Strategy and Resources office headed by Edward Warner, who will now become Assistant Secretary of Defense for Strategy and Threat Reduction. Second, the Defense Special Weapons Agency, the On-Site Inspection Agency, and the Defense Technology Security Administration are to be consolidated into a single 'Threat Reduction and Treaty Compliance Agency' reporting to the Under Secretary of Defense for Acquisition and Technology; DARPA Director Larry Lynn is subsequently tasked with developing a blueprint, by the end of January 1998, for implementing this merger. Third, a new Deputy Director of Defense Research and Engineering for Nuclear, Chemical and Biological Matters is now to serve as the department's principal adviser on these matters in place of the existing Assistant to the Secretary of Defense. {*Defense News* 17 Nov, *Jane's Defence Weekly* 19 Nov}

20-22 November In Indianapolis, Global Green USA hosts its fourth annual Legacy Forum on military toxic cleanup and base conversion, *Finding the Silver Lining: Tools and Strategies for Revitalizing Communities*. There are presentations on chemdemil activities in Russia and the United States by involved scientists and officials from both countries, and also by developers of alternative chemdemil technologies. Global Green USA is the American affiliate of Green Cross International.

There had been plans for the Russian delegation, which includes government officials from Kurgan Oblast and the Defence Ministry RKhB Protection Troops, subsequently to visit US chemical-weapons storage facilities nearby at Newport and at Aberdeen Proving Ground in Maryland. The visits do not take place, however, because of what is later described as a bureaucratic delay over clearances. {*Post-Soviet Nuclear & Defense Monitor* 16 Jan 98}

21 November In Hanoi, the US Embassy receives from Vietnamese officials, as promised [see 26-28 Jun], the papers containing scientific data on effects of Agent Orange and other herbicides used by US forces during the Vietnam War that had

been seized more than two years previously from a visiting team of US scientists [see 20 Jun 95]. Not returned, however, are the soil and blood samples collected by Dr Arnold Schechter and others on the team. {AFP from Hanoi 25 Nov} In August, a US Congressional delegation had been on a 6-day tour of the country, and its leader, Representative Lane Evans, had told reporters that joint US-Vietnamese research into the effects of the chemicals was "long overdue" {AFP from Hanoi 14 Aug}. In October there had been a conference in Hanoi on the aftermath of the chemicals attended by ministry officials, war invalids, numerous scientists and others {VNA 8 Oct in BBC-SWB 10 Oct}. A finding recently reported from the Vietnamese investigations organized through Committee 10-80 is that 84 percent of 149 samples of adipose tissue collected by the Committee in south Viet Nam tested positive for dioxin. {Giai Phong 17 Oct in FBIS-TEN 4 Nov}

21 November In Tirana, at a ceremony to mark the 44th anniversary of the founding of the Albanian military chemical-warfare organization in 1953, Secretary of State for Defence Policy Perikli Teta says that Albania does not possess weapons of mass destruction. A history of the organization is related by the chief of the Defence Ministry Chemical Weapons Department, Thoma Sterjo. {ATA 21 Nov in FBIS-EEU 21 Nov}

21 November In New York, members of the UN Special Commission on Iraq (UNSCOM) convene as had been proposed by Russia with the endorsement of all five permanent members of the Security Council [see 20 Nov], and next day transmit a report with recommendations {S/1997/922} to a special session of the Security Council. In the report, the Commission states that Iraq's systematic concealment activities have directly affected the Commission's ability to fulfil its mandate, observing that immediate, unconditional and unrestricted access is absolutely fundamental to the Commission's ability to accomplish any of its tasks. The report states that the Commission "respects the legitimate national security, sovereignty and dignity concerns" of Iraq, and says that its members have identified the need for greater clarity in the reconciliation of those rights and the need for full practical application of the mandate given to it by the Council, to which end it urges the Executive Chairman to seek such clarity in early discussions with Iraqi authorities.

As for the substance of work remaining to be done, the report prioritizes four issues concerning chemical weapons: (a) the accounting for special warheads (chemical and biological) for the Al Hussein missile; (b) the extent of Iraq's efforts to produce and weaponize Agent VX; (c) the material balance of chemical munitions declared by Iraq as having been destroyed during the Persian Gulf war; and (d) the material balance of production equipment procured by Iraq for chemical-weapon purposes. Beyond that, the Commission notes that the paucity of progress in the area of biological weapons is largely attributable to Iraq's denial of the existence of such a programme until June 1995. The report notes that Iraq's September 1997 FFCD [see 29 Sep-3 Oct] was not substantially different in substance from previous versions which had been found unacceptable, and it remained unsupported by verifiable evidence and documentation. The Security Council is therefore urged to call upon Iraq to overcome those existing deficiencies in that area.

In the Security Council, Russia initially opposes acceptance of the report and its recommendations, but on 3 December the Council achieves consensus on a Presidential statement which "endorses the conclusions and recommendations of the report of the emergency session" {S/PRST/1997/54}. By this time the issue of access to "Presidential/residential" sites by UNSCOM inspectors [see 16 Oct] has once again become contentious.

22 November The Danish company Niro A/S shipped two spray-driers to Iraq in 1989, only one of which was installed at the civilian establishment for which they had been ordered, so *Politiken* reports. UNSCOM inspectors had found the other at a warehouse in northern Iraq, but were unable to ascertain whether it had, as was possible, been used to process biological-warfare agent: the plant had been disassembled and cleaned. {Copenhagen *Politiken* 22 Nov in FBIS-TAC 24 Nov}

22 November Cuba is to receive Chinese assistance in countering the thrips infestation of its food-crop cultivations which it has portrayed as biological warfare conducted against it by the United States [see 25-27 Aug]. Over the next three years China is to provide equipment, chemicals and technical advice for production in Cuba of anti-thrips pesticide. {Radio Havana 23 Nov in FBIS-TEN 30 Nov}

23 November In Tokyo, a joint Japanese-Chinese research team has just published, after ten years of study, an account of Japanese biological-warfare activities in China at the time of World War II, *War and Diseases — Crimes of Unit 731*. The project had been organized by the Pacific War Historical Research Society at Keio University. Professor Akira Tanaka, a member of the Society, is quoted as follows by the Chinese news agency Xinhua: "Through researching historical facts, we obtained irrefutable evidence to prove that the Japanese invasion troops waged large-scale, brutal germ warfare in China, causing tremendous misery and huge losses to the people of China". A Chinese edition of the book is in preparation.

The project had been initiated in 1983; quoting Professor Tanaka, Xinhua reports: "Researchers interviewed people in Japan who had conducted germ research on humans as well as those who had taken part in the germ warfare. They also collected related materials in the former Soviet Union, the United States and England, and in 1992 collaborated with the Jilin Province Academy of Social Sciences to step up field research in China. The Japanese research personnel raised their own funds to make several visits to regions where the Japanese troops had carried out germ warfare, such as Ningpo, Yiwu, Jinhua and Wei County in Zhejiang, Shangrao in Jiangxi, Changde in Hunan and Changchun in Jilin. Here they sought out the survivors as well as families of victims to find out about the germ warfare and [about] the conditions of the victims in the throes of diseases. They also studied practically all the historical records made by the local governments during the times of the epidemics." Xinhua also quotes another member of the research team, Professor Takao Matsumura, also of Keio University: "Because the perpetrators of the germ warfare destroyed relevant materials and records and kept a tight embargo on the news, as well as long years in which this research did not receive proper attention, many victims to this day do not know that the plague from which they suffer was caused by bacteriological warfare waged by the Japanese Army." {Xinhua 23 Nov in FBIS-CHI 30 Nov}

24 November In Brussels, the NATO-Russia Permanent Joint Council convenes at ambassadorial level for its fourth meeting, the agenda including an initial discussion of the problem of preventing the proliferation of nuclear and CBW weapons. The Russian delegation includes Ambassador Batsanov; he speaks of the Russian chemdemil programme and its \$5.5 billion estimated cost, and he expresses gratitude for the assistance thus far received from countries such as the United States, Germany and the Netherlands. {*Atlantic News* 26 Nov}

25 November In London, a half-day seminar on *The Biological Weapons Convention and the Pharmaceutical Industry* is

sponsored jointly by the Foreign & Commonwealth Office, the Department of Trade and Industry, and the Association of the British Pharmaceutical Industry. Some 60 people participate, mainly from the industry but also from the academic world. They hear and discuss presentations from BWC specialists in each of the sponsoring organizations and also from CBD Porton Down. Expounded in some detail is the UK government position that the projected strengthening of the BWC must include obligations upon states parties to improve the transparency of their applications of dual-use technologies by declaring information about specified types of facility and by receiving a limited number of visits at declared facilities, all of this in addition to challenge-inspection provisions incorporating a red-light, not a green-light, filter mechanism. The seminar is taking place in the aftermath of a practice visit conducted by government officials at a large pharmaceutical research facility.

25 November US Defense Secretary William Cohen releases his department's second annual report on *Proliferation: Threat and Response* [see 11 Apr 96]. According to the report, more than 25 countries have developed nuclear or CBW weapons, or may be developing them. The report includes a rather detailed description of the US Defense Department CBW defence programme, and also a technical annex on "novel BW threats" [see 13 Aug]. The report identifies China, Iran, Iraq, Libya, North Korea, Russia and Syria as having both chemical and biological weapons programmes. The detail it gives on Iran is confusing. It asserts that Iran "used chemical agents to respond to Iraqi chemical attacks on several occasions" during the Iraq-Iran war of the 1980s, but later cites Iran's "inability to respond in kind to Iraq's chemical attacks" as reason for its postwar programme. As for biological weapons, it states that Iran began a BW programme during the war, but also says that "while only small quantities of usable agent may exist now, within 10 years Iran's military forces may be able to deliver biological agents effectively". The report states incorrectly that Chinese ratification of the Chemical Weapons Convention came after the US ratification [see 25 Apr].

Secretary Cohen tells reporters: "The threat [of WMD proliferation] is neither far-fetched nor far off, and the threat will only grow." He also says that Defense Department planners assume that CBW attacks are likely in wars to come. He warns, once again, that federal, state and local authorities must be prepared for the possibility of CBW weapons being used on US soil: "The front lines are no longer overseas — it can be in any American city". {*New York Times*, *London Financial Times* and *International Herald Tribune* 26 Nov} The latest antiterrorism kit of the Marine Corps CB Incident Response Force [see 15 Jun 96] is then demonstrated on the front lawn of the Pentagon. {*Defense News* 1 Dec} In an op-ed piece in next day's *Washington Post* {26 Nov}, Secretary Cohen writes: "We cannot allow vulnerability to chemical and biological weapons attacks to become our Achilles heel".

26 November Iraqi Deputy Prime Minister Tariq Aziz invites the UN to send diplomats to stay as guests in presidential buildings and palaces to which UNSCOM has been denied access [see 21 Nov] in order "that they may learn the truth as it is". UNSCOM inspectors are excluded from the invitation. There are said to be 78 "sensitive sites", including these presidential ones. Around 48 of them have been built during the period of UNSCOM operations, some very large, exciting suspicions that they conceal proscribed weapons or documentation about past weapons programmes for which UNSCOM has been searching. US Defense Secretary William Cohen had said on television three days previously that the sanctions on Iraq would

never be lifted if Iraq continued to declare sites out of bounds to UNSCOM inspectors.

29 November The Russian Ministry of Defense has been using funds allocated to chemical disarmament to meet the costs of personnel in excess of its roster. While this has included the creation within the RKhB Protection Troops of a new Directorate for the Elimination of Chemical Weapons staffed by 82 people, many other of the new posts so funded have nothing to do with chemical disarmament. This information, from the Federal Court of Auditors, is reported in *Segodnya* {29 Nov}. The application of chemdemil funds for such purposes had been authorized in a Presidential decree issued in 1994, no 330. However, the Court of Auditors has found that a part of the budget allocation was unlawfully spent by the RKhB Protection Troops on housing and other facilities for Military Unit 42734 at Shikhany. None of the allocation has been used for any building of chemdemil facilities. The Court has reported that, because there are no such facilities, chemdemil equipment imported from Germany and the United States "is not being used in accordance with its designation and is stored at military units in premises not intended for this".

30 November In Cairo a spokesman for the Sudanese National Democratic Alliance (which comprises political forces opposing the Sudanese government) issues a statement containing an appeal against the use of chemical weapons by Sudanese government forces in the current civil war [see 16 Nov]. The appeal calls upon "the member states of the UN Security Council to take up the matter and commission a group of experts to inspect the sites and locations suspected and identified by various bodies as being connected with the production and storage of chemical weapons in the Sudan". The statement specifies several such sites and locations: three factories, five underground storage facilities, and three other depots. It says that technical know-how is being provided "by military experts from various countries".

ca 1 December From Obolensk in Russia, at the State Research Centre for Applied Microbiology, scientists studying factors that influence virulence in *Bacillus anthracis* report that they have altered a virulent strain of the anthrax bacterium by introducing two non-anthrax genes and that this has resulted in resistance to the current Russian anthrax vaccine. The report is published in the British scientific journal *Vaccine* {15: 1846-50} and later feeds press speculation about novel forms of Russian and Iraqi anthrax weapons. {*New York Times* 14 Feb, *Newsday* 19 Feb}

1 December In Pretoria, the High Court rejects an appeal by *Business Day* and *The Sunday Times* against the ruling made by a regional-court magistrate, F J Poolman, during the bail-application of Dr Wouter Basson that the hearing be *in camera* and that documents in the case be kept secret [see 28 Oct]. Making his ruling, Judge Danie Botha says that documents about Project Coast to be given in evidence were "pregnant with information which, if explored and elaborated upon, could lead to the disclosure of state secrets relating to the state's defensive capability in the field of biological and chemical warfare and certain covert activities. ... It could lead to knowledge of biological and chemical warfare falling into the wrong hands." The ruling goes on to state that the evidence would compromise third parties who were not witnesses, exposing them to detection, prosecution and harassment. {*Business Day* 2 Dec} Dr Basson, who had been granted bail, is facing ten charges of fraud and theft involving some R30 million and relating specifically to his tenure as head of Project Coast. {*Africa News* 5 Dec}

1 December In Switzerland, the OPCW Technical Secretariat conducts a routine initial inspection at an industrial chemical facility owned by Säurefabrik Schweizerhall (AFP from Bern 1 Dec). The facility is a Schedule 2 one, and the inspection is the first of its kind to be conducted by the OPCW.

1 December In the United States, Boeing Defense & Space Group Helicopters Division has announced the successful testing of a pressure-swing adsorption system for the Comanche helicopter. The tests demonstrated the combined removal of water vapour and simulants of blood and nerve gases from cockpit air. {*Defense News* 1 Dec}

1 December In Washington, *Defense News* reports findings from a soon-to-be-released study commissioned by the Army, the Joint Staff and the Office of the Secretary of Defense, *Assessment of the Impact of Chemical and Biological Weapons on Joint Operations in 2010*. The study has been produced by a panel of twenty retired flag officers chaired by General John Foss, former commander of the US Army Training and Doctrine Command, and managed by Amoretta Hoerber, a former deputy under secretary of the Army. A conclusion of the study is that the main future CBW threat is no longer massive use of the weapons but enemy tactics involving small-scale use. {*Defense News* 1 Dec, *Jane's Defence Weekly* 18 Feb 98}

1–5 December In The Hague, the Conference of the States Parties to the Chemical Weapons Convention reconvenes [see 6-24 May] for its second session.

1–12 December At UN headquarters in New York, the Preparatory Committee on the Establishment of an International Criminal Court meets for its fifth session under the continuing chairmanship of Adriaan Bos of the Netherlands. Its five working groups agree on texts for inclusion in the draft consolidated text of the convention for the proposed court. One of the five texts provides a development of the draft definition of war crimes [see 20 Feb] in which, as regards the use of certain weapons, four different options are presented, two of which would expressly prohibit use of CBW weapons. Decision on which option to go with is now left to the Rome diplomatic conference of plenipotentiaries that is scheduled for 15 June to 17 July. There will be one more session of the Preparatory Committee before then, during 16 March to 3 April 1998. {L/2847 12 Dec}

Among the matters now agreed for the agenda of the sixth session is the relationship of the court to the United Nations. Uniquely among the five permanent members of the UN Security Council, the United Kingdom has taken the decision to oppose the provision in the draft statute of the court which would require prior approval by the Security Council before the court could proceed with investigations or trials. This decision the UK confirms during the present session of the Preparatory Committee. The UK favours instead a modified version of the proposal originally put forward by Singapore: a “red light” procedure whereby the Security Council would have to take a positive decision to delay or block the ICC, and then only for a limited length of time. The draft statute for the court had been produced by the International Law Commission at the request of the General Assembly in 1992, and has underlain the work of the Preparatory Committee.

2 December In Tokyo, where Shoko Asahara, leader of the cult Aum Shinrikyo, is on trial for murder and other charges [see 24 Apr 96] arising from the release of nerve gas at Matsumoto in July 1994 and in the Tokyo subway system in March 1995, the prosecution announces that it will seek to accelerate the proceedings, which could otherwise last for another 25 years.

This it will do by reducing from 3938 to 18 the number of victims on whom the prosecution would need to present evidence and examine as witnesses. (Reuter from Tokyo 2 Dec) The defence and the trial judge subsequently accept this prosecution request (AFP from Tokyo 16 Jan 98).

2 December Ukrainian Deputy Foreign Minister Kostyantyn Gryshchenko informs the second session of the OPCW Conference of the States Parties [see 1-5 Dec] of the progress of his country towards ratification of the CWC. He adds: “But to be successful in answering relevant questions at the ratification hearings we need full clarity on one particularly important issue: whether at any time in Soviet history chemical weapons were buried or dumped on the territory of Ukraine. Classified information to this effect exists only in central archives in the Russian Federation. Ukraine has been formally asking the Russian side to provide such information starting from 1994, but even after three rounds of bilateral consultations we failed to receive adequate substantive formal reply.”

3–6 December In Como, under the aegis of UNESCO and with support from the Italian government, a conference on *Possible Consequences of the Misuse of Biological Sciences* is organized by the Landau Network–Centro Voltà as the first forum of the international scientific panel of the new UNESCO International School of Science for Peace. Some 60 people from 10 countries (Croatia, France, Germany, Israel, Italy, Russia, Sweden, Switzerland, the UK and the USA) participate. There are several presentations on aspects of biological and chemical warfare, as well as authoritative papers from and about two major Russian institutions once active in BW-related work: the State Research Centre of Virology and Biotechnology ‘Vector’ at Koltsovo near Novosibirsk, and the State Research Centre for Applied Microbiology at Obolensk near Moscow.

4 December UK Armed Forces Minister John Reid says to the House of Commons: “Next year, we will be using our presidency of the European Union to press for early progress ... on verification arrangements for the Biological Weapons Convention. It would be optimistic to imagine that arms control will completely eradicate the problem, but it will add to the obstacles faced by the would-be proliferator.”

4 December The UN Security Council adopts a resolution which extends for a further six months the partial lifting, in regard to food and medicines, of the trade embargo upon Iraq. The Council also asks the Secretary-General to report on the question of increasing the permitted sales of oil from the existing ceiling of \$2 billion per 6-month period [see 25 Nov 96]. {*International Herald Tribune* 5 Dec}

6 December Syrian Defence Minister Mustapha Talas is reported by the Kuwaiti newspaper *Al-Ra'y al-Amm* as saying: “How can we justify giving a free hand to Israel’s research into strengthening and developing every means of mass destruction, while blockading Iraq on the pretext that it has some biological weapons. ... Syria and other Arab states have the right to develop the defensive weapons that they see appropriate to be able to confront hostile Israel.” {AFP from Kuwait City 6 Dec}

7 December President Clinton last month signed a Presidential Decision Directive setting out policy on nuclear weapons to replace an earlier directive signed by President Reagan in 1981, according to the *Washington Post* {7 Dec}. The newspaper reports: “Several sources said ... the directive contains language that would permit US nuclear strikes after

enemy attacks using chemical or biological weapons". It quotes the National Security Council senior director for defence policy, Robert Bell, saying that, in regard to CBW, the directive only reiterates what senior administration officials have already said during the past year, namely that if any nation uses weapons of mass destruction against the United States, it may "forfeit" the protection from US nuclear attack afforded by the negative security assurance declaration made during the Carter administration and reaffirmed by the United States (and other nuclear powers) in 1995, an undertaking not to use nuclear weapons against non-nuclear parties to the Non-Proliferation Treaty. Later he tells reporters: "This PDD does not sanction some new expansion of the nuclear role. It doesn't change US policy." He also says: "It's not difficult to define a scenario in which a rogue state would use chemical weapons or biological weapons and not be afforded protection under our negative security assurance". The directive has by now been identified as PDD 60 {*Defense News* 6 Jan}

7-11 December In Cairo, 115 specialists chiefly in medical CBW countermeasures from 31 countries assemble for the fourth *Chemical and Biological Medical Treatment Symposium*, the first to be held in the Middle East. With sponsorship from private industry and the Battelle Memorial Institute, and with assistance from the Egyptian Ministries of Agriculture and of Tourism, the meeting has been organized by Colonel Richard Price of Applied Science and Analysis, Inc. The proceedings are to be published by the organizing committee, which is chaired by Professor Mahmoud Amr of the Cairo University Environmental Medicine Department. {*ASA Newsletter* 4 Dec and 12 Feb}

8 December In Hanoi, visiting US Health Secretary Donna Shalala and her Vietnamese counterpart sign a statement of coöperation in health research. Speaking to US businesspeople prior to the signing ceremony, Secretary Shalala says that there are no specific plans for research into health effects of Agent Orange [see 21 Nov], which, however, she describes as a complex issue requiring "rigorous scientific investigation". {AFP from Hanoi 8 Dec}

8 December In Moscow, a presidential directive is issued requiring the Interdepartmental Commission on Chemical Disarmament [see 23 Apr] to join in an international programme for the elimination of the consequences of the dumping of chemical weapons in the Baltic Sea and its approaches after World War II. Presidential spokesman Sergei Yastrzhembsky says that, according to Russian information, toxic agents from the dumped weapons may contaminate huge areas of the Baltic and North Seas within the next few years. He anticipates that the programme will "most certainly evoke considerable interest in the Scandinavian countries and the Baltic Sea region as a whole". He goes on to say that "Russia has know-how and technologies capable of resolving this problem effectively and with minimum costs. ... Russia proposes to carry out a thorough international examination and, based on its results, implement a broad international project." {TASS 8 Dec}

The head of the relevant working group of the Interdepartmental Commission, Vice-Admiral Tengiz Borisov, speaks to reporters about the presidential directive, identifying dump-sites in the Skagerrak strait as ones for which Russian specialists had already prepared technical proposals. He says that about half of the more than 300,000 tons of chemical weapons buried in Baltic waters were put into the Skagerrak by the United Kingdom. He estimates the total cost of the elimination project, which could be completed by 2005, at about one billion dollars. He suggests that it might be implemented within the framework

of the NATO Partnership for Peace programme by an international consortium of leading specialized firms, with Russian companies forming its core. {TASS 8 Dec in FBIS-TAC 8 Dec}

8 December In Sofia, the Deputy Director of the Medical Department of the Bulgarian General Staff states that "Bulgaria has never needed to possess, has not possessed, and does not possess bacteriological and biological weapons". Colonel Tsvyatko Ivanov is here reacting to an Associated Press wire-story from Washington identifying Bulgaria, along with Cuba, Laos and South Africa, as a country having biological weapons. Ministry of Trade officials state that "Bulgaria has never had a capacity to produce and sell biological weapons". {BTA 8 Dec in BBC-SWB 10 Dec}

Later, there is sceptical commentary on these denials in the Macedonian press {Skopje *Vecer* 12 Dec in FBIS-EEU 14 Dec}

9 December The Carnegie Corporation of New York releases the final report of the investigation on which an international commission supported by the Corporation has been working and commissioning studies for the past three years, *Preventing Deadly Conflict*. The report includes proposals for reducing the insecurity caused by threats inherent in weapons of mass destruction. On biological weapons, it proposes an international transparency mechanism for research work on the most dangerous pathogens. On chemical weapons it says: "The Commission believes that governments should seek a more effective categorical prohibition against the development and use of chemical weapons. The international community needs systematic monitoring of chemical compounds and the size of stockpiles to ensure transparency and to guard against misuse."

9 December The US Defense Science Board submits the final report of its 1997 Summer Study Task Force, *DoD Responses to Transnational Threats* [see 10 Sep]. The study is in three volumes, the third of which includes an input report by a panel on BW/CW. DSB Chairman Craig Fields writes in his letter of transmittal: "[T]he Task Force suggests a multi-faceted strategy for the DoD to address this increasingly important class of threats. This strategy involves the development of an end-to-end systems concept, investment in critical technology areas, and the leveraging of similarities between civil protection and force protection. The Task Force concludes that the Department also needs to increase its emphasis on responding to this threat by more clearly assigning responsibilities and by providing mechanisms for measuring its readiness to respond." As regards CBW, it supports the Defense Secretary's intention of adding a billion dollars to the CBW defence program [see 19 May], and it advocates that the "effort on the biological warfare threat in the intelligence community should be greatly increased".

9 December In Washington, South Korean Defence Minister Kim Dong-Jin and US Defense Secretary William Cohen lead delegations for the 29th US-ROK Security Consultative Meeting. In the subsequent joint communiqué, it is stated: "Both Ministers ... noted that North Korea's chemical weapons pose a threat to the security of the ROK and urged North Korea to accede promptly to the Chemical Weapons Convention. They further agreed that the use of inhumane weaponry such as chemical and biological weapons would not be tolerated in any situation." {US DOD release 9 Dec}

10 December In Kushiro, on the northernmost Japanese home island of Hokkaido, a team of inspectors from the OPCW Technical Secretariat arrives to inspect a temporary storage

facility in the town of Teshikaga where there are 26 mustard-lewisite 35-kilogram bombs dating from World War II that have recently been retrieved from the bottom of Lake Kussaro [see 8 Oct 96]. {Kyodo from Kushiro 10 Dec}

11–12 December In Bratislava, the Slovak government in cooperation with the OPCW Technical Secretariat hosts a regional seminar on National Implementation of the Chemical Weapons Convention. Participating are officials from 14 central and eastern European states and people from two non-governmental organizations. The seminar has been preceded by a one-day training course for CWC National Authority personnel. {*OPCW Synthesis* Jan 98}

12–16 December UNSCOM Executive Chairman Richard Butler is in Iraq for a new round of high-level talks [see 5-9 Sep]. Participating in the talks for the first time are commissioners from France, Russia and the United Kingdom. Technical talks are also conducted. There is agreement another round of the talks in January, and also to hold “technical evaluation meetings” during January and February on each of the chemical, biological and missile “files”. Experts from countries both inside and outside those hitherto represented on UNSCOM will participate. Until then, no new information will be volunteered by Iraq on any of the three files. The question of UNSCOM access to sensitive sites [see 26 Nov] is discussed, but agreement is not reached: Iraq maintains the position that inspection of ‘Presidential’ is not within the mandate of UNSCOM. {Baghdad television 17 Dec in BBC-SWB} This position is spelt out in new Iraqi rules of access, some but apparently not all of which are accepted by the UNSCOM side. {AFP from the UN 5 Jan}

These rules Ambassador Butler reports next day in a letter to the Security Council. The rules would deny any UN access to any site where the President of Iraq “resides and/or works” sites owned by private citizens or by foreign companies or governments could be inspected only if the owners agreed; and any site related to Republican Guard military forces and security or intelligence agencies could be inspected only under special procedures agreed by the Iraqi Government, with certain “secret rooms” being excluded altogether from inspection. The letter also informs the Security Council that UNSCOM is investigating possible misuse of industrial equipment at a chemical factory which was withdrawn from view of emplaced cameras during November [see 20 Nov]. {*Washington Post* 18 Dec}

Speaking later to reporters, Ambassador Butler states that UNSCOM already has reason to suspect Iraq of using sensitive sites for concealment purposes {AFP from the UN 19}. Also speaking to reporters, American UN ambassador Bill Richardson says there is “no question” but that “Saddam Hussein is storing chemical or biological weapons in the so-called Presidential sites”. He says that UNSCOM has documented both biological and chemical concealment. {NBC news 21 Dec}

The Security Council issues a statement on 22 December stating that Iraq’s failure to give UNSCOM access was “unacceptable” and that “any and all” buildings must be opened. Consensus has not been achieved on a statement that would condemn Iraq. {*International Herald Tribune* 24-25 Dec}

15 December In China, the new issue of *Northeast Asia Studies* carries an article in which its author, air force intelligence official Jin Wanxia, says: “North Korea will continue to play the threatening ‘missile’ and ‘biological and chemical’ cards with the goal of maintaining continued breakthroughs and concessions in dialogue with the US and Japan, and in attaining US and Japanese recognition and benefits”. {Kyodo from Beijing 15 Dec in BBC-SWB}

15 December In Italy, public and private chemical firms are by today required to have furnished to the CWC National Authority the data on scheduled and discrete-organic chemicals needed for compiling the Italian industry declarations, both initial and 1998 prospective, to the OPCW. The deadline for fulfilling this obligation has been extended several times since entry into force of legislation originally requiring it — the law of 18 November 1995, no 496, which implements the CWC [see 25 Nov 95]. {*Gazzetta Ufficiale* 4 Nov}

15 December In Geneva, the Bureau of the Formal Consultative Meeting of BWC States Parties meets to agree on the terms of the report on the BW allegation which Cuba had made against the United States arising out of the thrips infestation of Cuban crop-plants [see 25-27 Aug]. The report is then issued by the chairman, Ambassador Soutar of the United Kingdom. It records that, by the 27 September deadline, submissions had been received from the governments of Australia, Canada, China, Cuba, Denmark, Germany, Hungary, Japan, the Netherlands, New Zealand, North Korea and Viet Nam. The report also records the subsequent meetings between the chairman and representatives of Cuba and the United States, and of the Bureau (the chair and the six vice-chairs). The report concludes: “Some members of the Bureau stated that further examination of the evidence in their capitals had confirmed their view that there was no causal link between the overflight of the US aircraft and the insect infestation in Cuba. Other members of the Bureau stated that the technical complexity of the issue and the lack of further detailed information made it impossible to draw any definitive conclusions. ... On the basis of the above, I wish to report to States Parties that, due inter alia to the technical complexity of the subject and to the passage of time, it has not proved possible to reach a definitive conclusion with regard to the concerns raised by the Government of Cuba. ... I would, however, emphasise that there has been general agreement throughout the process that the requirements of Article V of the Convention and of the consultative process established by the Third Review Conference have been fulfilled in an impartial and transparent manner. ... The Bureau agreed that the experience of conducting this process of consultation had shown the importance of establishing as soon as possible an effective Protocol to strengthen the Convention which is being negotiated in the Ad Hoc Group.”

15 December The UN General Assembly adopts without vote the International Convention for Suppression of Terrorist Bombings which its Sixth Committee (Legal) had recommended on 25 November. The new treaty, which is the eleventh UN legal instrument intended to identify, define and punish specific terrorist acts as international crimes, would require states parties either to prosecute or to extradite people accused of terrorist bombing within their territory. {GA/9391} The treaty is to be open for signature from 12 January 1998 to 31 December 1999, and is to enter into force 30 days after deposit of the 22nd instrument of ratification. {GA/9382}

The international crime defined by the new treaty is the delivery, placing, discharge or detonation of an “explosive or other lethal device” in a public place, such a device being defined to include, not only explosive or incendiary weapons, but also devices capable of causing “death, serious bodily injury or substantial material damage through the release, dissemination or impact of toxic chemicals, biological agents or toxins or similar substances or radiation or radioactive material.”

15 December The US Defense Department announces that it has plans to vaccinate all US military personnel against anthrax BW agent, starting next summer. The 100,000 personnel as-

signed or deployed to Southwest and Northeast Asia will be vaccinated first, followed over the next several years by all other active-duty and reserve personnel. Further reviews and detailed planning are to be completed before the programme begins. The vaccine to be used — a formalin-inactivated one developed in the UK and the US in the 1950s and produced since 1964 by Michigan Biologic Products Institute — is licensed by the Food and Drug Administration and has been widely used in the United States since 1970. For immunization, three subcutaneous injections of the vaccine are given two weeks apart, followed by three additional injections at 6, 12 and 18 months. If immunity is to be maintained, subsequent yearly booster injections are given. The cost of so immunizing 2.4 million personnel over a 6-year period is estimated at about \$130 million. {DOD release 15 Dec, *New York Times* 16 Dec}

According to a press briefing given by an unidentified Joint Staff BW specialist, the logic of vaccinating US forces against only one of the many candidate BW agents is that anthrax bacteria, because they sporulate in the resting state, are much less difficult to weaponize effectively than all the other agents, so much so that “there are large numbers of potential enemies [for whom] this is probably the only [BW agent] they will be able to weaponize and deliver”. There are about “seven million shots” of the vaccine in the current stockpile, enough for more than a million troops. {DOD briefing 15 Dec}

16 December In Brussels the North Atlantic Council meets in ministerial session. US Secretary of State Madeleine Albright speaks of the proliferation of nuclear and CBW weapons in the Middle East and Eurasia as “the overriding security interest of our time, in the sense that it simply cannot be balanced against competing political or commercial concerns”. She says that the struggle to keep these weapons from falling into the wrong hands should be seen as the new “unifying threat” binding NATO in the 21st century. {*Official Text* 17 Dec}

17 December The Chinese government has just promulgated rules to strengthen controls on chemical-weapons-related materials, so it is reported in *China Chemical Industry News* [see also 11-12 Dec]. The rules are set out in a joint circular issued by the Ministry of Chemical Industry, the Foreign Ministry, the Foreign Trade Ministry, and the General Administration of Customs. Among other things, the circular requires Chinese firms to obtain a licence to import or export precursors, technologies or equipment for chemical weapons, and licensed companies must obtain special approval from the Ministry of Chemical Industry for export of such materials to countries not party to the Chemical Weapons Convention. {*Hong Kong Standard* 18 Dec}

17 December In Pakistan, chemical weapons are discussed at a federal cabinet meeting chaired by Prime Minister Nawaz Sharif. The cabinet is later reported to have taken “serious note” of the Indian chemical-weapons programme, calling for “urgent destruction” of its production facilities and stockpiles. The cabinet gives its approval *ex post facto* to Pakistani ratification of the CWC [see 28 Oct]. It also adopts a “principled position that, to protect the national security interests, Pakistan will retain its sovereign right against disclosure of confidential and sensitive information not relating to the Chemical Weapons Convention”. {Radio Pakistan 17 Dec in FBIS-TAC 17 Dec, Islamabad *The News* 18 Dec} Opposition politicians have been starting to accuse the government of selling out vital national interests by joining the CWC, portraying ratification as having opened the way to foreign inspection of the country’s sensitive nuclear installations. {Peshawar *The Frontier Post* 23 Dec}

17 December In Cairo, the Arab League Committee of Technical Experts reconvenes to discuss compliance-verification mechanisms for the draft treaty on the establishment of the Middle East as a zone free from weapons of mass destruction. The participants are from Egypt, Iraq, Lebanon, Palestine and Syria, as well as from the Arab Atomic Energy Organization and the Secretariat General of the Arab League. {*Arabic News* 17 Dec}

17 December In Brussels, the Russia-NATO Permanent Joint Council [see 24 Nov] convenes to discuss its plan of work for 1998. A NATO spokesman in Moscow, John Lough, says on Radio Mayak {17 Dec in BBC-SWB 19 Dec} that, among the topics that have been mooted for practical military coöperation between NATO and Russia, one is the destruction of chemical-weapons stockpiles. Joint Council ambassadors later agree that international terrorism should be taken up at the monthly meeting in February 1998, with nuclear, biological and chemical proliferation at the March meeting. {AFP from Brussels 21 Jan}

19 December UK Armed Forces Minister John Reid announces that “several thousand” British troops might have been in the path of the chemical cloud released when US forces demolished Iraqi ammunition depots at Khamisiyah in March 1991. This announcement follows the latest upwards revision in the US estimate of the area swept by the cloud [see 24 Jul]. Dr Reid says, however, that the levels of possible exposure to chemicals in the cloud were “very unlikely” to have posed any health hazard. {PA 19 Dec}

19 December President Clinton makes another of the certifications required by the US Senate resolution of advice and consent to ratification of the CWC. In a letter to the leaders of the two chambers of the US Congress he writes: “In connection with Condition (3), Establishment of an Internal Oversight Office, the internal audit office of the Preparatory Commission was expanded into the Office of Internal Oversight of the Organization for the Prohibition of Chemical Weapons upon establishment of the Organization”. {White House release 19 Dec}

20–22 December In Kuwait City, the Gulf Cooperation Council convenes for its 18th summit session. The final communiqué includes the following: “The Higher Council expressed its concern about the dangerous escalation caused by the tense situation between Iraq and the UN as a result of the persistence of the Iraqi government in hiding dangerous and destructive biological and chemical weapons that threaten the life of the fraternal Iraqi people and that of the peoples of the region. In this respect, the Higher Council lauded the cohesiveness of the international position, represented by the Security Council, to the recent escalation, and reiterated its support for the UN Special Commission in charge of removing the Iraqi arms of mass destruction, and its chairman, in carrying out their task. The Council urged the Iraqi government to cooperate seriously with the Commission, without any conditions.” {Kuwait Satellite Channel TV 22 Dec in BBC-SWB 24 Dec} Iraqi government organs had beforehand been urging the Council to call for a lifting of the UN sanctions on Iraq in accordance with the Chinese, French and Russian positions on the matter. {AFP from Kuwait City 20 Dec}

23 December From Kazakhstan, the *Segodnya* newscast on Moscow television {23 Dec in FBIS-TEN 29 Dec} includes a report on the former Soviet biological-weapons facility at Stepnogorsk [see 6 Feb and 5-9 Nov], a location once known as Aksu. There is video footage of the residential area of Stepnogorsk, of the nearby uranium-ore quarry, of underground tunnels, and of plant inside Building 221. The reporter describes

the general director of the National Biotechnology Institute of Kazakhstan, Gennadiy Lepeshkin, as having been "in charge of the scientists who were working to develop biological weapons of mass destruction", including antibiotic-resistant strains of anthrax bacteria. Professor Lepeshkin has declined to comment on that past military work, but has spoken to camera as follows: "The dismantling of military equipment is currently at the decision-making stage. There is a special dismantling programme that will totally rule out the reanimation of these capacities." The reporter says that this dismantling project is being supervised by Americans as part of the Nunn-Lugar programme, and that Americans had acquired detailed knowledge of the facility after "the former head of the Stepnogorsk biotechnology centre, Kanatjan Alibekov [see 15 Oct], emigrated illegally from Moscow to the United States together with his wife and three children" at the start of the 1990s.

27 December In Russia the government issues a directive accepting \$2.2 million of aid from the United States "to pay for the materials and services provided for the dismantling and destruction of specialized equipment and special elements of buildings at the former chemical weapons production facility of Volgograd's Khimprom Open Joint-Stock Company [see 25 Feb] as a constituent part of the implementation of a pilot project to create production of civilian output there". {Moscow *Rossiyskaya Gazeta* 18 Feb}

31 December President Clinton makes another of the certifications required by the US Senate resolution of advice and consent to ratification of the CWC. In a letter to the leaders of the two chambers of the US Congress he writes: "In connection with Condition (9), Protection of Advanced Biotechnology, the legitimate commercial activities and interests of chemical, biotechnology, and pharmaceutical firms in the United States are not being significantly harmed by the limitations of the Convention on access to, and production of, those chemicals and toxins listed in Schedule 1 of the Annex on Chemicals." {White House release 31 Dec}

1 January From Japan, a study of delayed effects of nerve gas is published in the *Journal of Occupational and Environmental Medicine* {40: 17-21}. The study reports findings from computerized posturography of 9 men and 9 women examined 6-8 months after they had been poisoned during the release of sarin in the Tokyo subway system in March 1995. The results suggest that a delayed effect on the vestibulo-cerebellar system was induced by the acute poisoning, and that females might be more sensitive than males.

1 January Iraq fired a Scud missile carrying a VX-filled warhead at Israel in February 1991, according to a former UNSCOM inspector, Colonel David Hackworth (US Army, retired), quoted by the *Washington Times* {1 Jan}. The missile is said to have landed harmlessly in the Negev desert, one of three aimed at the Dimona nuclear complex of which the other two had concrete-filled warheads.

1 January In the United Kingdom, state papers from 1967 are released at the Public Record Office in which the Chiefs of Staff arrive at the UK military requirement for CBW capabilities up to the mid-1970s [see also 27 May 97]. On 15 December 1967, the Chiefs of Staff Committee formally stated the requirement as follows: "a. Appropriate early warning, protective and therapeutic measures against all known and likely forms of BW and CW attack. b. Lethal and incapacitating CW agents and delivery systems for deterrence and retaliatory use outside Europe, with particular emphasis given to nominal-risk in-

capitants. c. Lethal CW agents and delivery systems for retaliatory use inside Europe which, in the absence of firm assurances from the United States, would have to be provided either by purchase from abroad or by British development and provision." The committee estimated the total cost of the CW retaliatory capabilities in the range £6 million to £9 million. Indonesia and the United Arab Republic were the countries outside Europe against which a CW deterrent was thought advisable, in the form of 105mm CW artillery shell purchased, filled, from the United States plus UK-designed aircraft spraytanks dispensing CW agent purchased in bulk from the United States. {PRO files DEFE 5/176 and DEFE 6/104}

4 January In Pakistan, *Jasarat* reports that the government has received notification from Chemical Weapons Convention authorities that the Kahuta nuclear plant will be inspected in February by "about 100 UN experts" [see also 17 Dec 97]. The newspaper attributes this information to "reliable sources", otherwise unidentified. It states later in the report that India has not signed the Convention [on which see 3 Sep 96]. In subsequent commentary on the country's ratification of the CWC — a matter that is contributing to the constitutional crisis through which Pakistan is now passing — another newspaper, *The Muslim* {7 Jan}, reports that "dozens of inspectors will be arriving in Pakistan to carry out verification in the light of information provided by the government of Pakistan about the stocks of chemical weapons and details of its chemical industry". The *Pakistan Observer* {4 Feb} later states that there may be as "many as 25 Indian experts" on the list of OPCW inspectors.

5 January The US Defense Special Weapons Agency makes a sole-source award to the Tennessee Valley Authority to dismantle two former Soviet chemical-weapons production facilities, one in Uzbekistan at Nukus [see 16 Sep 92], the other in Russia at Volgograd [see 27 Dec 97]. TVA has had experience of dismantling US organophosphorus CWPFs at Muscle Shoals, Rocky Mountain Arsenal and Newport Chemical Plant. The Agency indicates, however, that it might withdraw the sole-source award if capable private corporations were to express interest in the dismantling work; and, one week later, this happens. {*Post-Soviet Nuclear & Defense Monitor* 16 Jan}

5-23 January In Geneva, the Ad Hoc Group of states parties to the Biological Weapons Convention reconvenes [see 15 Sep-3 Oct 97] for its ninth session. [For further details, see *Progress in Geneva* above]

6 January In Israel, the chairman of a Knesset subcommittee on defence affairs, Ephraim Sneh, speaking on the wireless, says that an investigation by his subcommittee has found that the Arrow anti-missile missile programme [see 11 Mar 97] has fallen badly behind schedule. The most recent flight test, over the Mediterranean in August, had been a failure. The United States is funding 72 percent of the programme. {AFP from Jerusalem 6 Jan}

7 January In South Africa, the attorney-general of the Western Cape announces that former president P W Botha is to be prosecuted for failing to attend a hearing of the Truth and Reconciliation Commission. Mr Botha, now aged 82, has been refusing to testify on the work of the State Security Council which he had chaired in the late 1980s. The TRC also wishes to question him about the apartheid-era CW programme [see 14 Nov 97]. {London *Independent* 8 Jan}

8 January In Moscow, secret documents of the USSR Communist Party from the period of the Korean War have been ob-

tained by the Japanese newspaper *Sankei Shimbun* which provide what the newspaper calls “substantial evidence” of China and North Korea having sought to fabricate an incident in which US forces seemed to have used biological weapons. The fabrication involved intentional infection of two North Korean convicts, one of whom died. An April 1953 report to Soviet Premier Malenkov from Internal Affairs Minister Beria described this deception, causing the Soviet leadership subsequently to demand that China and North Korea desist. The documents also reveal that, previously, Soviet authorities had coöperated with China and North Korea in BW fabrications. This led, in June 1953, to USSR National Security Minister Ignatyev being expelled from the Central Committee of the Party on grounds that he “deceived the party and the government and seriously violated law and discipline”. {Tokyo *Sankei Shimbun* 8 Jan in FBIS-EAS 11 Jan}

8 January In the US Defense Department, the Office of the Special Assistant for Gulf War Illnesses issues its first annual report, covering the period from November 1996 [see 11 Nov 96] to November 1997. The report is long and detailed and concludes with a listing of a dozen “planned and on-going activities that will take us into our second year”. It expects to have “completed all major investigations into possible chemical and biological exposures and a number of significant environmental hazards” by the end of the coming year, during which it will be “working and cooperating” with the new President’s Special Oversight Board that is to be chaired by former senator Warren Rudman [see 8 Nov 97].

ca 9 January The US Institute of Medicine publishes the interim report of its Committee on R&D Needs for Improving Civilian Medical Response to Chemical and Biological Terrorism Incidents. Recognising that current military anti-CBW equipments and procedures “are not necessarily suitable or easily adapted for use by civilian health providers dealing with a heterogeneous population of casualties in an urban environment”, the Office of Emergency Preparedness of the Department of Health and Human Services had, in mid-1997, commissioned an 18-month study from the Institute. The study should “(1) collect and assess existing research, development, and technology information on detecting potential chemical and biological agents and protecting and treating both the targets of attack and health care providers, and (2) provide specific recommendations for priority research and development.” This interim report is on existing civilian capabilities, being intended to afford “a baseline against which to evaluate the utility of technology and R&D programs”.

10 January In Libya, the official news agency JANA rejects as “ridiculous and totally baseless” recent British newspaper reports that Iraqi scientists are now participating in a Libyan programme to develop biological weapons. The JANA statement continues: “if there are Iraqi scientists and experts working in the Jamahiriyah, they are working in the field of education, in the universities and Arab Libyan schools in the same way as numerous other foreign nationals from countries such as India and other brotherly and friendly states who are contributing to the development of the educational process in the Great Jamahiriyah.” {JANA 10 Jan in BBC-SWB 12 Jan}

What JANA is here referring to is a report attributed to unidentified “Western intelligence sources” carried in the London *Times* {6 Jan}. This had claimed that “up to a dozen Iraqi scientists, who had been involved in Baghdad’s biological research, have transferred to the Libyan programme and are now living in Tripoli under a special arrangement agreed between Libya and Iraq about seven months ago”. The newspaper said

that the Libyan BW programme, at an extensive complex in the Tripoli area called General Health Laboratories, was believed to be code-named ‘Ibn Hayan’, and that equipment for it had been purchased from China, India and Serbia ostensibly for academic, public-health and agricultural purposes. Later, “well-placed sources” are quoted by another British newspaper as saying that the programme is researching and producing the causative agents of anthrax and botulism. {London *Guardian* 8 Jan}

An unidentified Iraqi official in Baghdad describes the alleged Iraqi-Libyan BW collaboration as “part of the American campaign of slander against Iraq and an attempt to justify the continuation of sanctions”. {*Washington Times* 11 Jan}

12 January In Iraq, the official news agency INA announces: “Iraq has decided to stop as of tomorrow the UNSCOM inspection team ... led by American Scott Ritter from carrying out its work and not to allow it to conduct any activity inside Iraq until it is recomposed in a manner that would ensure balance”. INA says that the team comprises nine US nationals, five UK nationals, a Russian and an Australian. Scott Ritter, a former US Marine Corps captain, is currently being portrayed by Iraqi news media as an American spy. A UN official tells reporters that Ritter is on the staff of UNSCOM — that he is not on secondment from any US government agency — and that he has taken part in 35 UNSCOM inspections since September 1991; for the last 18 months he has been leading the concealment investigation [see 11 Oct 96], in succession to Nikita Smidovich of Russia. UNSCOM Executive Chairman Richard Butler states that Ritter, as Chief Inspector of UNSCOM 227, had brought 15 visiting inspectors with him when he arrived the day previously, and that his overall team, drawing on UNSCOM staff resident in Baghdad consisted of 44 persons from 17 nations. The team had already inspected several sites. The team includes 28 actual inspectors from 12 countries: Austria (2), Bosnia-Herzegovina (1), Brazil (1), Finland (1), France (3), Germany (1), India (1), Ireland (1), Sweden (1), Switzerland (1), the UK (5) and the USA (10). Iraqi authorities duly proceed to block inspections attempted by the Ritter mission, and, after two such attempts on successive days, UNSCOM 227 is aborted amidst much acrimony. Other UNSCOM inspections continue, including a biological one visiting a university site. On 17 January, Saddam Hussein threatens to halt all coöperation with UNSCOM if the UN sanctions on Iraq are not lifted soon. Britain and the United States begin once more to lay a diplomatic foundation for possible US-led military action against Iraq.

12 January The UK government informs Parliament that it has recently approved the export to the Netherlands of 2500 rounds of CS gas and shotgun ammunition for use in riot control by Dutch UN armed forces in Bosnia.

12 January In the US Senate Governmental Affairs Committee, the Republican members of the Subcommittee on International Security, Proliferation and Federal Services issue a 111-page report, *The Proliferation Primer*, that draws from eleven hearings before the subcommittee over the previous year. The report is critical of the executive branch, for example as regards its response to Chinese transfers of CBW-weapons-related materials to Iran. The chairman of the subcommittee, Senator Thad Cochran, says to reporters: “The Clinton administration has not been willing to take the tough actions necessary to back up its rhetoric in executive orders and other statements”. {*Washington Times* 13 Jan}

13 January Iraqi UN Ambassador Nizar Hamdoon authorizes distribution as a UN document of his letter to the UN Security Council complaining of the UNSCOM inspection team led by

Scott Ritter [see 12 Jan]. This surfaces information which UNSCOM had hitherto chosen not to release. The letter states that Ritter "claimed that in the summer of 1995, between June and August, a number of prisoners had been sent from this site [not identified in the letter, but described as 'a sensitive security site' which Ritter had wanted to inspect] to Abu Ghraib prison and from there to a secret location where tests of chemical and biological agents had been performed on them". Next day, UNSCOM Executive Chairman Richard Butler says to reporters: "We went to a prison outside Baghdad on Monday [12 Jan]. We wanted to see if there were documentary records of possible biological testing on human beings. The team did not find such records, because they seem to have been vacated or taken away." The team had been led by Gabriele Kraatz-Wadsak of Germany. Among the indications of Iraqi human experimentation said to be held by UNSCOM [see also 18 Nov 97] is a photograph of a human arm displaying lesions. Subsequent publicity includes a story in the London *Sunday Times* attributed to unidentified Israeli military sources of Iranian and Kurdish prisoners having been exposed to BW agents both in chambers and on a weapons proving-ground.

13 January In Karlsruhe, German Prosecutor-General Kay Nehm tells reporters that illegal acquisition from German firms of goods needed to make nuclear and CBW weapons, and carrier systems for them, is on the rise, the acquisitions being engineered by foreign intelligence agencies. {DPA from Karlsruhe 13 Jan}

14 January In Sudan, the so-called War Industrialization Project for building chemical and biological weapons is about two years away from commencement of production, according to "Western intelligence services" quoted from Paris in the Lebanese newspaper *al-Diyar* {14 Jan}. Further, the report states that a Canadian firm is centrally involved in the project, and that technical help is being received from Russia and Bulgaria. Other details related in the report are similar to information contained in the appeal six weeks previously by the Sudanese National Democratic Alliance [see 30 Nov 97] Thus the project is said to be managed from a state-security building in Kafuri, a northeastern suburb of Khartoum, by Brigadier Bakri Hasan Salih, Brigadier 'Imad Husayn and Colonel Za'tan, and to have five specialized departments responsible for the phases of production and storage. The execution of the project is said to be spread over several different sites, including the al-Yarmuk establishment in the south of Khartoum, in the area of Jabal al-Awliya', in the cities of Fao and Shandi, and at least two other locations, one of them underground.

14 January In Montenegro, during a rally in Podgorica, police use not only tear gas but also, according to an account broadcast next day from Belgrade, "unknown chemical weapons". The Serbian broadcast continues: "The reaction of people was not just as when tear gas is used, but all their muscles were also contracting, people were rolling on the ground in the parks trying to defend themselves. Today after all that, they feel horrendous fear and panic, apathy, and all this points to the fact — as also borne out by experts, doctors and others — that not only tear gas was used, but also unknown nerve chemical agents." {Radio Beograd 15 Jan in FBIS-EEU}

14 January In Geneva, during the ninth session of the BWC Ad Hoc Group [see 5-23 Jan], The Henry L. Stimson Center hosts a conference for delegations and reporters to release a new Center publication, *Biological Weapons Proliferation: Reasons for Concern, Courses of Action* {*New York Times* 15

Jan}. This contains several authoritative and instructive articles. Each of its authors makes a presentation.

A contribution to the publication by the director of the Center's Chemical and Biological Weapons Nonproliferation Project, Dr Amy Smithson, includes commentary on the continuing absence of a formal US negotiating position for the Ad Hoc Group. This she explains in terms of disagreement between the White House, where the National Security Council favours a verification regime incorporating non-challenge inspections of industrial and defence facilities, and the Departments of Commerce and Defence, which see disutility in such inspections, as do people within the US industry. Citing recent interviews with US government and industry officials, she also notes that relations between industry and government have not been harmonious. In particular, she writes of there having been bad after-effects from the Russian inspections of US industrial biological facilities at Terre Haute, Indiana, and Groton, Connecticut that had been conducted in February 1994 within the framework of the trilateral process [see 1 Mar 94]. She describes these inspections as having been "crystallizing experiences for some in industry, who vowed that a future BWC protocol would not be a repeat of the trilaterals". She continues: "To compound the situation, a negative atmosphere seeped into the interactions between some US government and industry officials. ... The tenor of some meetings was such that industry representatives believed that US government officials disregarded and even refuted the very views that the government had asked them to present."

14 January The US Institute of Medicine releases the latest in its series of overview studies of Defense Department work on Gulf War illnesses [see 22 Apr 97]. {UPI from Washington 14 Jan}

15 January In Geneva, during the ninth session of the BWC Ad Hoc Group [see 5-23 Jan], a briefing for delegations is provided by the Quaker United Nations Office in conjunction with the University of Bradford Department of Peace Studies at which two further Bradford briefing papers on *Strengthening the Biological Weapons Convention* [see 22 Sep 97] are presented: *National Implementation Measures*, by Bradford Visiting Professor Graham Pearson and Nicholas Sims of the London School of Economics and Political Sciences, and *An Optimum Organization* by Graham Pearson. The briefing is attended by 50 people from 29 delegations.

17 January In London, some 70 British veterans of the Gulf War march on the Ministry of Defence to hand back their campaign medals in protest at what they claim is government inaction over Gulf War illnesses. There are reports that as many as 6,000 of the 53,000 British veterans have now fallen sick, of whom 160 have died. {AFP from London 17 Jan} A Defence Ministry spokesman had said the day previously: "The medals will be received with sadness. We realise that if people are going to make this gesture they don't do so lightly. We are keen to meet them but feel they are pushing at an open door, because the department feels it is doing as much as it can. It's a shame." {London *Independent* 17 Jan}

19 January In Viet Nam, hundreds of people in Danang reportedly have health problems, including breathing difficulties and eye-irritation, after exposure to an airborne cloud of what is thought to be agent CS-2 left over from the war. {*Frankfurter Rundschau* 20 Jan}

19 January In Russia, the Ministry of Defence places an order worth 45 million redenominated roubles with the Volga

Machine-Building Works for chemdemil plant to be installed at Gornyy [see 18 Mar 96 and 8-10 Jul 97]. {Radio Rossii 19 Jan in FBIS-TAC 19 Jan}

19–21 January UNSCOM Executive Chairman Richard Butler is in Iraq for a new round of high-level talks [see 12-16 Dec 97]. This session was originally intended to prepare for the projected “technical evaluation meetings” and to resolve differences between UNSCOM and Iraq on inspection procedures for ‘sensitive sites’ procedures [see 12-16 Dec 97], and this is still the intention despite the latest confrontation between Iraq and UNSCOM [see 12 Jan]. Ambassador Butler is met with hostile street-demonstrations, and in central Baghdad authorities have organised a funeral procession for 73 children who reportedly died because of a lack of medical supplies attributable to the UN embargo; it is the third such procession since October. The Iraqi side reaffirms its position that it will provide no further information on its CBW or missile programmes prior to the technical evaluation meetings [see 12-16 Dec 97] that are to start in February on each of the missile, CW and BW “files”. On Iraqi television, Deputy Prime Minister Tariq Aziz says that the purpose of the meetings would be to bring in a broader range of expertise to determine whether each file could or could not be closed: “I expressed my strong confidence that with such a format, if attended by real experts — and here I mean what I say — real experts, experts in the production of missiles, experts in chemical warfare and the biological warfare, then we could have a better understanding and a positive assessment”. The two sides agree on procedures for the meetings and that Germany and all five permanent members of the UN Security Council should be invited to send experts. The Iraqi side also proposes that the sensitive-site question be left until after the new-format technical talks have determined whether further inspections are really necessary. Ambassador Butler says he will accept no such freeze on the work of UNSCOM unless so instructed by the Security Council, to which, on 23 January, he privately reports. In his prior written report to the Council on this round of talks he is critical of Iraq’s linkage of the two matters: “If Iraq successfully avoids answering the questions we have before it for some time on outstanding disarmament issues ... it is gravely to be doubted that we would be able to verify Iraq’s claims that it has met its disarmament obligations, established by the Security Council”. The crisis has deepened.

20 January The UK government, asked in Parliament about plans to inoculate servicemen against anthrax [see also 15 Dec 97], responds: “The measures being taken at any particular time to protect our forces against biological warfare (BW) agents are based upon the prevailing operational circumstances and the latest threat assessments. For example, in 1990-91 UK troops participating in the Gulf conflict were immunised against anthrax and plague as part of the measures taken in response to Iraq’s assessed BW capability. The Government have no current plans to immunise all UK service personnel against anthrax as standard practice.”

20 January UK Prime Minister Tony Blair responds in Parliament to a question about the position on CBW and nuclear weapons which Britain had taken at the recent meeting of the International Criminal Court Preparatory Committee [see 1-12 Dec 97]: “[T]he UK delegation supported proposals to include within the jurisdiction of the new International Criminal Court war crimes under existing customary international law. For that reason, the delegation supported the inclusion of the use of warfare [*sic*] of a nature to cause superfluous injury or unnecessary suffering; these included bacteriological (biological) agents or toxins for hostile purposes or in armed conflict, and chemical

weapons as referred to in the 1993 Chemical Weapons Convention. For the same reason, the delegation did not support the inclusion of the use of nuclear weapons.”

21 January In the US chemdemil programme, 70 percent of the Johnston Island CW agent stockpile, 1422 short agent-tons, has now been processed through the JACADS chemdemil facility on Johnston Atoll in mid-Pacific [see 1 May 97]. At Tooele, 1161 tons of agent have now been destroyed in the TOCDF incinerator [see 9 Sep 97]. {PMCD website}

22 January In Russia, Prime Minister Chernomyrdin issues a directive prohibiting Russian participants in foreign economic activities from providing goods or services “in the event that they are aware that the said goods and services could be used in the creation or use of nuclear, chemical, and biological weapons or missile delivery systems”. {*Moscow Rossiyskaya Gazeta* 18 Feb in FBIS-TAC} This new catch-all control is a stop-gap measure, evidently introduced chiefly for trade with Iran, pending passage of new export-control legislation through the Federal Assembly. {*International Herald Tribune* 26 Jan}

23 January In Israel, the sabbath supplement of *Yedi’ot Aharanot* {23 Jan in FBIS-TAC 24 Jan} publishes satellite images of what it says is a site a few kilometres south of the Syrian city of Homs. The newspaper reports the pictures thus: “[They show] a petrochemical factory used as a cover for a laboratory that manufactures chemical weapons. Experts say the laboratory has the capability to manufacture every kind of chemical weapon, including VX nerve gas. In very close proximity to the petrochemical plant, on the northern side of the road, is a solidly fortified installation protected by fences and manned watchtowers. The installation houses containers with chemical substances, laboratories, and even a residential area for scientists who work on chemical weapons. ... One of the things bothering the intelligence experts most is the construction on the site in recent years. According to this satellite picture, at least half of the chemical containers were built recently. This can be deduced from the land ‘gashes’ at the base of the containers and from their strange shape. It means the Syrians are seriously planning to improve their chemical weapons capability, for which purpose they have doubled their production capability at the site.” Later: “Syria is the most advanced Arab country in the chemical warfare sphere ... In addition to the large plant in Homs ... the West knows of at least three other Syrian sites where chemical weapons are manufactured: one in the Syrian warfare development authority center, another in the Hamah area, and in the past year US surveillance satellites detected a third plant which manufactures chemical substances in Halab in northern Syria, about 40 km from the Turkish border [see also 4 Jun 96].” The newspaper goes on to report what it says is US CIA information about storage sites for chemical bombs and warheads for Scud-B missiles at Furqlus and Khan Abu-Shamat [see also 1 Sep 97].

23 January In Geneva, the ninth session of the BWC Ad Hoc Group [see 5-23 Jan] ends without formal statement of position by the United States [see 14 Jan] on the issues under negotiation. Unidentified diplomats have, however, been quoted as saying that, as regards non-challenge visits or inspections, the United States and Russia “have been reluctant to accept intrusive measures under the Protocol”. On whether the proposed 1998 deadline for agreement would be met, another unnamed diplomat has been reported thus: “It certainly isn’t going to happen this year, but it doesn’t stop us from trying. Next year seems entirely possible. But there is a huge amount of work to do.” {*Reuter* from Geneva 13 Jan} The head of the

US delegation, Donald Mahley, says in an end-of-session interview: "The situation in Iraq has continued to focus US attention on the real problems the Convention addresses and the need to strengthen that Convention as much and as rapidly as possible. ... I think it is possible to achieve a good product this year. Whether we will or not will depend on the negotiations." {Reuter from Geneva 23 Jan}

23 January The UK Defence Ministry launches an internet website to be used for information bearing on Gulf War veterans' illnesses. The address of the website is www.mod.uk/gulfwar/gvi.htm.

24 January A US Intelligence Community report, *Lessons Learned: Intelligence Support on Chemical and Biological Warfare during the Gulf War and on Veterans' Illnesses Issues*, has just been released which, among many recommendations, says that agencies should "augment manning authorization in relation to the increasing threat posed by chemical and biological weapons". It is critical of the "analytic culture" at the CIA and DIA which, it says in regard to the Khamisiyah episode [see 21 Jun 96], "stressed making definitive judgements and eschewed alternate outcomes or analysis". {*Washington Post* 24 Jan, *Intelligence Newsletter* 5 Feb}

25 January In Iraq, the Director-General of the National Monitoring Directorate, Maj-Gen Husam Muhammad Amin, rejects as "cheap lies" a recent statement by UNSCOM Chief Inspector Richard Spertzel that Iraq may be operating a hidden biological-weapons plant. Dr Spertzel had been speaking two days previously at the Washington Institute for Near East Policy where he had been asked whether he believed Iraq to be doing such a thing. He had replied: "This is very likely. ... We have good, tantalizing information but no concrete information ... that we can take to the Security Council." Two days before that, in Hong Kong, UK Foreign Secretary Robin Cook had told reporters that Iraq was creating "enough anthrax every week to fill two missile warheads".

26 January OPCW Director-General José Bustani tells reporters that his staff is planning to start inspections in Russia "very shortly ... in one month". {*Russia Today* website 27 Jan} About a month later, on 2 March, TASS reports the arrival of an OPCW inspection team to visit former chemical-weapons production facilities at Dzerzhinsk [see 25-30 Aug 90]

26 January The US Defense Department is planning to deploy the first of its *Portal Shield* BW-attack detection systems to a major airbase in South Korea this coming August, and then others to two locations in Saudi Arabia. Each such network of particle-counting sensors is capable of automatically responding within 15 minutes to the presence in air of eight different pathogens and toxins. Work on the system has been proceeding as an Advanced Concept Technology Demonstration since FY 1996 at a cost thus far of some \$36 million. It has been field-tested against simulant BW agents at Dugway Proving Ground, Utah. Officials describe *Portal Shield* as an interim step prior to the fielding in 2001 of the Joint Biological Point Detection System. {*Defense Week* 26 Jan}

26 January UNSCOM Executive Chairman Richard Butler says in interview with *New York Times* editors and reporters that UNSCOM has evidence that Iraq has loaded BW agents into missile warheads and has sufficient BW capacity to "blow away Tel Aviv, or wherever". Reporting this next day, the *Times* uses language suggesting that Iraq had actually targeted Tel Aviv with biological weapons. French UN ambassador Hubert

Vedrine later tells reporters: "This is not exactly what emerges from the reports of the Commission, and I wonder whether he is not over-stepping his prerogatives" {AFP from the UN 28 Jan}. Ambassador Butler is later reported to have made written apology to the Security Council {*London Sunday Times* 1 Mar}

26-28 January In Washington, ICF Kaiser International convenes an inaugural working session of participants in the Overarching Issues Assessment of the US chemdemil programme which the Office of the Secretary of Defense has contracted the company to perform. The participants are described as "a group of experienced, knowledgeable and respected leaders with an understanding of the primary issues which impact upon the goals, objectives, schedule and progress" of the Chemical Demilitarization Program. Briefings on the Public Outreach and the Assembled Chemical Weapons Assessment programmes are held over until the next meeting, scheduled for 20-22 April in Salt Lake City. {PMCD release 28 Jan}

27 January In Pretoria, Brigadier Dr Wouter Basson, currently on bail facing a variety of charges including fraud associated with national CBW work [see 14 Nov and 1 Dec], returns to full-time work at 1 Military Hospital. {*Johannesburg Beeld* 29 Jan}

27 January President Clinton delivers his State of the Union message to the US Congress. He speaks of the Chemical Weapons Convention, noting that it protects "our soldiers and citizens from poison gas". He makes no mention of the still-outstanding legislation to implement the CWC [see 12 Nov 97], but continues: "Now we must act to prevent the use of disease as a weapon of war and terror. The Biological Weapons Convention has been in effect for 23 years now. The rules are good but the enforcement is weak. We must strengthen it with a new international inspection system to detect and deter cheating." {White House transcript}

The White House issues a fact-sheet developing these remarks and setting out what appears to be the long-awaited US negotiating position for the BWC Ad Hoc Group [see 23 Jan]. The substance of the fact-sheet is as follows: "The United States will work closely with U.S. industry to develop and reach international agreement on the following tools:

"*Declarations:* BWC Parties would be required to submit annual declarations to the BWC implementing organization about facilities and/or activities that are especially suited for possible BW purposes, such as facilities that contain certain types of aerosol test chambers or that send or receive international transfers of dangerous pathogens, such as anthrax.

"*Voluntary Visits:* BWC Parties would be encouraged to allow a visit to any of their facilities declared under the protocol to address questions regarding the BWC or the protocol. These voluntary visits would be at the discretion of the facility concerned, and all decisions regarding access during this type of visit would be the made by appropriate authorities of the particular facility.

"*Non-challenge Clarifying Visits:* BWC Parties would be required to accept a reasonable number of on-site visits by the BWC implementing organization to clarify an ambiguity, uncertainty, anomaly, omission or other issue related to their annual declaration. Such NCVs would be different from routine or random visits, which the United States opposes, and from challenge investigations, which are discussed below.

"*Challenge Investigations:* BWC Parties would be required to accept an investigation by the BWC implementing organization of any location under their jurisdiction and control if there is evidence of noncompliance with the basic prohibitions of the BWC. Such investigations should be subject to a green light filter, under which a simple majority of the governing body of the

BWC implementing organization must vote to approve an investigation before it can proceed.

"In negotiating these measures, the United States will ensure that the protocol includes strong provisions for protecting constitutional rights, Confidential Business Information (CBI) and National Security Information (NSI) during any on-site activity. These protections should include the use of managed access procedures, appropriate timelines and other protective mechanisms. In the event that access is limited to protect constitutional rights or CBI or NSI, the BWC Party should be obligated to make every reasonable effort to provide alternative means to clarify the ambiguity or compliance concern that generated the on-site activity. The protocol should also require the BWC implementing organization to protect any sensitive information it receives from BWC Parties."

The foregoing is said to be the product of a recent flurry of interagency meetings, stimulated by the BW element in the current Iraq crisis. The proposal is said to be aimed at bridging the divide between those in industry and the defence community who oppose non-challenge inspections [see 14 Jan Geneva] and those in the State Department and National Security Council who argue that, if the United States does not commit itself to a sufficient inspection system, it cannot expect others to do so. {*Washington Post* 28 Jan, *International Herald Tribune* 29 Jan, *Christian Science Monitor* 30 Jan} Officials of the relevant US trade associations, notably the Biotechnology Industry Organization and the Pharmaceutical Research and Manufacturers Association, express caution. Speaking for the latter body, Dr Gillian Woollett notes that PhRMA would prefer that the protocol to strengthen the BWC relied only on challenge inspection. Moreover, what she has in mind for the challenge procedure would differ in key respects from that of the CWC, notably in a much greater stringency of the requirements to be satisfied before a suspect facility became obliged to receive international inspectors, and only on-site analysis of samples. {*Bioworld Today* 23 Feb}

27-30 January In The Hague, the OPCW Executive Council convenes for its eighth session. Among its decisions is approval of the terms of appointment of the Director-General. *ASA Newsletter* {12 Feb} later describes this as having required a formal vote, which it reports as 33-3 (implying 8 abstentions or absences). It describes the contentious issue as having been whether the Director-General should or should not have the same status as the head of equivalent UN bodies, such as the International Atomic Energy Agency.

28 January In the UK, a spokesman for the Home Office responds to criticism now being voiced about the safety of the CS Spray incapacitant weapons which many but not yet all of the country's police forces have now adopted [see 27 Nov 96]. He denies that the spray is a risk to human health, adding: "CS Spray was recommended only after long and careful consideration, taking into account advice from Home Office experts, the Department of Health and the Ministry of Defence". {*London Guardian* 29 Jan} There have been questions in Parliament about injuries reportedly being suffered by users as well as targets of the weapon, and cross-contamination of police officers is cause for concern in some forces {*Hansard (Commons)* 15 Jan, 22 Jan and 2 Feb}. [Note: No clinical or toxicological studies have yet been published, it seems, on the chemical formulation used in the weapon, namely a 5 percent solution of CS in isopropylacetone; nor does the solvent on its own appear from the literature to have been much studied.] It is later reported that CBD Porton Down has been awarded a £100,000

contract to study alternative weapons {*London Independent* 17 Feb}.

28 January The US Senate Select Committee on Intelligence holds its annual open hearing on current and projected threats to US national security, receiving testimony from the Director of Central Intelligence, George Tenet, from the Director of the Defense Intelligence Agency, Lt-Gen Patrick Hughes, and from the Assistant Secretary of State for Intelligence and Research, Phyllis Oakes. All three cite proliferation of CBW and nuclear weapons as top-priority threats. General Hughes states that 20 countries are actively developing these weapons and are motivated "either by regional competition or the desire to develop a deterrent or counter to the concomitant superiority of others, including the US". He also states that, because CBW weapons are "generally easier to develop, hide and deploy than nuclear weapons", they will be "more widely proliferated and have a high probability of being used over the next two decades". {*Washington Post* 29 Jan}

2 February In the UK Parliament, the problem of Gulf War illnesses and the response of the Ministry of Defence [see 17 Jan] are debated in the House of Lords.

2 February President Clinton submits his administration's federal budget for FY 1999 to the Congress. His request includes \$464 million for the Defense Department Cooperative Threat Reduction (Nunn-Lugar) programme, up nearly \$82 million on the FY 1998 appropriation. Details on the individual elements of the programme are not yet released, but a senior Defense official says that part of the increase is to support dismantlement of a chemical weapons production facility in Uzbekistan [see 5 Jan]. {*Post-Soviet Nuclear & Defense Monitor* 9 Feb}

2-6 February In Baghdad, there is an international technical evaluation meeting [see 19-21 Jan] on chemical weapons, largely focused on the Iraqi VX programme [see 27 Oct 97]. The meeting is chaired by Horst Reeps of Germany, and includes experts from China, France, Iraq, the Netherlands, Russia, Sweden, Switzerland, the United Kingdom and the United States. It seeks to reconcile what Iraq has declared regarding VX production with UNSCOM's findings and other information. The subsequent report of the meeting, submitted to the UN Security Council on 19 February, states that UNSCOM "does not feel that the level of verification achieved so far is satisfactory". It goes on: "There continues to be too much reliance placed by the Iraqi side on unsupported individual statements. There has been a long history of misrepresentation of the VX programme and ... vital information remains to be revealed." It concludes that Iraq had been able to produce 50-100 tonnes of VX prior to the 1990 invasion of Kuwait, and that it currently has the know-how, equipment and possibly the precursors for producing as much as 200 tonnes of VX. Four different production routes had been examined and, although Iraq had said it was never able to produce VX on a large scale, the experts say they saw no reason why Iraq should not have been able to scale-up two of the four routes. A technical evaluation meeting on missiles is also proceeding in Baghdad. The subsequent report from it concludes that a complete picture is still lacking of Iraq's production of CW and BW warheads.

3 February The US National Academy of Sciences publishes in its *Proceedings* {95: 1224} the results of analyses of DNA fragments extracted from formalin-fixed samples of tissue that had been taken in 1979 from 11 victims of the outbreak of anthrax then in the Soviet city of Sverdlovsk [see 18 Nov 94]. Researchers at the Los Alamos National Laboratory used

polymerase chain reaction analysis and DNA sequencing to demonstrate that at least four different strains of anthrax bacteria had been present in samples from some of the victims. If the victims had died from a natural outbreak of anthrax, only a single strain would have been expected. The extra strains might be an indication of anthrax vaccination possibly complicated by cross-contamination before samples had reached Los Alamos (the standard Soviet vaccine used two live avirulent strains of the bacterium) and/or of a mixture of strains in the original discharge from the Sverdlovsk military facility. The Los Alamos scientists are now reported to be seeking to determine whether genes for antibiotic resistance were present in any of the strains {*New York Times* 3 Feb}.

4 February In Israel, a Knesset Finance subcommittee approves a government request for a \$67.2 million augmentation of the budget to upgrade the country's anti-CBW defences, including emergency purchase of protective equipments for the civilian population. This is in part a response to publicity given to what UNSCOM Executive Chairman Richard Butler had reportedly said about the Iraqi BW threat to Israel [see 26 Jan], after which there had been a renewed rush on gas masks, and the US government, during Secretary of State Madeleine Albright's visit, had promised to supply Israel with BW vaccines, the Israeli government having reportedly requested an emergency airlift of "6 million vaccinations and antidotes for anthrax". {*Foreign Report* 5 Feb} Among other things, the new funding will be used to buy AP2C vehicles from France, which are said to be able quickly to detect and identify biological weapons {*Defense News* 9 Feb}. It is later reported that Germany will be supplying 180,000 gas masks, that about 100,000 more have been bought from Sweden, that Switzerland has offered to lend another 25,000, that the Netherlands has lent 125,000 anti-gas kits, and that the Czech government is offering for sale 100,000 of its M-10M masks. By mid-February the Home Front Command has distributed more than 300,000 updated gas masks {*Jerusalem Post* 15 Feb}. A US shipment of BW detection equipment arrives on 22 February.

To the Israeli public, the authorities have in fact been downplaying the dangers. For example, the head of IDF Intelligence, Maj-Gen Moshe Ya'alon, speaks as follows on national television after being asked about the likelihood of Iraqi missiles being fired at Israel: "At this stage, the probability of this happening ranges from very small to almost zero. Even after a US attack, the chances of this remain very small. I will start thinking about a higher probability when I discern that Saddam is being pushed to the wall and senses a threat to his very existence. If that happens, the chances of something being fired at Israel may definitely increase." {Israel Television 19 Feb in FBIS-TAC}

4 February Chinese firms are still selling "dual-use chemicals and production equipment" to "questionable Iranian buyers" [see also 30 Oct 97], so says US Deputy Assistant Secretary of State Robert Einhorn in testimony before the International Relations Committee of the House of Representatives. {AFP from Washington 4 Feb}

4 February Iraq's remaining capabilities in prohibited weapons are increasingly the subject of published official speculation as the crisis over UNSCOM access to sites in Iraq heightens and US-led military action seems more probable. In the UK, the Foreign & Commonwealth Office distributes a paper to Parliament which includes the following: "UNSCOM is concerned that:

— Iraq may still have operational SCUD-type missiles with chemical and biological warheads. Critical missile com-

ponents, warheads, and propellant are not accounted for. Nor are 17 tonnes of growth media for BW agents — enough to produce more than three times the amount of anthrax Iraq admits it had. Key items of CW production equipment are also missing.

- UNSCOM strongly suspects that admitted Iraqi figures for production of BW agent are still too low.
- Iraq's CW programme was on an enormous scale. 4,000 tonnes of CW precursors are not accounted for. These could produce several hundred tonnes of CW agents, enough to fill several thousand munitions. Over 31,000 CW munitions are not accounted for.
- Over 600 tonnes of VX precursors are also not accounted for. These could make 200 tonnes of VX. One drop is enough to kill. 200 tonnes could wipe out the world's population."

On missiles, the 2 February issue of the secret US Defense Intelligence Agency *Military Intelligence Digest* has reported, according to the *Washington Times* {11 Feb}, that Iraq has "several dozen" Al-Hussein missiles (the 600-km-range version of Scud) and "a few" Al-Abbas missiles (the 900-km-range version); also that "Iraq is believed to be hiding the Scud-variant SRBM at or near presidential or Republican Guard facilities, most likely near Baghdad (such as the Abu Ghurayb area), Tikrit, Bayji or secure facilities in the western part of the country".

Israeli Defence Minister Yitzhak Mordechai later says in a speech: "In a large country like Iraq there are places where Saddam Hussein can store some of these arms. We are sure he has launchers for Scud missiles, two, four or five, maybe a few more. And there's no doubt Saddam has chemical and biological weapons, how much and where they are I think no one knows exactly." {AFP from Tel Aviv 10 Feb} His Intelligence chief, Maj-Gen Moshe Ya'alon, says subsequently: "We are talking about a few missile launchers, several dozen missiles, chemical and biological materials. We know he possessed these things in 1991, and he has concealed them from the UN inspectors for the last four years." {Israel Television 19 Feb in FBIS-TAC 20 Feb}

6 February Russian Prime Minister Viktor Chernomyrdin approves the draft of an antiterrorism treaty that is to be submitted to the Commonwealth of Independent States. The aim of the projected treaty is to avert the use, or threat of use, of nuclear, radiological or CBW weapons or other substances hazardous to human health, or the destruction of "facilities of enhanced technological and ecological danger" or of life-sustaining systems, for the purpose of affecting public security, intimidating the population, and achieving political or other self-seeking aims. The treaty would be open to all CIS member-states, but once it is in force other countries could join, given the consent of all existing states parties. {TASS from Moscow 6 Feb}

6 February The UK CWC National Authority, in the person of the Secretary of State for Trade and Industry, lays a copy of its statutory annual report for 1997 before Parliament. Advice on its preparation had been sought from the CWC National Authority Advisory Committee [see 13 Oct 97].

7 February In Pakistan, a petition is laid before the Supreme Court seeking disqualification of both Prime Minister Nawaz Sharif and Opposition Leader Benazir Bhutto for violating the Constitution by not consulting Parliament before signing and then ratifying the Chemical Weapons Convention. The petition seeks initiation of legal proceedings against the respondents — and several others are named as well — under eight different articles of the Constitution, including Article 6 on high treason.

It also pleads that the agreement of Pakistan to be bound by the CWC should be declared *ultra vires* of the Constitution, void, malafide and without lawful authority. And it pleads that President Rafiq Tarar be directed to summon a joint sitting of the Parliament to debate the issue. {Islamabad *The News* 8 Feb}

This latest development in the CWC issue [see 4 Jan] has been preceded by expression of concern in the country's press about the non-involvement of Parliament on a matter which could, some assert, impact adversely upon the national security. A recent report in the *Pakistan Observer* {4 Feb} goes further: "Defence strategists and political observers have ... also drawn a parallel between Pakistan and Iraq. While the latter is facing a crippled economy and death and destruction of its innocent population as a result of America's open policy to subdue the rising Muslim force in the Gulf, Pakistan might also face a similar situation, God forbid, if the so-called policeman — the superpower (mainly America) in fulfilment of its policy of forming strategic alliance with India embarks upon a similar operation against Pakistan. The opportunity for such action could be easily provided by any country, particularly India, falsely accusing Pakistan of secretly stockpiling chemical/biological weapons."

9 February Iraq "may have possessed large quantities of a CW agent known as Agent 15 since the 1980s", so UK Defence Secretary George Robertson tells the UK House of Commons. He explains his disclosure as being "in line with our undertaking to Gulf veterans to make available any information that we possess that is of potential relevance to Gulf veterans' health issues". The precise chemical identity of Agent 15 is not known but, according to a Defence Ministry release, it is "one of a large group of chemicals called glycollates" — anticholinergic agents, of which the best known is Agent BZ, that can temporarily disable people through a variety of psychotropic effects. The ministry release continues: "We have known since 1985 that Iraq was investigating CW agents of this type, but the first indication of a specific interest in Agent 15 came in a brief reference contained in an Iraqi document, which we became aware of in August 1995 and which stated that Iraq was carrying out laboratory research on this agent. The first indications that Iraq had possessed large stocks of Agent 15 came late last year". [Note: At its plenary meeting in May 1986, the Australia Group decided to add 31 chemicals to what was then its "warning list" of CW-agent precursors, of which five were glycollate agent precursors, ones which could have been used to make either Agent BZ or CS 3245.]

10 February In Poland, the cabinet agrees to what is reportedly a US request to send anti-CW units to the Persian Gulf if the need arises {BBC World Service 10 Feb}. The commander of the Polish Chemical Security Troops, Brigadier Wlasylaw Karcz, later says in interview that a 140-strong company of antichemical troops is being prepared to deploy to the region at ten days notice {Warsaw *Rzeczpospolita* 12 Feb in FBIS-EEU 16 Feb}. Defence Minister Janusz Onyszkiewicz subsequently tells the Sejm that any Polish troops sent to the Gulf would not be directed against Iraq: their job would be to remove any contamination resulting from a possible Iraqi revenge attack on Kuwait {PAP from Warsaw 19 Feb}

10 February Algeria is among the countries to which further Iraqi microbiologists and other weapon scientists have recently been sent to seek refuge, according to a report from the US House of Representatives Task Force on Terrorism and Unconventional Warfare {London *Times* 13 Feb, *US News & World Report* 15 Feb, *Hansard (Lords)* 17 Feb}. The report includes the following: "No bombing campaign against Iraq, and even an

occupation of that country for that matter, is capable of destroying the hard core of Saddam Hussein's primary WMD development and production programs. The reason is that under current conditions these programmes are run outside of Iraq — mainly in Sudan [see 16 Nov 97] and Libya [see 10 Jan], as well as Algeria."

The report says that the first joint Iraqi-Sudanese WMD project was the building of chemical-weapons facilities in Bar-El-Ghazal, southern Sudan, near Wau. The Sudanese embassy in Saudi Arabia later issues a denial of reports of Iraqi-Sudanese coöperation to produce CBW weapons. The denial refers specifically to reports of such weapons being stored in the city of Wau [see 14 Jan], and says that "Sudan opens its doors to anyone who wishes to verify the correctness of its position". {Riyadh *al-Jazirah* 19 Feb in FBIS-NES 21 Feb}

10 February US Commerce Under-Secretary William Reinsch tells a conference in Los Angeles that the Bureau of Export Administration has imposed a penalty of \$824,000 on Al-Iergan Inc of Irvine following the investigation into the company's unlicensed exporting of botulinum toxin [see 27 Nov 96]. {*Jane's Defence Weekly* 11 Feb, *Intelligence Newsletter* 19 Feb}

11 February In Baghdad, Foreign Minister Said al-Sahhaf announces Iraqi support for a Russian proposal on UNSCOM access to sensitive sites [see 12-16 Dec 97]. Part-way between the position of "full and unfettered access" being sought on the basis of past Security Council resolutions by the United States and Britain and the position now adopted by Iraq of denying access to 68 "sensitive sites" [see 19-21 Jan], this Russian compromise would open the 8 "presidential sites" for inspection under the supervision of representatives of the UN Security Council. The compromise is rejected by the British and US governments, both of which are now actively preparing to bomb Iraq, to which end they are gaining strong support from their legislatures, and varying degrees of support from some other governments. UN Secretary-General Kofi Annan is preparing to visit Baghdad on a conciliation mission.

11 February The US Army is preparing to merge its Chemical and Biological Defense Command with its Soldier Systems Command, partly because the majority of the work performed by CBDCOM has involved soldier protection. The new command, to be called Soldier and Chemical Biological Command, will be headquartered in the Edgewood area of Aberdeen Proving Ground and will be formally inaugurated on 1 October. {*Jane's Defence Weekly* 11 Feb}

11 February The United States is reported to have declared to the OPCW last year its non-acceptance of two people — one a Cuban, the other an Iranian — on the list of OPCW inspectors and inspection-assistants that had been communicated to it in accordance with CWC Verification Annex Part II.1 {*Jane's Defence Weekly* 11 Feb}. How many other CWC states parties have exercised this right is not public information.

11-13 February US Arms Control and Disarmament Agency Director John Holum is in Europe for consultations on the Biological Weapons Convention, starting in Germany and then going on to the UK and France. He tells a press conference in Bonn that his visit has been occasioned in part because of the recent White House action [see 27 Jan]. He continues: "We have been engaged in this negotiation since 1995 so it is not new, but what we have found during the course of those discussions is it is fairly easy to get bogged down in technical details. There are a number of country groups that have differing

perspectives, and I think the President's speech gave us new impetus, both in terms of his personal interest and his direction that we develop new ideas to bridge some of the gaps among different countries. This gives us a good chance to stimulate the negotiations and move forward." {USIS transcript 11 Feb} At his London press-conference he speaks of trying to break four years of log-jam in the negotiation {London *Daily Telegraph* 13 Feb}.

12 February The Russian Foreign Ministry rejects as "crude inventions" reports originating in the *Washington Post* {12 Feb} of Russian government complicity in the sale to Iraq of fermentation equipment ostensibly designed to produce single-cell protein for animal feed but which could also be used to grow BW agents {AFP from Moscow 12 Feb, *New York Times* 13 Feb}. The allegation is further denied by Russian Defence Minister Igor Sergeev {Xinhua from Moscow 12 Feb}. The *Post* had based its report on a July 1995 document found by UNSCOM inspectors in Iraq some months previously which described lengthy negotiations culminating in a deal worth millions of dollars. The deal apparently included not only two 5,000-litre fermenters but also spray driers {*Chicago Tribune* 13 Feb}. UNSCOM at first declines to comment {AFP from the UN 12 Feb}, but, from Baghdad, General Amer al-Saadi [see 21-25 Jul 97] says that Iraq had intended to go ahead with the deal but it had fallen through and no agreement was signed {AFP from Baghdad 13 Feb}. Unidentified "American and foreign officials" are later quoted as saying that the plant under discussion would have included several fermentation vessels to a total capacity of about 50,000 litres. UNSCOM Executive Chairman Richard Butler releases the text of a letter he had written to Russian UN Ambassador Sergey Lavrov on 5 January about the document, explaining that he was doing so in response to a request from the ambassador that UNSCOM should repudiate the press reports. {*New York Times* 18 Feb}

12 February France is preparing to construct a facility to destroy old chemical weapons that will enter into service in 2002 at an estimated cost of FFr 300 million, so *Le Monde* {12 Feb} reports. The newspaper is quoting the rapporteur of the Senate Foreign Affairs and Defence Commission, Guy Penne, who has explained that, although France has declared to the OPCW that it neither possesses nor manufactures chemical weapons, some 500 tonnes of unearthed World War I chemical munitions have now accumulated in the storage area maintained for such things at Vimy, with more still coming in: World War I munitions continue to be uncovered in France at a rate of 250 tonnes per year, and 10-15 percent of them are chemical. The capacity of the projected chemdemil facility is to be 100 tonnes per year.

14 February The Soviet Union dumped some 150,000 tonnes of mustard-gas and other CW weapons in the Barents and the Kara Sea between 1945 and 1982 according to *New Scientist* quoting a study conducted by the US Central Intelligence Agency. The study, chaired by Otis Brown of the University of Miami, is described as being part of a research programme called Medea that gives non-government scientists access to formerly secret US government archives.

15 February Iraq deployed anthrax weapons to Kuwait after its invasion of the country in August 1990, so the London *Sunday Telegraph* reports, quoting the findings of an unpublished United Nations investigation into the mysterious deaths, in 1993, of more than a hundred sheep that had been grazing where Iraqi occupying forces had sited one of their main defensive positions.

16 February In Tokyo District Court, testimony is heard from a Chinese survivor of an alleged Japanese biological warfare attack in the vicinity of Ningbo [see 23 Nov 97] in southeastern China in October 1940. The witness, Hu Xianzhong, is one of 107 Chinese plaintiffs seeking, *inter alia*, formal acknowledgement that biological weapons had been employed by the Japanese Imperial Army [see 11 Aug 97]. The Japanese Government have argued that the case should be dismissed since individuals cannot sue a state under the laws of war. {AP from Tokyo 16 Feb}

17 February In Bonn, the Federal German Foreign Office announces that gas masks are to be issued to all German citizens and their families living in countries that might fall victim to Iraqi poison-gas attack. In Tel Aviv this issuance of masks has already started, and supplies are now on their way to the Palestinian territories, Jordan, Kuwait, Saudi Arabia and Bahrain. {Munich *Süddeutsche Zeitung* 18 Feb}

17 February The UK declaration to the OPCW under CWC Art III.1(e), which has not been publicly disclosed [see 27 May 97], has identified two chemicals as being held for riot control purposes, according to *The Independent* newspaper. The two chemicals are agents CS and CR, the latter being held not by UK police forces but by the military. CR has been rejected for police use, so the Home Office tells Parliament ten days later, "because not enough is known about its chronic health effects and its carcinogenic and genotoxic potential". {*Hansard (Commons)* 26 Feb}

18 February In Moscow, a press conference on the 1979 anthrax outbreak in Sverdlovsk (now once again called Yekaterinburg) is convened by the president of the Union for Chemical Safety, Lev Fyodorov [see 8-10 Jul 97], with Sergei Volkov, who had been an official in the administration of Yekaterinburg during 1993-96, as the other main speaker. Fyodorov and Volkov are the authors of a front-page story, "Sex-bomb, Soviet-style", in *Moskovskaya Pravda*, which suggests that the form of anthrax that had been discharged from Military Compound 19 in Sverdlovsk was actually one that had been altered so as to attack adult males preferentially. Volkov, who had grown up inside Compound 19 where his father had been a security guard but had moved away by the time of the epidemic, says that he has been interviewing residents of the affected area and now believes the death toll to have been around a thousand people. He speaks of work on plague and anthrax having been conducted in large underground laboratories at the Compound. {London *Independent* 19 Feb, Baltimore *Sun* 20 Feb, *Washington Post* 26 Feb, Paris *Le Monde* 27 Feb}

Meanwhile, Lt-Col Yevgeni Tulykin, who had worked at Compound 19 from 1978 through 1996, has given an interview to *Time* magazine {16 Feb} in which he has said that what is now known as the Center for Military and Technical Problems of Anti-Bacteriological Defense has been discreetly rebuilding and re-equipping its facilities with the aim of resuming offensive production of anthrax.

18 February In Las Vegas, two suspected bio-terrorists are arrested by US federal agents following a tip-off earlier in the day by a "citizen-informant", later identified as a disgruntled business associate of one of the suspects. A team of some 70 FBI, Army and Air Force specialist personnel had been mustered after the tip-off, and, after the arrest, vials of what are thought to be anthrax bacteria are taken to Fort Detrick for analysis. One of the two detainees is Larry Wayne Harris, currently on probation following his illegal acquisition of plague

bacteria [see 22 Apr 97]. The other is William Leavitt, Jr, a respected Nevada businessman. Amidst huge nationwide media attention, the two are charged with conspiring to possess and use a biological agent as a weapon, the first people to be so charged under the Antiterrorism and Effective Death Penalty Act of 1996 [see 15 Apr 96]. They say they were testing a device for neutralizing pathogens in the body, and that what had been confiscated from them contained anthrax vaccine, not anthrax pathogen. Such is indeed found to be the case, and the charges are dropped five days later. Wayne Harris, however, remains in custody charged with having violated the terms of his probation. {*Newsweek* and *Time* 2 Mar, *Las Vegas Review-Journal* 24 Feb, *London Independent* 21 Feb, *London Times* and *Daily Telegraph* 20 Feb, *Boston Globe* 19 Feb}

19 February In the Chuvash Republic of the Russian Federation, a joint meeting of the committees on international affairs of the two chambers of the Federal Assembly takes place at Cheboksary, in the premises of the Novocheboksary Khimprom [see 12 Sep 97], to discuss progress in implementing the CWC. Also participating are representatives of the Russian regions that are taking part in the federal programme for destruction of chemical weapons. TASS is later told by the Chairman of the State Duma committee, Vladimir Lukin, that the meeting agreed that "an interregional consultative conference of heads of the regions which are directly concerned with the problems of chemical disarmament" would be convened regularly to work out a joint stance and monitor the implementation of decisions. In preparation is an appeal to President Yeltsin from the participants containing proposals on these matters. {TASS from Cheboksary 19 Feb in FBIS-TAC 20 Feb}

20 February In Taiwan, the Ministry of Economic Affairs is preparing to send a delegation of trade officials and chemical experts to the United States in order to "seek feasible measures" to cope with possible impacts of the Chemical Weapons Convention on the country's large chemical industry [see 28 May 97]. Officials say that the Ministry has established a 16-person task force to study the problem and develop applicable strategy. {CNA from Taipei 20 Feb in FBIS-CHI 20 Feb}

20–23 February In Iraq, a team led by UN Secretary-General Kofi Annan reaches agreement with President Saddam Hussein and his government which seems to promise a resolution of the current crisis and averts US-led military action [see 11 Feb]. At the start of the talks, according to one member of the team, "we really didn't know whether the Iraqis wanted to be bombed as a way of getting rid of UNSCOM, or whether the Americans knew they were going to bomb anyway and we were just a token gesture". {*London Observer* 1 Mar} Under the agreed terms, Iraq commits itself to granting UNSCOM and the IAEA immediate, unconditional and unrestricted access in conformity with Security Council resolutions 687 (1991), 715 (1991) and all others that are relevant, while UNSCOM undertakes to respect Iraq's legitimate concerns relating to national security, sovereignty and dignity. The Memorandum of Understanding specifies how "entries for the performance of tasks mandated" at eight presidential sites identified in an Annex are to be conducted, both the initial and subsequent entries (for which no time limit is specified). A Special Group established by the Secretary-General in consultation with the heads of UNSCOM and the IAEA is to take charge of these visits, and is to operate under established UNSCOM/IAEA procedures in specific ways yet to be developed. The agreement is endorsed by the UN Security Council which, on 23 February, unanimously adopts resolution 1154 (1998) to that effect. {SC/6483}

23 February On UK television, there is a documentary about the health condition of people living in Halabjah, the town in Iraqi Kurdistan which suffered massive CW attacks shortly before the end of the Iran-Iraq war from which maybe five thousand or more people had died, many of them women and children [see 18 Mar 88]. An abbreviated version is screened on CBS *60 Minutes* in America a week later {AP from New York 2 Mar}. The reporter is the British journalist Gwynne Roberts, who had first filmed CW attack-sites inside Kurdistan shortly after that gassing of Halabjah [see 23 Nov 88 and 11 Jan 89]. On the visit for this documentary, he is accompanied by Dr Christine Gosden, Professor of Medical Genetics at the University of Liverpool. They find a population suffering from strikingly high rates of leukaemia, respiratory disease, birth abnormalities, neurological disorders and other illnesses. In a statement to camera which she subsequently develops in print (*International Herald Tribune* 12 Mar), Professor Gosden associates those conditions with the damage, including genetic damage, which chemical weapons are known to be capable of causing. Also speaking to camera is Ambassador Rolf Ekéus who says that he had assumed what is now manifestly not the case, that international medical aid had long since been brought to those people in Halabjah and other parts of Kurdistan whose suffering had spurred him and his fellow negotiators in Geneva into agreement on the Chemical Weapons Convention. {Reuter from London 20 Feb, Channel 4 TV *Dispatches* 23 Feb, *London Independent* 24 Feb}

Replying to a Parliamentary question next day about the work of the World Health Organization in Iraq, UK Health Secretary Frank Dobson says: "It is worth noting that, since 1991, the United Kingdom has contributed more than £94 million in humanitarian and medical aid through bilateral and multilateral sources to Iraq, especially northern Iraq, where Saddam Hussein deployed chemical weapons against his own people".

24 February In Vilnius, the Seimas passes legislation enabling Lithuanian ratification of the Chemical Weapons Convention. Under this law, the Economics Ministry is to be responsible for implementation. {ELTA from Vilnius 24 Feb}

25 February In Pakistan, Foreign Minister Gohar Ayub Khan addresses the National Assembly on the Chemical Weapons Convention [see 7 Feb]. He states that the treaty does not jeopardize the national security because Pakistan neither produces nor possesses chemical weapons, nor has it ever done so. "Our sensitive facilities, which are obviously not related to chemical weapons, are beyond the scope of the Convention." Therefore, the question of having to open them to inspection under the CWC [see 4 Jan] is a "non-issue". {*The Muslim* 3 Mar in FBIS-TAC 4 Mar}

25 February The UK Government, responding in Parliament to a question about Iraqi students at British universities, states its policy on intangible-technology export-control [see 19 Jul 94] as follows: "Her Majesty's Government seek to prevent the transfer of technology related to weapons of mass destruction in the higher education sector through the operation of the Voluntary Vetting Scheme which is administered by the Foreign and Commonwealth Office. This scheme applies to post-graduate students and post-doctoral researchers from certain countries, including Iraq, and covers those scientific disciplines relevant to weapons of mass destruction technologies or the missiles to deliver them. Under the scheme, universities and higher education colleges are asked to refer potential students from specified countries who are seeking to undertake research in particular disciplines to the Government. The Government

provide advice on individual applicants and the universities and colleges then make the final admission decisions. This is a voluntary arrangement and there is currently no law in place to oblige higher education institutions to contact Government over admission matters."

25 February In the United States, the past activities of the former First Deputy Chief of Main Directorate Biopreparat in the USSR, Dr Kanatjan Alibekov [see 23 Dec 97], who had emigrated to America in 1992 and is now living in Arlington, Virginia, as Ken Alibek, begin to receive widespread public notice. This starts with a feature on ABC News *Prime Time Live* television and an associated article on the front page of the *New York Times*. Subsequent elements, besides secondary press coverage, include a *New Yorker* {9 Mar} article {Richard Preston, *New Yorker*, 9 Mar 98, pp 52-65, "Annals of warfare: the bioweaponers".} and such overseas happenings as a feature-length interview in the London *Sunday Telegraph* {8 Mar}.

New information from all of this is extensive, both about the biological-weapons work of the USSR and about that of the United States. In particular, Dr Alibek states that the USSR never believed that the US biological-weapons programme had in fact been ended by President Nixon's renunciation of it in November 1969. Until the late 1980s, he says, "we strongly believed the United States had an offensive program" and that the USSR had to match it. Quoting a British intelligence officer, the *New Yorker* article notes: "The Soviets continued to believe ... that the United States had not ended its biological weapons program but simply hidden it away, turning it into a 'black' weapons program. 'The notion that the Americans had given up their biological weapons was thought of as the great American lie.'" The USSR appears to have had good reason for this belief, for the article goes on to report how doubts in the mind of the last Chief of Product Development for the old US Army biological-weapons facility at Fort Detrick, Dr William Patrick III (who had originally debriefed Alibekov for the CIA), as to whether BW weapons would actually work were finally resolved: "Those doubts were removed decisively during the summer of 1968, when one of the biggest of a long series of open-air biological tests was conducted over the Pacific Ocean downwind of Johnston Atoll, a thousand miles southwest of Hawaii. There, in reaches of open sea, American strategic tests of bioweapons had been conducted secretly for four years ... 'We tested certain real agents and some of them were lethal', Patrick said. The American strategic tests of bioweapons were as extensive and elaborate as the tests of the first hydrogen

bombs at Eniwetok Atoll. They involved enough ships to have made the world's fifth-largest independent navy. The ships were positioned around Johnston Atoll, upwind from a number of barges loaded with hundreds of rhesus monkeys. ... 'When we saw those test results [said Patrick], we knew beyond a doubt that biological weapons are strategic weapons. We were surprised. Even we didn't think they would work that well.'" The *New Yorker* says that Patrick holds five secret patents on "special processes for making biodusts that will disperse rapidly in the air".

Dr Patrick has told the *New York Times* that the Soviet biological-weapons programme has "paralleled ours very closely" in terms of military technology, though "it took them many, many years to get past us with respect to biological agents, delivery systems and munitions". The Soviet programme, Alibek says, ultimately included development of a strategic ballistic missile with multiple independently targettable warheads each of which held more than a hundred bomblets the size of a small cantaloup. The warheads included cooling systems to protect the payload from the heat of re-entry. Some 52 different BW agents had been studied, of which the favoured ones were smallpox virus and the bacteria of anthrax and plague; Alibek says that never less than 20 tons of dry-agent smallpox were held in the stockpile and that "hundreds of tons" of anthrax bacteria were prepared. His own specialty at Stepnogorsk [see 23 Dec 97] had been an improved preparation of anthrax spores: the *New Yorker* describes it as "an amber-grey powder, finer than bath talc, with smooth, creamy particles that tend to fly apart and vanish in the air, becoming invisible and drifting for miles". He says that, at the end of the Soviet programme, a dry-agent fill of Marburg virus was nearing operational readiness.

25-27 February In the UK, a Russian delegation led by the chief of the Defence Ministry RKhB Troops, Col Gen Stanislav Petrov, begins its three-day visit with talks at the Ministry of Defence with Armed Forces Minister John Reid. Later there is a visit to Porton Down. On the agenda is co-operation between Britain and Russia on the destruction of chemical weapons. {TASS from London 25 Feb in FBIS-UMA 25 Feb}

28 February In the United States the only producer of anthrax vaccine, Michigan Biological Products Institute, has for some while been under threat of closure. *Lancet* now reports that, at Defense Department request, it will continue producing the vaccine until the end of the present fiscal year (30 September), or until it is sold.

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