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## THE CWC AND BARRIERS TO CHEMICAL TRADE

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My approach to this subject is not that of a legal expert but rather that of a natural scientist formerly working in the German chemical industry. For many years the German chemical industry has given its vigorous support to the realization of the international Chemical Weapons Convention (CWC). In this article, I will attempt to explain why the German chemical industry, in close coöperation with associate firms and federations worldwide, especially in Europe, has displayed such an intensive level of activity, which is still continuing.

In designing the CWC, it was essential to draw on the chemical industry's expertise to ensure that this hopefully global convention could be shaped not only in conformity with its objectives, but also in a workable fashion.

The agreement that has emerged achieves a far-reaching degree of acceptance with respect to practicability and in meeting the requirements of the chemical industry, which is affected to a considerable extent.

All States Parties to the Convention will bear equal responsibility for the outlawing of chemical weapons, including their development, production, storage and use, and additionally submit to certain rules on the handling of dual-use chemicals. Furthermore, they will allow international on-site inspections on their territory to be carried out to verify that they are fulfilling their obligations.

The chemical industry sees in this the emergence of new structures in international chemical trade, which allows — or rather compels — a departure from the existing export control oligarchy of industrial states. Considering the Convention's Article XI as well as the official statement of the Australia Group during the final phase of the Geneva negotiations, additional export control regimes among States Parties to the CWC can hardly continue to exist.

If freedom of trade is not judged on the basis of pure theory, which is hardly relevant nowadays, if the large number

of regulations, one might even say excessive regulations, is accepted as a *fait accompli* and the present regime for dual-use chemical exports is compared with the CWC regime, the Convention can hardly be seen as imposing additional restrictions in the operational procedures in the chemical industry. Of course, a pre-condition for this is that the measures to which we have been accustomed up to now, which concentrate on export controls with obligatory permits, are replaced by the CWC regime.

Present export control measures represent genuine operational obstacles to chemical trade, requiring as they do the submission of applications and the procurement of end-use statements or other information regarding customers, as well as the time sequences and delays involved, and the requirement for export permits. Added to this is the fact that the arrangements agreed by the Australia Group have been implemented in different ways at the national level. As a result, considerable distortions of competition have arisen, quite apart from the fact that the vast majority of states, including the countries that have emerged from the former USSR and the break-up of Yugoslavia, are not members of the Australia Group, which today numbers 26 countries.

The basic principle of international chemical trade in the dual-use sector has up to now been the assumption of overall responsibility for the proper use of its consignments by the individual member state of the Australia Group or by the supplier. This arrangement is acceptable as a stopgap

\* *The views expressed are those of the author and do not necessarily reflect the views of the VCI.*

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measure, but cannot remain permanently in effect. The predictable consequences of this policy which can now be observed are: efforts to achieve chemical self-sufficiency, and an increasing number of new procurement channels which are virtually impossible to track, but fortunately do not involve the German chemical industry.

The CWC has no export restrictions with regard to chemical trade between States Parties. The basic construction of the Convention envisages that all members submit to its rules, i.e. extensive disclosure obligations and production controls. In return, they can expect to be regarded in equal measure as members who are responsible and abide by the provisions of the CWC. This applies both to customer and supplier countries.

This new allocation of duties to all CWC member states, which is safeguarded by a verification regime, is thus the basis, pre-condition and propelling force for the abolition of the obsolete export control regime or — to be precise — its replacement by measures specific to the CWC.

In my estimation, further progress in the ratification process is closely linked with the issue of obstructions to the chemical industry's business in the widest sense of the term, including technology exchange and industrial plant business, by national export regimes not complying with the terms of the Convention.

What advantage are those signatory states which do not consider themselves threatened by chemical weapons supposed to see in the ratification of the Convention, with all the burdens thereby imposed on them and without any binding assurance of the relief promised to them at the same time? Such relief includes the review of national export controls announced by the Australia Group "with the aim of removing such measures for the benefit of States Parties to the Convention acting in full compliance with their obligations under the Convention". Legal experts will note the lack of a binding commitment in the wording chosen, but can trustworthy politicians retreat behind such phrases?

Any state can of course impose export restrictions but it must justify them to the public at large and to those affected. Is mere suspicion that the Convention might not function properly, i.e. distrust of other member states, sufficient reason for such measures? Is it not the case that the Convention itself will be damaged and undermined by such lack of confidence placed in it? Would it not be much better to demonstrate confidence in the Convention, and not to apply national controls again unless irregularities have been proven, and then to do so on a selective basis?

I am sure that a more confident attitude such as this would lend momentum to the ratification process. The verification measures then possible would no doubt quickly indicate whether the member states are observing the obligations assumed under this great Convention.

Moreover, how is the chemical industry to make clear to its customers in a member state outside the Australia Group

that the coming into force of the Convention does not imply any changes in their chemical trade, even though their own home country subjects itself to the controls required by the Convention? This cannot and will not work out; the Convention will be invalidated before it has even had a chance to develop the impact which all of us hope for.

The CWC has thus been designed so that operational restrictions on chemical trade, as compared with the present situation, are eliminated. Indeed, it would not have been possible to reach a favourable consensus of the chemical industry if the CWC had not aimed to achieve the minimum obstruction of industrial activities and as little intrusion as possible during monitoring.

The individual restrictions are as follows. The CWC forbids all toxic substances and their precursors, except those used for purposes not prohibited by the CWC when of types and in quantities consistent with such purposes. In addition, the use of Schedule 1 substances for large-scale industrial purposes, for example the use of nitrogen mustard as a synthetic intermediate, is forbidden, but is permitted up to a quantity limited to 100 grams per year for medical and pharmaceutical research. From the practical viewpoint, however, this should not be regarded as a restriction on peaceful activities.

The restrictions on export of chemicals in Schedules 2 and 3 to states that do not join the Convention need have no effect if, as expected, the home countries of our customers join the CWC. The export restrictions are thus reduced to peripheral areas. In borderline cases, this affects prospective customers or countries which are in any case not being supplied by the German chemical industry.

The obligation to tolerate inspections, the duty to disclose information, i.e. the opening of data files and the divulging of confidential business figures, represent a restriction of rights, but scarcely an operational restriction.

Under the provisions of the CWC, end-use statements are required only from non-Parties. From the standpoint of the German chemical industry, which at present requires end-use statements even from customers in Germany, the CWC represents a remarkable facilitation of chemical trade.

A final assessment cannot yet be made in each case. To what extent a particular measure will prove to be a burden will depend, among other things, on the availability of highly qualified inspectors necessary for the purpose and, of course, on the level of confidentiality applied to information on the private chemical industry. The qualification of inspectors will depend on how far it is possible in the training courses to acquaint participants with the specific conditions and circumstances of chemical production. In order that nothing is omitted in this regard, the German chemical industry has offered to provide training courses for inspectors.

Under its new CWC implementing law, the German government can, however, ban the import and export of

individually designated chemicals, the setting-up of production facilities, production itself, sale, purchase and consumption as well as transfer. The authority to do so derives from its duty to prevent dual-use chemicals being used for purposes banned under the CWC. In this regard, however, the government must pay attention to the clarification mechanisms of the CWC and the obligation to cooperate in technical and scientific fields.

Summing up, it must be stated that the CWC is more than just an agglomeration of production and trading rules in the dual-use chemicals field. It establishes a new global system with the same duties and the same responsibilities for all States Parties. It is no longer the supplier of chemicals which can be put to improper use who infringes valid law, but the misuser; not the material manufacturer, but the armourer. One of the Convention's basic principles is the right and expectation of equal treatment of all member states of the CWC between themselves.

The monitoring of its CWC-related activities can be accepted by the chemical industry. Over and above the technical and trading aspects, however, the CWC represents a political and, above all, an ethical category; it cannot display its full impact, even with additional restrictions, if the necessary trust is not developed at the same time. □

| <b>CWC Non-Signatory States</b> |                     |
|---------------------------------|---------------------|
| <i>as of 1 June 1995</i>        |                     |
| Bosnia-Herzegovina              | Angola              |
| Macedonia, FYR of               | Botswana            |
| Uzbekistan                      | Egypt               |
| Yugoslavia                      | Eritrea             |
|                                 | Libya               |
| Bhutan                          | Mozambique          |
| Iraq                            | Sao Tome & Principe |
| Jordan                          | Somalia             |
| Kiribati                        | Sudan               |
| Lebanon                         |                     |
| North Korea                     | Antigua & Barbuda   |
| Solomon Islands                 | Barbados            |
| Syria                           | Belize              |
| Taiwan                          | Grenada             |
| Tonga                           | Jamaica             |
| Tuvalu                          | Suriname            |
| Vanuatu                         | Trinidad & Tobago   |
| Andorra                         |                     |

*159 states have signed the CWC, 29 of which have deposited instruments of ratification*

| <b>Deposited CWC Ratifications</b> |
|------------------------------------|
| <i>as of 1 June 1995</i>           |
| Fiji — 20 January 1993             |
| Mauritius — 9 February 1993        |
| Seychelles — 7 April 1993          |
| Sweden — 17 June 1993              |
| Norway — 7 April 1994              |
| Australia — 6 May 1994             |
| Albania — 11 May 1994              |
| Maldives — 31 May 1994             |
| Cook Islands — 15 July 1994        |
| Spain — 3 August 1994              |
| Bulgaria — 10 August 1994          |
| Germany — 12 August 1994           |
| Sri Lanka — 19 August 1994         |
| Mexico — 29 August 1994            |
| Turkmenistan — 29 September 1994   |
| Uruguay — 6 October 1994           |
| Paraguay — 1 December 1994         |
| Lesotho — 7 December 1994          |
| Greece — 22 December 1994          |
| Tajikistan — 11 January 1995       |
| Mongolia — 17 January 1995         |
| Armenia — 27 January 1995          |
| Finland — 7 February 1995          |
| Oman — 8 February 1995             |
| Romania — 15 February 1995         |
| France — 2 March 1995              |
| Switzerland — 10 March 1995        |
| Croatia — 23 May 1995              |
| Monaco — 1 June 1995               |

  

| <b>Undeposited CWC Ratifications</b>  |                      |
|---|----------------------|
| <i>Some states in which the domestic ratification process has been completed, or is reportedly close to being so.</i> |                      |
| Algeria   | Japan                |
| Belarus   | Netherlands          |
| Benin   | Peru                 |
| Cameroon  | Poland               |
| Canada  | Saudi Arabia         |
| Czech Republic  | Slovakia             |
| Denmark   | South Africa         |
| Ecuador   | United Arab Emirates |
| Italy   |                      |

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## Building the Organization for the Prohibition of Chemical Weapons

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Preparations for the CWC's entry into force are progressing well. The Convention now has a total of 29 ratifications. Adding the four states that recently ratified the Convention but have not yet deposited their instruments of ratification, this means that the Convention has now received more than half the number of ratifications required for entry into force. At least ten other states are known to be very far along in their preparatory processes. Notably, many of the states with the largest economies have ratified or will do so soon: France, Germany and Japan have ratified the Convention (Japan without yet taking the last step of depositing its instrument of ratification), Canada and Italy will very soon be ready to do so, the United States, it is hoped, may ratify the Convention by the fall, and the United Kingdom is thought likely to do so when the treaty is considered by Parliament late in the year. If these projections are borne out, all of the G-7 countries will then have ratified the Convention by the end of 1995.

Work on preparing for the establishment of the future OPCW continues. The building to be used as the OPCW Laboratory and Equipment Store has now been leased and is in the process of being prepared for use; the process of procuring inspection equipment is well underway; the bidding process for a number of items has closed; and the General Training Scheme for the inspectorate is moving closer to being finalized, with many significant gaps in the list of planned courses filled by national offers. The previous difficulties in agreeing on the structure of the OPCW's Information Management System (IMS) appear to have eased substantially; the Commission has accepted the United States's national offer (a computer system with associated software) for a portion of the IMS, and lifted the remaining reservations on the budget for work on the system. The Commission has provisionally approved an OPCW Media and Public Affairs Policy, pending approval of the complete OPCW confidentiality policy; the Expert Group on Confidentiality has provisionally approved a detailed draft of the latter policy, and may forward it to the Eleventh Session of the Preparatory Commission for approval. Work on the OPCW's Health and Safety Policy is also proceeding well, and this policy, too, may be ready for adoption at the Eleventh Session, at the end of July.

Although the Preparatory Commission has achieved a great deal in recent months, a number of important areas still require more work. Progress in the Commission on most aspects of destroying chemical weapons production facilities has largely ceased, because of a dispute related to these facilities. Moreover, as the Executive Secretary observed in his Report at the Tenth Plenary, continued uncertainty in the date of the Convention's entry into force (ultimately attributable to delays in ratification by large states, most notably the United States and the Russian Federation) appears to have slowed work in a number of areas. For instance, the present difficulties in reaching agreement

on the terms of the tenancy agreement for the OPCW Building can be traced in part to the uncertainty as to when the OPCW will be ready to occupy it, and the resulting question of which party should bear the costs of any delay in the OPCW's occupancy of the building.

### **Actions by the Preparatory Commission**

*Reaction to Terrorist Incident* Many states at the Tenth Session (3-7 April) expressed their concern and sympathy at the recent tragic use of toxic chemicals by terrorists in Japan. These statements frequently noted that the CWC provides a mechanism for assistance in the event of such attacks, as well as a forum for discussing responses to chemical terrorism. The Chairman of the Commission also noted that "A fully implemented CWC should make it more difficult for terrorist groups to obtain substances which can be used to produce chemical weapons. The Commission's expert groups should therefore broaden their focus to include this new challenge to the extent that they find appropriate and relevant." A number of states observed that this event underlines the importance of bringing the Convention into force soon, in order rapidly to secure its benefits.

*Russian Paper on CWPFs* A Russian working paper on the definition of a chemical weapons production facility (CWPF) caused considerable controversy at the Tenth Plenary. This paper (which was originally presented at a meeting of the Expert Group on Chemical Weapons Issues, and whose details are described in the discussion of the work of that Group below) was widely interpreted as a suggestion by Russia that it might read the Convention to exclude most or all of the facilities at which it had formerly produced chemical weapons from the Convention's inspection, destruction, or conversion requirements. It is not clear that the Russian Federation means to follow through with this position; there were some indications from its statement that its stance was largely adopted as a negotiating position, intended to draw attention to its concerns about possibly strict and therefore expensive requirements for conversion of the aforementioned facilities, as well as about the high costs of proposed verification arrangements (costs which Russia will be required to pay, under Article V of the Convention). Whatever Russia's actual intentions, its working paper drew no expressions of support from any other state, but led to widespread and, in some cases, quite heated criticism. A statement by the Group of Western European and Other States (WEOG) termed the paper's approach unacceptable; ten of the group's members also made individual statements to that effect, as did two states in Asia. (Among those making statements was Dr. Lori Esposito Murray, Assistant Secretary for Multilateral Affairs in the US Arms Control and Disarmament Agency.) Points made in these

statements included: that the Russian position was inconsistent with the text, purposes, and negotiating history of the Convention; that it undermined many of the Convention's security benefits; and that Russia's position created the appearance that it was maintaining its chemical weapons production facilities ready for quick reactivation. Also joining in the criticism of this paper were a large group of Latin American and Caribbean countries, which made a joint statement, and three Central European states, including one former member of the Warsaw Pact. In response, the Russian Federation made a statement defending its approach, denying that it was reinterpreting the Convention, and stating that it was, indeed, trying to ensure the declaration of certain United States facilities.

**Staffing Dispute** The Tenth Plenary Session also devoted considerable time to a somewhat regrettable dispute about the senior staff of the organization. Briefly, a dispute between two WEOG states led to the reopening of the question of which regional group was entitled to nominate a candidate for the post of Director of the Administration Division of the Secretariat (vacated by the retirement of the previous, US, incumbent). This led to the retaliatory blocking of the reappointments of the Directors of the External Relations, Legal, and Verification Divisions. The dispute was not, in the end, resolved; after deliberating late into the evening, the Commission granted the Executive Secretary the authority to "take appropriate steps to cover the inter-sessional period", and decided to return to the matter at its next session. The Latin American Group, among others, made a statement expressing its regret that this dispute had been allowed to delay the work of the Commission. (The later failure of the Expert Group on Programme of Work and Budget to approve funding for any new senior staff positions, the source of the original WEOG dispute, may or may not indicate that this issue has now been resolved.)

Also on staffing questions, the Asian Group renewed their call for greater representation of their Group in the staffing of the Secretariat and greater transparency in recruitment decisions. (As is customary, Japan and South Korea did not support this statement.) The Eastern European and African Groups also called for greater representation from their regions. The latter Group further observed that an "undue emphasis" on the field experience of inspector candidates might put candidates from the region at a disadvantage, and noted that the fact that candidates will be trained may help to remedy this problem.

**Article XI and Export Control Issues** A number of delegations and regional groups made statements expressing concern about Article XI and export control issues. In a clear reference to the Australia Group, the Asian Group's statement asserted that "continuation of any other arrangement that is discriminatory, not universally agreed to or applicable and that seeks to implement measures other than agreed to in the Convention would shift the focus away from this Convention. Misplacing our trust in any other parallel regime would greatly undermine the confidence that needs to be placed in this Convention." The African Group's statement on this subject was also critical, stating that there had been "little progress" on certain Article XI is-

sues, and emphasizing the importance of the Convention's non-discriminatory character and the need not to obstruct peaceful development activities. The Latin American Group's statement was somewhat less pointed, as it contained only a reference to the importance of maintaining the Convention's "non-discriminatory" and "equitable" character, and expressed enthusiasm for the recent work of the Expert Group on Technical Cooperation and Assistance on the establishment of a database and reference service to implement Article XI. A number of large developing nations also made separate statements voicing views similar to those in the Asian Group's statement. One such state noted that, without progress on this issue, it did not anticipate progress on outstanding industry-related issues, and also that it would be difficult to agree on any future verification measures for "other" chemical industry facilities of the sort anticipated in Part IX of the Verification Annex — a position that seems to suggest a linkage between these questions.

These statements were met by a WEOG statement acknowledging the importance of Article XI to the Convention but stating that maintaining certain export controls will be important to the achievement of the Convention's purposes. The statement also asserted that the recent agreement on the establishment of a database for reference use by States Parties was an important step to implement Article XI. Finally, the statement said that the members of the Group would ensure that their national regulations were consistent with the CWC at the time of its entry into force for them, a point that had been emphasized by a number of developing-country delegations in the past.

**Challenge Inspections** Reflecting persistent scepticism in some quarters about possible misuse of the challenge inspection mechanism, the Asian Group statement asserted that it was necessary to adopt criteria for determining when the right to request a challenge inspection has been abused, and that "clearly defined concerns" should be expressed in the challenge inspection request to avoid "frivolous requests". A member of this Group also made a separate statement expressing regret that a lack of "political will" to address these questions had prevented the Expert Group on Challenge Inspections from making any progress on them.

**Amendments to Negotiated Documents** This Plenary featured unusually detailed examinations and revisions of two documents that had been proposed for approval. The first of these was the document on "Measures in Relation to Approved Equipment Following Completion of Inspection Activities" (described in detail in Quarterly Review no 9). Revisions to this document included a clarification that the inspection team will make the initial determination of what information is relevant and include it in its preliminary findings; information so included will be exempted from procedures for removal of unrelated confidential information. They made clear that if a search for the presence of chemicals is conducted on-site and has negative results, "the respective sample, computer file and any print-outs will be considered not relevant" and hence may not be removed from the site by the inspection team. They also stated (*inter alia*) that replacement or reimbursement may occur as late

as seven days after the departure of the inspection team, rather than before the team's departure, as the draft had proposed.

The Commission also amended the portion of Working Group A's report relating to the OPCW Media and Public Affairs Policy before approving it, in ways demonstrating states' sensitivity to the public relations aspects of routine and challenge inspections. The Commission also decided to apply the policy as a whole, *mutatis mutandis*, to its own activities.

**Improved Methods of Work of the Commission** There was some discussion of this topic at the Tenth Session, but relatively few delegations seemed to feel that major changes in the working methods of the Commission were in order. The experiment of the previous intersessional period, in which Working Groups A and B met in the middle of the period, will not be repeated in the next intersessional. At the initiative of one delegation, the agenda for the Eleventh Session of the Commission also includes an item on "general discussion on major outstanding issues", apparently as an opportunity for delegations to discuss political matters still awaiting resolution in the Commission.

**Other Matters** The Commission authorized the Secretariat to approach the World Customs Organization with a formal request to consider amendments to the harmonized commodity description and coding system (HS) codes to facilitate the tracking of exports and imports of scheduled chemicals through existing national customs controls. Also, following the return to his capital of Ambassador Morales of Cuba, the chairman of Working Group A, the Commission appointed Ambassador Carlos Enrique Nones Sucre of Venezuela to replace him.

### **Actions by Member States**

**Signature and Ratification** There have been two more ratifications in the period reported here, Croatia and Monaco; more noteworthy, however, is the large number of states, including Algeria, Belarus, Japan, and the Netherlands, that have recently completed their parliamentary processes for ratifying the Convention but have not yet deposited their instruments of ratification. Belarus announced at the Tenth Plenary that it is now working on establishing a National Authority and carrying out other preparatory work, and will deposit its instrument of ratification after these tasks are completed, while Algeria announced that it had completed its domestic ratification processes and would deposit its instrument of ratification shortly. Japan and the Netherlands have both enacted their implementing legislation, and there do not appear to be any obstacles to either state depositing its instrument of ratification in the near future. Canada is also progressing well in its ratification efforts; Canada's Foreign Minister announced on 1 May that legislation to implement the CWC had been introduced into the Canadian Parliament, and the Convention is expected to reach the final stage of the Canadian domestic ratification process, approval by the Governor-General, by the end of June. Cameroon, the Czech Republic, Denmark, Italy, Poland, Slovakia, South Africa,

and a number of Latin American countries are all reportedly also in the later stages of the preparatory process (meaning in most cases that the CWC either has been or is expected to soon be forwarded to their parliaments for consideration). The United Kingdom has also allocated time on its parliamentary calendar to consider the CWC some time after mid November, and hence should be able to ratify the Convention soon afterwards. Finally, it is by no means possible to track all ratification developments, and many states not listed here are certainly working towards depositing their instruments of ratification.

**Donations by Member States** The Executive Secretary recently established two Trust Funds, one intended to fund the costs of courses for National Authorities, the other intended to fund the costs of Regional Seminars. Contributions have been made or pledged to the Trust Fund for National Authorities by Norway (approximately \$10,000) and by Canada (\$20,000 in Canadian dollars); the Netherlands will also make a contribution to the course. Contributions have been made or pledged to the Trust Fund for Regional Seminars by the International Support Center (\$5,000), Switzerland (\$10,000), Sweden (approximately \$10,000), Canada (approximately \$14,000) and the United Kingdom (£10,000). The two Trust Funds will help to support the costs of developing-country attendance at National Authority training courses and Regional Seminars, respectively.

**Meetings and Seminars** Three regional seminars were held in the period reported here, one in Cuba in March, in which 14 states from Latin America and the Caribbean participated, one in Côte d'Ivoire in May, in which 28 African states participated, and one in Seoul in June, in which 21 Asian and Pacific states participated.

**Other Activities** The Secretariat has certified France's Module 1 training course offer. Switzerland presented a paper at the Tenth Session summarizing technical work it had conducted on the evaluation of some potential items of inspection equipment for use in chemical production plants. These included some items of hand-held analytical equipment, which were found to be in general unsuitable; a portable GC system, which was found to be useful for confirming the identity of declared chemicals; and a portable GC/MS system, which was found to be useful for screening for the presence of certain chemicals. The Swiss analysis called into question the practicability of some proposals for the blinding of inspection equipment, suggesting that effective screening for chemicals requires that an inspector view spectral data and "make the final decision on whether a certain chemical is present in the sample or not".

### **Actions by the Secretariat**

**Staff and Budget** Following the departure of Reuben Lev, Director of the Administration Division, and the failure of the Tenth Session to approve the nomination of a successor, Mr. Vladimir Iossifov, head of the Conference Services Branch, has been appointed acting head of the Division. Mrs. Chantal Quincy Jones, a French citizen, has

been appointed the head of the Information Systems Branch of the same Division, and is expected to arrive in early July.

**Outreach Activities** The Secretariat received visits from a number of foreign officials during the period reported here, including the foreign minister of Australia, Senator Gareth Evans, and a Hungarian official who has been deeply involved in the discussions on strengthening the BWC, Amb. Tibor Toth. Secretariat activities in the field include the chairmanship of a panel on the CWC in Stockholm by the Executive Secretary during the Fifth International Symposium on Protection Against CBW Agents, and meetings by the Executive Secretary and the Director for External Relations in a range of countries, including the United States. A combined meeting of the Expert Group on Chemical Industry Issues and representatives of the chemical industry is planned for 26–27 June.

**Implementation Activities** The Secretariat has prepared a short list of 358 inspector candidates, from which it must select 140 inspectors for the first group to be hired and 71 for the second (who will not be hired until six months after entry into force). Present data show that the distribution of regional groups on the short list is somewhat more even than that in the applicant pool: 10% from Africa, 24.6% from Asia, 19.5% from Eastern Europe, 5.9% from Latin America and the Caribbean, and 40% from WEOG. Despite aggressive recruitment efforts by the Secretariat, there appear still to be shortages of applicants in some categories of specialty, particularly for the pool to be hired after entry into force. The Secretariat is now in the process of interviewing applicants worldwide, a task which entails staff members travelling to meet with a large number of candidates in the field.

The procurement of inspection equipment by the Secretariat continues; the bidding process has already been closed for a number of items. (See the discussion below at the Expert Group on Inspection Procedures.) The Secretariat has also continued preparations for the future certification of OPCW Designated Laboratories, which will be charged with the task of analysing samples taken at inspections. A third set of trial Interlaboratory Comparison Tests is now underway; the results of the second test, which were evaluated by VERIFIN, the Finnish Institute for Verification of the Chemical Weapons Convention, were presented to the Specialist Task Force on Analytical Issues at the end of March 1995. In this test, national laboratories analyzed two soil samples, a rubber sample, and a paint sample, which had been spiked with chemical weapons agents, precursors, and degradation products. The laboratories experienced varying degrees of success in detecting the spiked chemicals, although most laboratories were quite successful. The purpose of these exercises is to permit laboratories to assess their own analytical capabilities, to provide some basis for discussing and comparing analytical methods, and to prepare for the eventual certification process.

The Secretariat has announced that another basic course for personnel of National Authorities will be held in the Netherlands in September 1995, and has requested that Member States of the Commission propose candidates. Participation by persons from developing countries will be

funded in part by the Trust Fund for National Authorities, discussed above. The course, which will last slightly less than three weeks, will resemble a similar set of courses conducted by the Secretariat in the summer of 1994, which was very well received.

In mid-May, the Secretariat organized a workshop which addressed future means of communication between the National Authorities and the Technical Secretariat for declarations data and for other exchanges of information. Representatives of a number of organizations with relevant experience were in attendance, including EURATOM, the IAEA, and the Dutch agency which administers the communications network for the CFE Treaty; a range of existing communications systems were discussed. A number of states expressed interest in electronic communications for declarations data and for notifications from the OPCW; accordingly, the Secretariat prepared a survey for circulation to Member States on the communication methods they plan or wish to use. Several states suggested that the Secretariat develop specifications for this system as soon as possible, in order to permit National Authorities to prepare software and procedures that would work with such a system.

### ***Committee on Relations with the Host Country***

Plans for the construction of the OPCW building have been delayed by a new difficulty in the negotiations. The problem revolves around the demand by the developer to receive a fifteen-year guarantee of occupancy in the Preliminary Tenancy Agreement; the Preparatory Commission cannot provide such a guarantee, as it is unlikely to exist for 15 years, and cannot bind its successor, the OPCW; the Host Country, the Netherlands, is also at present unwilling to furnish a guarantee. The OPCW Foundation, the official Dutch body charged with OPCW-related matters, informed the Committee at its meeting on 4 April that it would not continue to underwrite the costs of further preparations for construction in the absence of a preliminary tenancy agreement, or assume liability for the costs of possible delays.

At its meetings on 4 and 6 April, the Committee expressed its “deep concern” at this situation. In response to this difficulty, the Executive Secretary has issued a Note suggesting that, in order to fulfil its commitment to provide the OPCW with a purpose-built building, the Netherlands (in the person of the OPCW Foundation) undertake to sign a tenancy agreement with the developer, and then lease the building to the OPCW. There are apparently precedents for such arrangements being undertaken by other international organizations. The Note proposes that the Commission provide some form of arrangement to protect the Netherlands in the event that the OPCW has not come into existence three years after the building is complete (when the period for which the Netherlands has agreed to pay the rent on the building ends). In other work of the Committee, the building developer and the OPCW Foundation prepared a joint draft of a development agreement for the OPCW Building, and the Legal Adviser subsequently provided the Committee with detailed comments on this document.

## **Working Group A**

### *Expert Group on Programme of Work and Budget*

This Group met from 29 May to 1 June and 6 to 7 June 1995. Although it had not completed its work on the Commission's 1996 Budget at the time at which this report was finalized, most of the major elements of the budget appeared to be in place. These included a reduction in the Commission's budget for 1996 as against that for 1995, from 27.2 million guilders (\$17m) to 24.8 million guilders (\$15.5m). (This is the Part I budget; the 1996 Part II budget, which will become available upon the deposit of the 65th instrument of ratification, will include an additional \$19 million to permit the expansion of the organization to full strength.) The Budget closely resembles the 1995 Budget in many respects. Reductions have come from the completion of some activities, such as the purchase of computer equipment. The budget as a whole continues to be premised on the assumption that the United States and Russian Federation will be Parties to the CWC at its entry into force and that the bilateral agreement between them will be in the process of being implemented at that time.

Interestingly, the draft budget contains an increase in the line item devoted to support to Member States' National Authorities, such as the planned 1995 course for National Authority personnel; this line item also includes support for the participation of additional Member States in the inter-laboratory comparison tests conducted by the Secretariat. The draft also contains a modest sum for initial establishment of the Article XI database recently proposed by the Expert Group on Technical Cooperation and Assistance.

The Group also authorized the establishment or early filling of a number of posts at the General Services level, including a Storage Specialist (who will be responsible for the newly procured inspection equipment), a Travel Clerk (to assist with arranging travel for recruitment and training of inspector candidates), and a Visa Assistant (to assist with visas for same). These posts were largely to be funded from savings in other areas, such as vacancies in approved positions. At the time of writing, the Group had not authorized the creation of any new senior-level posts.

*Finance Group* This Group met during 15–19 May. It made a number of very detailed recommendations on the draft 1996 Budget for the Preparatory Commission, and also reviewed the progress of expenditures under the 1995 Budget. The Finance Group recommended that the Commission request the Secretariat to draft a set of policies on the Organization's reimbursement of Inspected States Parties for certain costs incurred during inspections. It also recommended the establishment of a fund to be used to finance the purchase and replacement of major items of inspection and laboratory equipment. The Group also proposed a set of Financial Rules for the Voluntary Fund for Assistance to be established under Article X, to be transmitted to the Expert Group on Administrative, Financial and Personnel Matters.

*Expert Group on Administrative, Financial and Personnel Matters* This Group convened for consultations on the top structure of the OPCW on 12 May 1995. A

range of possible configurations for the OPCW's top structure were discussed. They included: a structure resembling that of the PTS, with five deputies heading departments modeled on the five PTS divisions (Administration, External Relations, Legal, Technical Cooperation & Assistance, and Verification) reporting to the Director-General; a similar structure with an altered sub-department structure; a structure with three Departments (Verification; "International Relations", grouping External Relations and Technical Cooperation and Assistance; and "Support", grouping Administration and Legal); and a structure with two Departments ("Compliance", grouping several verification-related units with Technical Cooperation and Assistance; and "Support Services", grouping the other three divisions). The Group did not generate a Report.

## **Working Group B**

*Chemical Weapons Issues* This Group met during 20–23 March 1995. This Group saw the first introduction in a multilateral forum of the Russian interpretation of the definition of a chemical weapons production facility (CWPF). The Russian interpretation turns on the wording of that definition, which appears in Article II(8) of the Convention. The definition refers to certain categories of equipment, "as well as any building housing such equipment". Based on the use of the present tense in this definition, the Russian Federation asserts that a building no longer qualifies as a chemical weapons production facility if the equipment has been removed from the building by the Convention's entry into force, and that the building is therefore not subject to the Convention's inspection, destruction or conversion regimes for such facilities. (The Russian Federation's argument contains a number of other subtleties, which cannot be described in detail here, including an interpretation of parts of the same definition which would include a number of facilities that developed states had not intended to treat as CWPFs.) In response, other states assert that this is not the best interpretation of the Convention's language, and that, in its context, the provision should be read to refer to buildings housing equipment at the time of their design, construction, or use. They also note that the Russian Federation categorizes the buildings in question as destroyed CWPFs, but that they do not meet the Convention's definition of a destroyed CWPF, which includes the destruction of all standard and specialized buildings. The debate may perhaps be best read less as a legal dispute than as an effort by the Russian Federation to seek recognition for the change in circumstances which has occurred since the Convention was negotiated and to ensure that the international community will provide an appropriate level of support for its efforts to destroy or convert its chemical weapons and production facilities.†

The Group also considered the issue of guidelines for the conversion of a CWPF for purposes not prohibited by the Convention, receiving papers on this subject from the

† See also the account above of the discussion of this issue at the Tenth Session. For more detailed analysis, see Matthew Meselson and Justin Smith, "The CWC and the Destruction or Conversion of CWPFs", paper presented at the 3rd Pugwash CBW Workshop, Noordwijk, the Netherlands, 19–21 May 1995.

Russian Federation and the United States, as well as a paper by the Secretariat highlighting common areas and areas of divergence between the two. The Group discussed the issues, but concluded that it was not possible to reach agreement at that time.

The Group conducted initial discussions on the drafting of a model facility agreement for Chemical Weapons Destruction Facilities (CWDFs). The Group considered and commented on a draft table of contents for such an agreement, and requested the Friend of the Chair, in cooperation with the Secretariat, to develop a draft text for the agreement. The Group considered the concept of “levelling out” and the associated concept of “agreed levels of production capacity”, discussing papers on this issue prepared by the Secretariat and by the United States; it did not record progress on these questions in its report, but agreed that a paper on this topic should be produced for the Group’s next meeting. The Group also commented on a Chairman’s Paper listing those costs that might be chargeable to a State Party as “costs of verification” under Articles IV and V.

The Secretariat presented a first draft of a format for an inspection report for the inspection of a Chemical Weapons Storage Facility (CWSF). The Group did not discuss the document (which was quite lengthy and detailed), but requested delegations to submit comments, and expressed the intention to review it at its next meeting. The Group also requested further comments on the draft of the Declaration Handbook on CWSFs and CWDFs, noting that thus far only two delegations had provided comments.

*Expert Group on Safety Procedures* This Group met during 8–11 May, and made considerable progress in its review of the draft OPCW Health and Safety Regulations. These regulations are in their fifth draft; the meeting succeeded in eliminating all brackets from the first four sections of the document, and in considerably reducing the number of brackets remaining in the latter three. The Group’s Report expressed the expectation that the regulations would be completed at its next meeting, which would permit them to be adopted at the Eleventh Plenary Session.

The Group reviewed and approved two documents that had been produced by its subsidiary body, the Task Force on Medical Treatment, at its meeting during 2–5 May 1995. The first of these documents, entitled “Format for the presentation of material concerning the treatment of chemical weapon poisoning”, provides a set of guidelines for the transmission of information on treatment methods by states to the Secretariat, as well as for future work on this issue by the Secretariat. The guidelines provide a set of information to be listed for each poisoning substance, including information on prophylaxis, pre-treatment, on-site treatment, and treatment outside of the contaminated area, and a set of information to be listed for each medication, ranging from its composition and pharmacology to recommendations for use, efficacy data, toxicity data, and storage properties. This format is expected to simplify the task of discussing and comparing divergent national approaches to treating victims of chemical weapons poisoning. The Group also approved a document entitled “Operational Requirements and Technical Specifications Relating to Medications and Equipment to be Used in the Chemical Casualty Treatment

Kit”. This document provides, for each of six categories of CW agent, a set of requirements to be met for any medication to be used at various stages of treatment, and lists medications that meet these requirements. Thus, for instance, the document states that treatments of mustard exposures must decrease mustard induced cellular damage, and lists sodium thiosulphate as a medication capable of performing this task.

The Group requested the Secretariat to distribute the “Format for the presentation of material” to member states, so that they can submit information on medications that may be available in their country. (A number of states had made presentations to the Task Force on such medications.) The Secretariat is also to request Member States to provide information on types of medical treatment and on sources of expertise on chemical casualties. The Group also tasked the Secretariat to prepare a set of draft guidelines for the treatment of chemical poisoning, based on the Task Force’s work.

*Chemical Industry Expert Group* The Group met during 24–27 April 1995. It considered a revised version of the Declaration Handbook prepared by the Secretariat, as well as a relatively concise list (comprising five items) of outstanding questions on this Handbook. The Group did not finalize its discussion of these questions, but requested that capitals study these materials carefully in order to reach agreement on these sections during the next intersessional period. Accordingly, the Handbook now cannot be finalized until late in 1995; this may not pose a serious problem, however, as, if the 65th ratification were deposited at about that time, states could at least proceed on the basis of the now virtually complete draft of the industry sections of the Handbook in beginning the process of preparing their declarations.

The Group also started work on a Model Facility Agreement for Schedule 1 Facilities. The Group agreed that the model would be structured along the lines of the Model Agreement for Schedule 2 sites now under development by the Group, and that its content should take into account materials on inspection procedures at Schedule 1 facilities previously developed by the Group. The Group agreed that a single draft model would be prepared for both single small-scale facilities and for other Schedule 1 facilities.

The Group received an opinion of the Legal Adviser on the legal status of model facility agreements and of facility agreements. The opinion stated that facility agreements are legally binding, although subsidiary to the Convention. (There had been some controversy on this point.) Model agreements, by contrast, are not binding, but “are to serve as a basis for negotiations between the Technical Secretariat and each of the States Parties”. However, “[d]eviations from the provisions of the model agreements will have to be justified in terms of the special circumstances of each facility, but would not be justified as a rejection of basic provisions of the agreements”. Rules barring deviations are not inappropriate, however, as “[i]t is not envisaged that new obligations in addition to those provided for in the Convention will be included in the model agreements”.

Finally, the Group discussed a series of (fairly long-standing) outstanding issues on its agenda without

recording any progress on any of them; these included the question of whether “production by synthesis” includes biochemical and biologically mediated processes, the method of reporting aggregate national data for Schedule 2 chemicals, a series of questions on which tentative understandings have been reached but on which there is not final agreement, and the issue of declaring castor bean processing plants.

*Expert Group on Technical Cooperation and Assistance* This Group met twice during the period discussed here. At its first meeting, during 13–16 March, the Group endorsed the idea of establishing a library as a tool “to promote economic and technological development in the field of chemistry”. The library would consist of databases relevant to “the facilitation of the exchange of information” on this topic, and would operate “as an information service that would provide answers to specific questions by Member States [or] National Authorities of States Parties”. It will begin on a limited scale, increasing the scale of its operations as necessary, and make maximum use of already-available databases. The Group listed a range of possible subject matters for the library, including, among others, producers and suppliers of chemicals and chemical technology, dangerous properties of chemicals and the handling of chemicals, and national and international regulations on trade in chemicals and chemical technology. (A paper presented by the Secretariat on this topic had surveyed existing databases on these topics, suggested a prioritization of these topics, and analyzed cost and copyright implications of a database service.) The Group recommended that Working Group B task the Secretariat to begin identifying materials for this database, to conduct an end-user survey to set priorities for the information service, and to explore the possibility of establishing new databases for priority areas for which no relevant information sources are available. It also requested the Commission to task the Expert Group on Programme of Work and Budget to include these activities within the programme of work and to allocate adequate resources in the 1996 Budget.

The Group also discussed issues relating to the data bank on means of protection against chemical weapons to be established under Article X of the Convention. The Group recommended that Working Group B approve the use of the Micro-ISIS system as a database to index this data bank. The Expert Group also concluded that a multilingual thesaurus would be required to maximize the usability of the database, and recommended that Working Group B request that the Secretariat seek information for this thesaurus from Member States. (The Executive Secretary subsequently issued a Note requesting such information.) The Group also requested the Secretariat to prepare a study of what additional resources should be placed at the Director-General’s disposal for emergency assistance, with a view to recommending the allocation of appropriate resources in the first Budget of the OPCW.

At its second meeting, from 22 to 24 May 1995, the Group discussed establishing a Secretariat Internet site “to assist, *inter alia*, National Authorities”. It concluded that a more detailed study was required before it could take a final decision, but recommended that the Secretariat establish a

temporary Internet site “providing information on the work of the Commission and on the Convention and its implementation” as a temporary measure, and proposed a later study of the design, contents, and budgetary implications of a permanent site. The Secretariat’s proposal for a temporary site suggested that existing documents intended for the use of National Authorities or describing the work of the Preparatory Commission could be made available through this site, and that the materials could also be made available off-line, on diskette.

At both meetings, the Group continued its deliberations on the provision of information on national programmes related to protective purposes under Article X, and continued its discussion of the implementation of Article XI, without reporting any progress on either topic.

*Expert Group on Inspection Procedures* This Group met during 2–5 May. The Group failed to reach agreement on a Report, so that the following merely provides some indications of the topics discussed at its meeting, several of which were quite contentious. The Group received a paper with detailed proposals for the establishment of a QA/QC regime for the future OPCW, and apparently approved in principle the idea of establishing such a regime. The Specialist Task Force on Analytical Issues had met on 30–31 March 1995 to consider criteria for performance testing of designated laboratories, and produced a set of criteria for consideration by this Group. These criteria outlined, *inter alia*, analytical and reporting methods to be used by laboratories and methods for evaluating and scoring laboratories’ work. The Group could not endorse the use of non-scheduled chemicals for performance testing, and so suggested that the Task Force reconsider its report.

The Group discussed and commented on a Secretariat background paper containing a draft methodology for the procurement of equipment for the OPCW, and agreed to consider a revised version of the document at a future meeting. In the meantime, the Secretariat has, as previously authorized, proceeded with procurement on the basis of the draft policy. The Group displayed great interest in the procurement process, and made several recommendations on how it should be conducted. The Group also continued to discuss the list of approved equipment, an issue that led to a discussion of the question of “the particular types of equipment for specific types of inspections”. Views were expressed that the Technical Secretariat should not purchase verification equipment which is not commercially available to all States Parties; this view, which had already appeared in the statement of the Asian Group at the previous Plenary, is reportedly a reference to the dissatisfaction of some States with the fact that national export controls complicate their purchasing some equipment that is being considered for purchase by the Secretariat.

The Group continued its discussion of the scope of the data to be included in the Analytical Database. The Group considered a discussion paper on this topic by the Secretariat, which noted a number of circumstances which appear to suggest that the set of data included in the database should not be overly restrictive. These included the fact that the database will be used by the Technical Secretariat for a wide range of tasks, including supporting the work of the

OPCW laboratory, quality assurance for designated laboratories, and field analysis by inspection teams; the fact that the data in the instruments of the OPCW's laboratory or inspection teams will be only a subset of this database, so that inclusion of data in the database will not pre-judge the question of its use by inspectors; and the fact that it may be very time-consuming to fill gaps in the database with validated data on an *ad hoc* basis. The paper noted that the Convention states that the Schedules are not an exhaustive definition of chemical weapons, and presented a list of types of non-scheduled chemicals which may be implicated by OPCW verification measures. This list included: riot control agents, in case of, e.g., an investigation of alleged use of riot control agents as a method of warfare; chemicals known from past history or suspected to have uses as chemical weapons (for inspections of old and abandoned chemical weapons, investigations of alleged use, and challenge inspections); compounds permitting the "fingerprinting" (identification of the origin of) old and abandoned chemical weapons; degradation products of chemical weapons, scheduled or unscheduled; reference and calibration standards; chemicals used in sample preparation procedures; and chemicals known to give false-positive returns with the analytical methods used when analysing for the above chemicals. The paper also presented a further list of categories of chemicals on which data would be required for the use of the OPCW Laboratory.

The scope of the data to be included in the database was apparently a subject of considerable discussion within the Group. Accordingly, the Group also discussed the regulations to be applied for selecting sub-sets of data from the Analytical Database for use in field analytical equipment during an inspection. The Group noted that the contents of the database should be fully accessible to all States Parties; an innovative suggestion made by the Group in this regard was that the Secretariat study, and submit to the Expert Group on Technical Co-Operation and Assistance, ways in which such data could be made available to States Parties as an element of the proposed library on the exchange of scientific and technical information which has been discussed as a method of implementing Article XI.

The Group continued its discussion of the availability of access to a particular site in the case of an investigation of alleged use of chemical weapons. This topic has been controversial, as some states have been concerned that such investigations may be abused if it is not made clear that their use is subject to certain limitations. The Group discussed, in particular, the interesting scenario in which one state alleges that a second state has used chemical weapons against a third state, and requests an inspection on the third state's territory. It was noted that, in this case, although the third state would have an obligation to provide some access to the requested site, it would not be subject to the obligation in Article IX to make every reasonable effort to demonstrate its compliance with the Convention, as its compliance would not be in question.

*Expert Group on Confidentiality* This Group met formally on 17 May 1995, and informally on 10–11 April and 16 May 1995. Importantly, the Group provisionally completed one of the tasks that had been assigned to it, the task

of finalizing an integrated draft of the OPCW Policy on Confidentiality. Much of the policy had already been agreed; the Group has now agreed on the remainder of it, including materials on basic responsibilities on confidentiality, on administration, on breach procedures, on the Director-General's Annual Report on confidentiality, and on the amendment procedure for the Policy. The Group also reviewed and endorsed an integrated compilation of the agreed elements of the policy, including introductory and general policy materials, the classification system for confidential information, general principles for the handling and protection of confidential information, rules on release of information, and some aspects of the breach investigation procedure (a procedure which will require further elaboration). The Group agreed to consider this material again at a forthcoming meeting (on 9 June), after which it proposed to submit it to the Eleventh Session for approval.

The Group's Report also noted, however, that the Group's remaining tasks would require considerable study. The Group continued its discussion of the rules for the composition and operating procedures of the Confidentiality Commission, noting that the recommendations of its previous report would serve as a "policy-level reference" on this topic. It did not record further progress on this issue in its Report. The Group also reported that it had discussed the questions of exercise of national jurisdiction by States Parties and of compensation for losses caused by breach of confidentiality.

*Expert Group on Training* This Expert Group met during 18–19 May 1995. The Group completed work on two documents, the Letter of Appointment for Inspectorate Trainees and the Agreement for the Training Course for Inspectors and Inspection Assistants for the OPCW, and decided that it had at present completed its work on both documents. Accordingly, it recommended that these documents, after some changes are made, be forwarded to the Expert Group on Administrative, Financial and Personnel Matters for its consideration. The first of these documents presents the contractual arrangements for inspector trainees during the period of their traineeship; the second, the mutual rights and obligations of the PTS and a Member State hosting a training course. The Group also took note of a set of materials by the Secretariat on the process by which trainees will be evaluated for suitability to serve as inspectors, and agreed to review it thoroughly after the forthcoming Trainee Evaluation Workshop (to be scheduled "as soon as possible" after the Eleventh Session of the Commission).

As has become normal for this Group, the Group reviewed closely the progress of work on securing offers from Member States to present courses as elements of the General Training Scheme. It noted that a number of the shortages for Module 2 and 3 of the scheme had been filled by offers from Member States. Two gaps in the Module 2 course list remain, one for Demilitarization and Destruction of Chemical Weapons, and one for certain training for medical specialists. In Module 3, there is a need for additional on-site CWDF, CWPF, and CWSF training. The Group requested that the Secretariat continue to develop plans to fill these shortages, as well as to develop alternatives to existing training offers. The Group noted that the process

of estimating the costs of the training program continues, as does that of certifying national training course offers.

At a briefing on the status of the inspector recruitment process conducted by the Executive Secretary on 29 March, it was noted that the most important language qualification for inspectors would be English, followed by Russian and Chinese, then German and Japanese, and then Arabic, French, and Spanish. There was also some discussion of whether candidates from countries that had not yet ratified

the Convention at the time the final selection process began would be selected as trainees; the Executive Secretary stated that "substantial assurances" would be required from the state in question that ratification would be forthcoming for such candidates to be selected.

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*This review was written by R Justin Smith, the HSP researcher in The Hague.*

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## News Chronology

## November 1994 through February 1995

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*What follows is taken from the CBW Events data-base of the Sussex Harvard Information Bank, which provides a fuller chronology and more detailed identification of sources. See Progress in The Hague (above) for coverage of OPCW-related developments. The intervals covered in successive Bulletins have a one-month overlap in order to accommodate late-received information. For access to the data-base, apply to its compiler, Julian Perry Robinson.*

**1 February** In Iraq, the second UNSCOM interim biological monitoring team, IBG-2, continues the work of collecting baseline data needed for implementation of the biological part of the scheme for Ongoing Monitoring and Verification [see 10 Jan] of Iraq's compliance with the UN Security Council requirement that it not rearm with weapons of mass destruction. Some 80 sites around the country are being subjected to this UNSCOM surveillance from the Baghdad Monitoring Centre. {UN document S/1995/284}

**1 February** In the UK, the Surgeon General, Vice-Admiral Tony Revell, tells the House of Commons Defence Committee [see 18 Jan] that, in the medical assessment programme for the putative Gulf War Syndrome [see 31 Oct 94], the military doctor examining patients, Wing Commander Bill Coker, is to increase his examinations. Thus far he has examined 79 of the 230 patients referred to him by civilian doctors. {*Daily Telegraph* 2 Feb}

A week later the Defence Ministry announces that the Royal College of Physicians is to conduct "an independent clinical audit" of the medical assessment programme and its results to date. The statement continues: "It has been our intention to make public the detailed preliminary findings of the assessment programme at an appropriate stage when sufficient Gulf veterans have been examined under the MOD medical assessment programme, and I have agreed with the Surgeon General that he should do this in a letter to the *British Medical Journal* after 100 such assessments have been made." {*Hansard (Commons)* written answers 8 Feb}

The formation of a Gulf Syndrome Study Group by the Working Party on Chemical and Biological Weapons, described as an independent group of scientists and doctors, is later announced by its administrator, Elizabeth Sigmund. {PA 12 Feb} The Group is chaired by the director of the Verification Technology Information Centre (VERTIC), Dr Patricia Lewis.

**2 February** In Cairo the summit meeting between President Mubarak of Egypt, Prime Minister Rabin of Israel, King Hussein of Jordan and PLO Chairman Arafat concludes with the adoption of a communiqué in which the leaders "reaffirm their deter-

mination to continue the Middle East peace process to implement a just and comprehensive peace in the region". Further: "The parties reaffirmed their intention to...achieve equal security and mutual confidence at lower levels of armaments, appreciating President Mubarak's disarmament proposal on weapons of mass destruction [see 12 Dec 90 and 10 Jun 92], the parties shall pursue a mutually verifiable Middle East zone free of weapons of mass destruction, nuclear, chemical, biological, and their delivery systems." Consultations at foreign-minister level on implementation are to begin in Washington next week. {AFP 3 Feb}

**3 February** In Iraq, UNSCOM 113, the 22nd biological-weapons inspection, comes to an end. The 20th and 21st begin, respectively UNSCOM 111 and 112. They will end on 17 February. {UN document S/1995/284}

**3 February** In the UK, a total of about 16 kilograms of sarin nerve-gas have been consumed from 1985 to the present in protective research at the Chemical and Biological Defence Establishment, Porton Down, so the House of Commons is told. Agent GE, which during the late 1940s and early 1950s had seemed a more attractive agent than sarin despite its lesser toxicity because it was then rather easier to make, had at that time been produced in quantities totalling about 320 kg. {*Hansard (Commons)* written answers 3 Feb}

**3 February** The US Joint Chiefs of Staff have approved the use of so-called "nonlethal weapons" [see 15 Dec 94 and 21 Jan] in the forthcoming US evacuation of UN forces from Somalia. The approval extends to what the *Wall Street Journal* {3 Feb} describes as "smurf grenades", which knock people down without permanently harming them, but does not extend to laser blinding weapons. Defense Department officials are later quoted by the *New York Times* {15 Feb} saying that the Pentagon is hoping to use the Mogadishu operation as a proving ground for a new generation of experimental weapons intended to stun or ensnare foes rather than kill them. According to the *Times*, the approved nonlethal weapons are rubber bullets, a bean-bag shot gun and two kinds of supersticky foam. They

had been selected by Central Command officers working with law-enforcement agency personnel in southern California. Another authorized weapon, according to a later newspaper report, is a foam system that creates a suds-like barrier 200 feet long, 20 feet wide and 4 feet high, laced with tear gas. {*Washington Post* 24 Feb} Three varieties of "pepper spray" are also to be available. {*Washington Post* 25 Feb} US Marines off Somalia begin shipboard training with the new weapons on 6 February. {Reuter in *Boston Globe* 19 Feb} In the event, the weapons remain unused during the evacuation. {*London Guardian* 16 Mar}

**3 February** The US Department of Veterans Affairs announces the eligibility for benefits of Gulf War veterans who developed chronic undiagnosed ailments within two years of the war and have had them for at least six months [see 10 Oct 94]. Chronic symptoms for which benefits will be paid include fatigue, skin problems, headaches, muscle pains, joint pains, nerve disorders, neuropsychological problems, respiratory problems, sleep disturbances, stomach problems, heart problems, abnormal weight loss, and menstrual disorders. Benefits are to range from \$89 per month compensation for 10 per cent disability to \$1823 for 100 per cent. {*Newsday* 4 Feb}

**4 February** In Moscow, health problems of former workers at the V-gas factory in Novocheboksarsk are described in a statement released by 'Soyuz-3', an organization of present and former Khimprom workers which is a collective member of the Union for Chemical Safety [see 25 Oct 94]. The statement is an appeal for help. It says that, of the estimated 3000 people who had participated in V-gas production, which had taken place from 1972 until 1987, an increasing proportion, now more than half, are sick, and that most of them have been unable, for reasons of bureaucracy, secrecy and neglect, to receive medical attention. {M S Svetlakova, "To the international community", 4 Feb, e-mail distribution}

**6 February** In Iraq, UNSCOM 110, the 19th biological-weapons inspection, comes to an end. {UN document S/1995/284}

**6 February** Israel, with European and US assistance, is building an \$8.5 billion production facility for CBW weapons, according to the Lebanese newspaper *Al-Liwa*, which states further that construction — at an unspecified location in "occupied Palestine" — is expected to be finished in mid-summer. {IRNA 6 Feb in BBC-SWB 8 Feb}

**6 February** The US Commerce Department budget for FY 1996, which has now been placed before the Congress, includes a \$3.5 million request for the Bureau of Export Administration to administer and enforce the inspection and reporting requirements placed on the chemical industry by the Chemical Weapons Convention. {*BNA Management Briefing* 7 Feb}

**7 February** In Japan, a subcommittee of the Chemical Product Council, which advises the Minister of International Trade and Industry, presents an interim report on the legislative and other measures necessary for implementing the Chemical Weapons Convention in Japan. Among other matters, the report speaks of the necessity of minimizing damage to the corporate image of businesses that become subject to routine inspection under the Convention. MITI will reportedly be pre-

senting draft implementing legislation to the Diet during its current session [see 20 Jan]. {*Japan Chemical Week* 16 Feb}

**7 February** Finland deposits its instrument of ratification of the Chemical Weapons Convention, the 23rd signatory state to do so.

**7 February** In Washington, the US Deputy Assistant Secretary of State for export controls, Martha Harris, tells a meeting of the National Security Industrial Association that establishment of the CoCom-successor organization [see 21-22 Dec 94] is being delayed by the issue of Russian arms sales to Iran. France and the UK are insisting that Russia become a founder member of the new organization, but the United States is insisting that Russia must first stop the sales. {*Defense News* 20 Feb}

**7 February** In Washington, a conference on *Implementing the Chemical Weapons Convention: The Nuts and Bolts of Compliance* is convened jointly by the American Bar Association, the Chemical and Biological Arms Control Institute and the DePaul University International Human Rights Law Institute. Addressing the conference, USACDA Director John Holum says: "The CWC breaks new ground not only in the sweep of its prohibitions against chemical weapons, but also in the scope of its verification. It is the most far-reaching and ambitious arms control regime ever negotiated. And it embodies the central and fundamental truths about chemical agents designed to kill and maim in the cause of war: To make them is a waste; to keep them an affliction; to use them an abomination. To champion their destruction makes us more civilized even as it makes us more secure." He goes on to say that on the present rate of ratification the Convention could enter into force "in as little as 90 days after we ratify", meaning that the target-date of end-1995 set by the UN Secretary-General [see 13 Jan] "is well within reach". He urges swift action by the Senate, and lays out "just the top half dozen arguments" for swift ratification.

As for implementation, he notes that "both Houses of Congress must pass, by simple majorities, implementing legislation making the provisions of the CWC binding on U.S. citizens and businesses.... [T]he Department of Commerce will issue new regulations for industry, which will be circulated for industry comments before being finalized. The President will issue an Executive Order assigning responsibilities for CWC implementation in the executive branch. ACDA will be the executive office of the U.S. National Authority." {Official text}

**8 February** Oman deposits its instrument of ratification of the Chemical Weapons Convention [see 12 Dec 94], the 24th signatory state to do so.

**9 February** In Belarus, the Supreme Council, at the instigation of the President and following a decision taken almost unanimously by the Parliament, ratifies the Chemical Weapons Convention. The government will take a decision on depositing the instruments of ratification in due course, after preparatory work for domestic implementation. {PC-X/B/WP.16}

**9 February** Germany is to relax some of its controls on exports of dual-use goods in order to harmonize them with those of other member states of the European Union in accordance with the EC regulation on the subject which is scheduled to come into force on 1 March [see 19 Dec 94]. Officials say the

decision to do so had been taken in Cabinet in December [see also 31 Aug 94]. {Inter Press Service 9 Feb}

**9 February** German Chancellor Helmut Kohl, joining President Clinton for a press conference in Washington, is asked about the involvement of German industry in the reported development by Iran of weapons of mass destruction [see 30 Jan]. Referring to abusable exports from German chemical industry, he says: "I talked to the German industry and we agreed that we would do everything we can in order to make diversion impossible. Or, to put it differently, we are not talking simply about law enforcement here; we are going to make sure that the reputation of our country is not damaged." {USIS 10 Feb}

**10 February** In Japan, six former members of an Imperial Army BW unit [see also 17 Dec 94] recall the work of the unit in a 74-page book, *The Truth about Unit 731*, published by a citizen's group in Iwate. {*Times* 11 Feb, *New York Times* 17 Mar}

The number of former participants in the work of Unit 731 who have publicly recounted their experiences, including people involved in BW experimentation on live prisoners (Chinese, Korean and, later, Russian, American, French and British prisoners, so it is reported), is continuing to increase. In contrast to earlier practices, the Ministry of Education is now reportedly planning to release a textbook of Japanese history that will admit to "bacteriological ...experiments on many Chinese and Russians". {*Independent on Sunday* 16 Apr}

**10 February** Peru is accused by top military officials in Ecuador of using aircraft to spread toxic gases over Ecuadorean defence positions in the increasingly bitter border conflict. An Ecuadorean general further accuses Peru of drugging its own troops with coca leaves so as to force them onto the attack. In Lima, Peruvian military officials dismiss the accusations as "Ecuadorean idiocies". {Reuter 10 Feb} However, "toxic bombs" are reportedly used next day, killing one woman and poisoning children in a Shuar community in the border area, according to the Vice President of the Confederation of Indian Nationalities of Ecuador, Rafael Pandam, speaking to reporters in Quito. {HCJB Voz de los Andes 13 Feb in BBC-SWB 15 Feb}

**13–15 February** In Yaoundé, the government of Cameroon in conjunction with the OPCW Provisional Technical Secretariat hosts the Second African Regional Seminar on National Implementation of the Chemical Weapons Convention. Representatives of 16 regional states and the Provisional Technical Secretariat participate, as well as guest speakers from France, Germany, the Netherlands, SIPRI, Switzerland and the USA. {PC-X/B/WP.20}

**14 February** In Cairo, at a meeting of member states of the Arab League, Egypt submits a draft for a treaty that would create a zone free of weapons of mass destruction in the Middle East [see also 2 Feb]. The zone would include all 22 members of the League together with Iran and Israel. {Reuter in *Financial Times* 15 Feb}

**14 February** To the US Senate Armed Services Committee, the commander in chief of the US European Command (USEUCOM), General George Joulwan, expresses great concern about the proliferation of weapons of mass destruction and

the "dramatic rise in the smuggling of nuclear material and technology". He says that in the USEUCOM area of responsibility — which spans Europe, parts of the Near and Middle East, the northern African littoral and sub-Saharan Africa — there had been "more than 580 known incidents of nuclear smuggling" since 1990, and that more than 200 of them had occurred in the last year. {USIS 17 Feb}

**15 February** Dr Vil Mirzayanov, the Russian chemist once charged with revealing secrets about his country's chemical weapons [see 8 Dec and 22 Dec 94], states: "Chemical weapons have no practical use and have no value as a deterrent. They should be totally abolished as a class of weapons". He is interviewed in the United States while attending the annual meeting of the American Association for the Advancement of Science, which, like other US institutions, is honouring him as a whistleblower in the cause of human rights. He goes on to advocate speedy ratification of the Chemical Weapons Convention by the United States, stating that "If the US does not ratify the CWC, there is no doubt that Russia will also refuse to do so and the process of disarmament will come to a halt". He says that, although there is no broad political movement in Russia advocating retention of the chemical arms programme, there are "very influential people in Russia today who are interested in continuing developing chemical weapons in order to frighten the world with its military might, the way it used to be in previous years." {Press statement 13 Feb, Reuter 15 Feb}

**15 February** Romania deposits its instrument of ratification of the Chemical Weapons Convention, the 25th signatory state to do so.

**15 February** In the UK, the opposition Labour Party publishes animal-welfare proposals after making an official visit to the Chemical and Biological Defence Establishment at Porton Down. {Press release 15 Feb} During the period 1989-92, the number of animal experiments conducted at the Establishment each year had declined from 9000 to 4500, but the number had since risen sharply (to 6700 in 1993). {*Hansard (Commons)* written answers 2 Feb} The main reason for the rise was said to be a crash programme of research into BW agents such as anthrax [see also 16 Jan]. {*Guardian* 16 Feb} The proposals include the establishment of an ethics committee to oversee the use of live animals made up of external academics, animal welfare experts and CBDE scientists. {*Times* 16 Feb}

**15 February** The UK Defence Ministry, responding to further Parliamentary questions about the putative Gulf War Syndrome [see 1 Feb], states that it has received notification of 483 potential claims in respect of alleged ill health as result of service in the Gulf, one third of them from serving armed-forces personnel. Of the 233 people who have requested medical assessment, about a quarter are serving. Initial findings from the assessment programme, which has thus far examined 90 patients, are described (in language nearly identical to that used in a similar response a fortnight previously) as follows. "[T]hose diagnosed so far are suffering from medical conditions which can be categorized as follows: approximately 25 percent are suffering from psychological conditions; 20 percent from serious, but well-recognized, medical conditions; 10 percent from chronic fatigue syndrome and the remainder from minor physical ailments. None of the conditions has been found to be peculiar to service in the Gulf. There is no single illness, major or

minor, common to those examined and no evidence to suggest the existence of a Gulf war syndrome." {*Hansard (Commons)* written answers 15 Feb} [See also 14 Dec 94 US]

**15 February** The US Army issues a draft solicitation in connection with its projected BW vaccine production facility [see 13 Oct 94]. It is now seeking a single company or consortium to manage private production, testing, storage and distribution of the vaccines. {*Defense News* 13 Mar}

**16 February** President Clinton transmits to the Congress the final statutory report on Executive Order 12375 under which President Bush had declared a national emergency with respect to proliferation of CBW weapons [see 16 Nov 90] and empowered the Secretary of State to impose sanctions on foreigners found to be involved in proliferative activities, an Order since superseded by a new one [see 14 Nov 94], EO 12938. The report reviews the Administration's CBW arms-control efforts.

On the BWC Special Conference, the President's report states that the objective of the mandate which the conference agreed for the new Ad Hoc Group [see 19-30 Sep 94 and 4-6 Jan] "is to develop a legally binding instrument to strengthen the effectiveness and improve the implementation of the BWC", continuing: "The United States strongly supports the development of a legally binding protocol to strengthen the Convention".

The report speaks thus of the Australia Group: "The AG also reiterated its conviction that harmonized AG export licensing measures are consistent with and indeed actively support, the requirement under Article I of the CWC that States Parties never assist, in any way, the manufacture of chemical weapons. These measures also are consistent with the undertaking in Article XI of the CWC to facilitate the fullest possible exchange of chemical materials and related information for purposes not prohibited by the Convention, as they focus solely on preventing assistance to activities banned under the CWC. Similarly, such efforts also support existing nonproliferation obligations under the BWC." {US Newswire 16 Feb}

**19 February** Iraq's putative arsenal of biological weapons [see 5 Jan] is described in further detail by a London newspaper, the *Sunday Times*. The weapons are said to be 200 anthrax bombs, buried near Tikrit. This information is attributed, as in the earlier reporting, to General al-Samirra'i, formerly chief of Iraqi military intelligence, who had told the newspaper (over satellite telephone from Iraqi Kurdistan) that he had first seen documentary evidence of the weapons during the months immediately prior to his defection in November 1994. He had also told the newspaper that he had named — apparently to the United Nations — several aides to President Saddam Hussein who had hidden in their homes "research manuals that detail the production methods for biological warheads".

Two days later, General al-Samirra'i addresses an open letter to UNSCOM Chairman Ekéus on the subject of Iraqi concealment of missiles and CBW weapons, saying: "I confirm what I told the inspectors last week". {Reuter 21 Feb, Radio State of Kuwait 21 Feb in BBC-SWB 23 Feb}

In the meanwhile the *Sunday Times* story is described as "entirely false" by the head of foreign relations of the ruling Baath party, Abdel Razak al-Hashimi, who adds: "Articles spreading disinformation about Iraq always come before the

UN Security Council reviews sanctions". {AFP 20 Feb} The Council reviews the sanctions every 60 days.

**19–23 February** UNSCOM Executive Chairman Rolf Ekéus, accompanied by senior officials, is in Iraq for technical and political high-level talks. He had said in New York prior to departure that UNSCOM, for its on-going monitoring and verification work in Iraq [see 1 Feb], still lacked necessary baseline data on past Iraqi weapons programmes, mentioning biological weapons specifically: his experts doubted Iraq had a gigantic BW programme but were extremely concerned that information was concealed. {Reuter 16 Feb} His special assistant Tim Trevan had told reporters in Bahrain: "In the area of biological weapons we are still at the stage that we received a report from the Iraqi side which frankly we don't believe [see also 15 Dec 94 UN]. The problem is that we don't know what we don't know". Trevan had spoken in particular of the need for an accounting of the supplies of complex growth media imported by Iraq [see 19 Dec 94]. And he had said also: "The suspicion was and remains that Al Hakem [a protein production plant west of Baghdad: see 31 Jan] was designed to grow bacteria for biological warfare". {DPA 17 Feb}

Speaking immediately after the talks, Chairman Ekéus tells reporters that, "very considerable progress" had been made. Thus, new information on past CW programmes had been supplied which, although not yet analysed, seemed substantive, promising and important. The same could not be said in the area of biological weapons. Here, "there are very important elements which Iraq has not disclosed. The gap has not narrowed but widened." {Reuter 23 Feb} He says that Iraq must quickly provide the missing information on its past biological work if his next status report to the UN Security Council on the work of UNSCOM, due in April, is to be conducive to the lifting of sanctions. {DPA 23 Feb}

Back in New York, Chairman Ekéus gives additional, hitherto undisclosed detail to reporters after briefing the Security Council on his visit. Iraqi imports of growth media had amounted to some 20 or 30 tonnes during 1988 and 1989, in theory enough to produce maybe 3000 kilograms of bacteria. Iraq had claimed that the material had been distributed for medical diagnostic purposes [see 19 Dec 94]. Ekéus says: "Only a small amount of growth media is needed for diagnostic medical purposes, but Iraq imported a very large amount. This can only coincide with the production of biological weapons." {Reuter and AFP 27 Feb}

**20 February** The UK Chemical Industries Association has estimated that compliance with the CWC will cost British industry about £10 million per annum in additional paperwork and other disruption of business over the first few years, falling thereafter. The Association is keen, nevertheless, that the UK should become an original party to the Convention, for, if it does not, the UK will lose its eligibility for initial membership of the OPCW Executive Council. Also, the competitive position of UK industry could be damaged: since trade with non-parties in certain of the scheduled chemicals will ultimately be prohibited, international companies wanting an assured supply of chemicals might well take their business away from UK firms, so Association official Tamar Posner is reported as telling *Chemistry & Industry*.

**21 February** In Myanmar (Burma), after a month-long siege, government forces take the Kawmoora stronghold of the Karen

National Union using heavy artillery and, according to Karen sources, chemical weapons [see also 25 Nov 94]. Speaking across the border to Thailand by mobile telephone, a Karen officer says: "They fired some kind of chemical from their 130mm mortars. When the shells exploded everybody had bloody noses and felt weak and dizzy." A Thai officer says some of the shells fired by the Burmese appeared to have effects similar to tear gas. A statement released by the Bangkok-based *Burma Issues* says that unknown chemical agent had been used late on the previous night, shortly before the Karens withdrew: "Preliminary information, still being checked by border sources, indicates that, as the night progressed, explosions containing a foul-smelling substance causing disorientation and unconsciousness were interspersed with new artillery pieces, possibly including 130mm howitzer-type artillery and 200mm siege mortars. While some soldiers affected by the reported chemical shelling recovered from the effects, others are reported to have died from chemical poisoning." {UPI 21 Feb}

Subsequent statements by Thai authorities tend to be dismissive of the reports of chemical warfare, citing absence of corroborative medical or chemical-analytical evidence. Army commander General Wimon Wongwanit says the reports are untrue because the Burmese forces were not carrying gas masks. The US Embassy in Bangkok dispatches an official to the border area to investigate. {Thai Television 22 and 23 Feb in BBC-SWB 24 and 28 Feb, UPI 23 Feb, AFP 24 Feb} The Canadian Embassy is also investigating. {*Ottawa Citizen* 25 Feb}

**21 February** In Canada and Norway, authorities are investigating the claims of people who had served in the Gulf War area that they are suffering from the putative Gulf War Syndrome — 20 Norwegians and 20-30 Canadians. In the United States about 13,000 US veterans of the war have now registered with the clinical evaluation programme established to investigate such complaints [see 14 Dec 94]. {*Hansard (Commons)* written answers 21 Feb}

**22 February** The Executive Secretary of the OPCW Preparatory Commission issues a discussion paper predicting that 65 ratifications of the CWC — the trigger point for entry into force — will be achieved "around the end of 1995" and noting that in some Expert Groups there were "few tangible signs of progress on a number of important issues". He says that the Commission must now speed up its work if it is not to arrive at the trigger point unprepared, thus jeopardizing in particular "the timely and efficient conduct of the General Training Scheme for inspector trainees". The paper goes on to identify and prioritize the outstanding tasks. {PC-X/A/WP.10}

**22 February** In Washington, Hillary Clinton visits ailing Gulf War veterans at the Walter Reed Army Medical Center and tells reporters that the White House wants to trigger a "new thinking" on how best to respond to the plight of the mysteriously afflicted veterans. In the Oval Office, President Clinton presents a sick veteran with his first monthly cheque from the new compensation programme [see 3 Feb]. There is talk of the White House setting up its own task force to investigate the putative Gulf War Syndrome [see also 4 Jan]. {Gannett News Service 23 Feb}

**22 February** The US Defense Department Office of Special Operations and Low Intensity Conflict has just received the report, *Terror 2000: The Future Face of Terrorism*, which it had

contracted from a team of US and foreign experts in security and counterterrorism. The report considers terrorist attacks using improvised nuclear or CBW weapons to be increasingly probable. One scenario addressed in the study is that of anthrax spores being released into the subway system of a major city. The unclassified version of the report is expected to be published in June as a book. {*Washington Times* 22 Feb}

**22 February** Peru is again using toxic gases [see 10 Feb], as well as flamethrowers, in the border conflict with Ecuador in the area of Tiwinza, according to an official statement issued in Quito. {Reuter in *International Herald Tribune* 24 Feb; HCJB Voz de los Andes 24 Feb in BBC-SWB 27 Feb}

**23 February** In Cairo, talks between President Hosni Mubarak, Foreign Minister Amr Moussa and visiting Israeli Foreign Minister Shimon Peres end without resolution of the dispute over the nuclear-weapons Non-Proliferation Treaty. Egypt has stated that it will withhold approval for indefinite extension of the treaty unless Israel joins it [see also 14 Feb]. {*International Herald Tribune* 24 Feb}

**23 February** USACDA Director John Holum testifies in the US House of Representatives before an International Relations subcommittee on his agency's authorization request for FY 1996 and 1997. The 1996 request totals \$76.3 million and includes \$17 million to fund the US obligation to the OPCW and its Preparatory Commission during the fiscal year.

Director Holum informs the subcommittee that, since December, he has led two delegations to Moscow for high-level discussions on the bilateral CW agreements. {Federal News Service 23 Feb}

**23 February** The United States Representative to the UN, Ambassador Madeleine Albright, sets off on an eight-day mission to seven countries members of the Security Council in order, she explains, to strengthen resolve against any premature lifting of the UN sanctions against Iraq. Among the briefings materials which accompany her are satellite images of various parts of Iraq, including a photograph said to show that the country's "largest chemical weapons production plant", destroyed during the Gulf War, has now been rebuilt [see 15 Dec 94 UN]. Ambassador Albright will be arguing that, if Iraq received large amounts of money from selling oil, and if UN inspectors were no longer present in the country, Iraq would be able to "resume full-scale chemical weapons production within two years". She is reportedly successful in her mission. {*Washington Post* and *New York Times* 5 Mar}

**26 February** In China, a Japanese government team arrives to begin work on dealing with chemical weapons thought to have been abandoned by the former Imperial Japanese Army [see 5 Jan]. The team consists of 19 people from the Foreign Ministry, the Defence Agency and private chemical companies. It will stay until 13 March and will assess chemical weapons buried in Hangzhou, Chuzhou and Nanjing in northeastern provinces of China — respectively, Zhejiang, Anhui and Jiangsu Provinces. The team is expected to begin work on sealing unearthed weapons in steel containers for transport to storage facilities, and will also study the feasibility of unearthing other abandoned weapons. Japan and China have thus far held three rounds of working-level talks on the subject, and two Japanese fact-finding missions have been dispatched to locate

the weapons. There will be further talks on the ultimate disposition of the weapons. {Jiji Press 9 Feb and 13 Mar, *Daily Yomiuri* 19 Feb, Kyodo 27 Feb}

**26 February** In the United States, former workers at the US Army CBW test facility at Dugway Proving Ground, Utah, who have health problems which they believe originate in their past CBW work, have organized themselves into the 'Dugway League'. This now comprises dozens of Dugway veterans and had been founded in the spring of 1994 for the purpose of causing the Army to acknowledge mistakes and pay reparation. The League is seeking the help of former US Congressman Wayne Owens, the attorney who several years ago helped the 'Downwinders' of Nevada, Utah and Arizona. {*Salt Lake Tribune* 26 Feb}

**27 February** In Pretoria, the Surgeon-General of the South African National Defence Force, Lt-Gen Niel Knobel, describes as a "blatant lie" the charge that South Africa still possesses chemical and biological weapons and that Libya is recruiting South African scientists associated with them. The charge had been made by unidentified US intelligence sources quoted in a London newspaper, the *Sunday Times* {26 Feb}, which alleged that the CBW weapons had been developed in the 1980s for purposes of assassinating anti-apartheid leaders at home and abroad [see also 11 May 90 and 14 Nov 91]. General Knobel tells a press conference that "we destroyed all lethal, incapacitating and irritating chemical and biological agents in 1993" [see also 22 Aug 94 and 8 Dec 94]. The country had had the ability to develop chemical weapons, but had never possessed more than the few grams of CW agents needed to develop protection against them. A spokesman for former President F W de Klerk denies that any such weapons had ever been used to assassinate anti-apartheid figures. {*Washington Post* 28 Feb, Xinhua 27 Feb}

Three days later, while accepting the credentials of the first Libyan ambassador to South Africa, President Nelson Mandela speaks as follows of scientists formerly engaged in the country's efforts to develop protection against CBW weapons: "We believe that some of the experts who were involved in this programme in South Africa are visiting Libya. We have no means of ascertaining whether this is so or not, but if they do, they are doing so without the knowledge and consent of the government of this country... Allegations have been made that South Africa is busy with a chemical and biological warfare programme and concern has also been expressed in the West that South Africa might share this knowledge with your country. We have in our discussions especially with representatives of the United States and Britain explained that we have no such programme now and that a defensive chemical and biological weapons programme was terminated in January 1993. We have no connection with any country, including Libya, in regard to chemical and biological weapons programmes." {*Reuter* 2 Mar}

**27 February** In the UK House of Commons, members meet with British veterans who believe themselves to be suffering from 'Gulf War Syndrome'. The meeting has been convened by former Health minister Edwina Currie [see 20 Dec 94]. {*Times* 28 Feb} The House is informed by the government next day that 240 veterans have now registered themselves for medical assessment by the Defence Ministry specialist [see 15

Feb], and that 105 of them have now been examined. {*Hansard (Commons)* oral answers 28 Feb}

**27 February** The US Defense Nuclear Agency awards a \$1 million contract to Bechtel National Inc for chemdemil work in the US/Russian joint evaluation of the two-stage destruction process for organophosphorus agents [see 18 Nov 94]. {*ASA Newsletter* 1 Apr}

**27 February–3 March** From the Russian Duma a high-level delegation led by Defence Committee Deputy Chairman A Piskunov visits The Hague in preparation for Russian ratification of the CWC. The parliamentarians have talks with, among other people, the Chairman and the Executive Secretary of the OPCW Preparatory Commission. {*Atlantic News* 8 Mar}

**28 February** In Croatia, the Supreme Court finally decides against the extradition to the United States of Peter Walaschek [see 11 Nov 94]. He leaves three days later for Germany where, as a German national, he will be safe from extradition. He had jumped bail in the United States while awaiting sentencing by the Baltimore court that had found him guilty of illegally exporting to Iran 90 tons of the mustard-gas precursor thiodiglycol manufactured by Alcolac Inc by transshipment to Bandar Abbas through the Mediterranean and Singapore [see 29 Jan 89]. {*Baltimore Sun* 7 Mar, *New York Times* 19 Mar}

**28 February** The UK Defence Ministry responds as follows to a further question in Parliament about the use of human 'guinea pigs' in CBW defence research [see 12 Dec 94]: "There has been no evidence over the past 40 years to suggest that service volunteers who have participated in studies at the Chemical and Biological Defence Establishment at Porton Down have suffered any harm to their health. Therefore, we have no plans to conduct a study on the long-term health effects on such volunteers." {*Hansard (Commons)* oral answers 28 Feb}

Further particulars are given in later Parliamentary replies. During the period 1965 through 1994, about 5400 Service volunteers had been involved in experiments at CBDE. The current rate of payment is £1.70 per test. "No studies involving volunteers are carried out unless there is a clear military need and a detailed protocol has been reviewed and approved by an independent Ethics Committee in accordance with the guidelines laid down by the Royal College of Physicians." The CBDE Ethics Committee and its guidelines are described. Also described are ways in which the health of volunteers does in fact receive some subsequent monitoring, even though there is no systematic aftercare. {*Hansard (Commons)* written answers 1, 7 and 20 Mar}

**28 February** The US Defense Department announces plans to close 33 major bases and to shrink or consolidate 86 others in the fourth, and final, round of military downsizing commissioned by the Congress in 1988. Fort McClellan, Alabama, is on the base closure list, as it had been on the 1991 and 1993 ones [see 23 Jun 93]. The Army has plans to transfer its unique live-agent Chemical Decontamination Training Facility to Fort Leonard Wood, Missouri. Decisions on the plan will rest with the Base Closure and Realignment Commission, whose recommendations are due to go to President Clinton by 1 July. {*Atlanta Journal and Constitution* 1 Mar, *New York Times* 2 Mar, States News Service 3 Mar}

**28 February** A US federal court finds two people guilty of possessing ricin in violation of the Biological Weapons Anti-Terrorism Act of 1989, which is the legislation that implemented the Biological Weapons Convention into US domestic law. The case has been the first prosecution under the Act. A search-warrant affidavit filed in 1994 had linked production of the ricin to a group of radical tax protesters known as the Patriots Council; according to an FBI informant, a dozen castor beans ordered by mail had been planted on land owned by one of the defendants. The ricin, 0.7 grams of it, had been extracted from the harvest. {*Star Tribune* 1 Mar}

**1 March** In South Africa the Cabinet decides to propose to Parliament that the CWC should be ratified as soon as possible. The expectation is that Parliament will pass the requisite resolution during its present session, which ends at the end of June. {SAPA 1 Mar in BBC-SWB 3 Mar, PC-X/22}

**1 March** European Union legal acts due to come into force today controlling exports of dual-use goods [see 19 Dec 94 and 9 Feb] have been delayed by problems in translating the documents into the 11 official languages of the EU. Entry into force is postponed until 1 July. {*BNA Daily Report for Executives* 20 Mar}

**2 March** On Johnston Island in the Pacific, nerve gas at a concentration of 0.0000105 mg/m<sup>3</sup>, is detected outside the JACADS chemdemil facility, according to a subsequent release by the Army Chemical and Biological Defense Agency. {*Inside the Army* 13 Mar} The Army later says it believes the source of the release to have been maintenance work on the charcoal filters. {USACMDA 14 Mar 95.}

**2 March** France deposits its instrument of ratification of the Chemical Weapons Convention, becoming the 26th signatory state to do so.

**2 March** The US General Accounting Office, in a report on the US chemdemil programme released today, says that current Army estimates of schedule and cost are understated, the latter by up to \$38 million. The Army is currently estimating the costs at \$11 billion [see also 1 Oct 94 and 28 Dec 94]. {*Baltimore Sun* 3 Mar, *Chemical & Engineering News* 6 Mar}

**3 March** In Israel, Beersheba district court hears a petition from Marcus Klingberg, a BW expert formerly at the Israel Institute for Biological Research at Ness-Ziona who had been convicted and imprisoned in 1981 on espionage charges [see 24 Aug 94]. Now aged 76 and paralyzed in one leg after a stroke, he is asking to be released with six years of his prison sentence still to run. The Supreme Court had rejected an earlier appeal. {AFP 3 Mar}

**3 March** The US Defense Department testifies on the Cooperative Threat Reduction (or Nunn-Lugar) Program [see 7 Jan], including chemdemil support, before the House International Affairs Committee. In his prepared statement, Dr Harold Smith, the Assistant to the Secretary of Defense for Atomic Energy, says: "Without substantial technical and monetary assistance from the United States and other countries, Russia will have difficulty complying with the CWC destruction schedules. Through the CTR program, the United States, beginning with an integrating contractor who is already in place [see 26 Aug

94], and who is developing the comprehensive plan, intends to assist in the design and construction of a prototype nerve-agent-filled artillery munition destruction facility, as well as provide the Russian chemical weapons destruction effort with an infusion of US technology and expertise where it is needed." {Federal Document Clearing House 3 Mar}

**6 March** Iraqi UN Ambassador Nizar Hamdoon tells reporters that Iraq will supply UNSCOM with the information it lacks about his country's past work in the area of biological weapons [see 19-23 Feb], and will do so in time for this to be reflected in UNSCOM's next six-monthly report, due on 10 April {*USA Today* 7 Mar}, a report which Iraq expects will influence the Security Council decision on lifting sanctions. {Reuter 4 Mar}

**6 March** President Clinton, in an address to Veterans of Foreign Wars, announces the creation of an independent Presidential Advisory Committee to help improve the government's treatment of sick veterans who claim their condition is linked to service in the Gulf War and generally to investigate the origins of the so-called 'Gulf War Syndrome' [see also 4 Jan and 22 Feb]. The Committee is to have authority to work closely with the Secretaries of Defense, Veterans Affairs and Health & Human Services, but will make its recommendations directly to the President. Funding of \$13 million will be available, and an initial report will be expected in six months. {*New York Times* and *Washington Post* 7 Mar}

**6 March** The US State Department issues a fact sheet on the 1981 Conventional Weapons Convention, a multilateral treaty currently before the Senate for advice and consent to ratification. The fact sheet observes that unless the US ratifies by mid-March it will be precluded from participating in the Convention's upcoming review conference in September. {*US Department of State Dispatch* 13 Mar}

**6 March** In Mexico, the newspaper *El Financiero* reports that, according to the National Commission for Democracy in Mexico, the army is considering use of chemical weapons to exterminate Zapatistas in Chiapas.

**7 March** From Iran it is officially announced that Iranian warships, submarines and fighter aircraft have begun five days of military exercises in the Persian Gulf which include anti-CW defensive measures. {Reuter 7 Mar}

**7 March** Libyan leader Muammar Gaddafi announces that Libya will not support extension of the nuclear-weapons Non-Proliferation Treaty "until...Israel is disarmed of the nuclear, chemical and biological weapons it has". He continues: "Otherwise, it is the Arabs' right to make nuclear, chemical and biological bombs". {Reuter 7 Mar}

**7 March** The UK Defence Ministry seeks clarification of a proposal for investigating the birth defects that have been occurring in babies born of UK Gulf War veterans. Dr Roger Sutcliffe of the Glasgow University Department of Human Genetics has been advocating a pilot study into miscarriages, still births, respiratory problems and low resistance to infection among such babies. The Ministry believes that families of veterans are no more badly affected in any of these respects than the population at large. {*Independent* 6 Mar, *Hansard (Commons)* written answers 21 Mar}

**7 March** US Army Secretary Togo West appears before the Defense Base Closure and Realignment Commission, which questions him about the Army's decision to include Fort McClellan on the latest closure list with relocation of its live-agent chemical training facility to Fort Leonard Wood [see 28 Feb]. The Commission sets a deadline of 22 June for the Army to obtain the requisite environmental permits from the state of Missouri. {States News Service 7 Mar}

**8 March** The UK Defence Ministry discloses particulars of a 1968 army exercise, 'Small Change', in which the effects of the psychochemical LSD on tactical unit performance had been assessed [see also 3 Nov 94]. Half the personnel of an infantry platoon had received an oral dose of 0.16 mg/man prior to conducting an anti-terrorist sweep as formed sections, each sweep involving an advance over four kilometres. "Small Change showed that the platoon did not discharge its functions as well as would normally be expected. Overall its performance was adequate but it would have sustained a higher number of casualties than might have reasonably been expected. Unit efficiency fell by about 10% and the role of good discipline and mutual support between drugged and undrugged soldiers in mitigating the drug effects were demonstrated." {*Hansard (Commons)* written answers 8 Mar}

**8 March** The US Department of Commerce gives evidence on its role in implementing the country's nonproliferation and arms control policy at a hearing of the House Appropriations Subcommittee on Commerce, Justice, State, the Judiciary and Related Agencies. Under-Secretary William Reinsch, responsible for the Bureau of Export Administration, includes particulars in his prepared statement of the lead role his department will play "in interacting with industry — both outreach and compliance — in implementing the Chemical Weapons Convention in the event that it is ratified by the Congress" [see 6 Feb]. Included in this role, he says, is "developing an automated data declaration system that will enable the Department to collect required information from several thousand US companies". The role also includes "analyzing and verifying data declarations before they are submitted to the US National Authority", and "enforcing the provisions of the CWC and the related implementing legislation". His department anticipates that over 100 facility agreements will be negotiated during the first year of the treaty's entry into force and that there may be as many as 20 initial inspections of US firms during the same period. {Federal News Service 8 Mar}

**9 March** In Japan the government announces that it has prepared the bill to implement the CWC into domestic law [see 7 Feb], and that this will be submitted to the current ordinary session of the Diet. Officials making the announcement note that, among the chemicals which the projected legislation will bring under control, is sarin, the toxicant which caused the death of 10 people and injured more than 200 others at Matsumoto last summer [see 28 Jun 94]. {Kyodo 9 Mar}

The Cabinet decides next day to submit the CWC to the current ordinary session of the Diet for ratification. {Jiji Press 10 Mar}

**9 March** In Budapest, an official of the Hungarian Customs Office, says at a press conference on controlling arms exports, that 155 tons of CW precursors had been among the items

seized from smugglers on the country's borders during 1994. {AFP 9 Mar}

**9 March** In Canada the 12th Annual Ottawa Verification Symposium is convened at Chateau Montebello by York University on *Proliferation in All Its Aspects — 1995: The Verification Challenge and Response*. The Director of the Verification Division of the OPCW Provisional Technical Secretariat, Dr John Gee, presents a detailed paper on implementation of the CWC verification regime.

**9 March** US Assistant Secretary of Defense for Health Affairs Stephen Joseph testifies before a House Veterans Affairs Subcommittee on his department's medical and research programmes into the so-called Gulf War Syndrome [see 6 Mar]. The Subcommittee also takes evidence from the American Legion and the Department of Veterans Affairs. Dr Joseph later addresses a Defense Department news briefing. He says that the Defense Department now has some 15,000 people enrolled in the Comprehensive Clinical Evaluation Program [see 21 Feb]. For 4674 of these people, extensive medical evaluations have thus far been completed and, for 2074 of them, the evaluation records have been reviewed, validated and entered into the CCEP database. The preliminary findings that have been drawn from the database are consonant with those which the Department had already announced on the basis of the first 1019 evaluated cases [see 14 Dec 94]. This strengthens the view that "what we are dealing with here is not a single or unique agent, but rather a wide variety of illnesses caused by a wide variety of medical causation". He describes other syndrome-related medical and research programmes that the Department is pursuing, including the several epidemiological studies and the work aimed at identifying possible interactive effects of the pyridostigmine nerve-gas pretreatment and other chemicals used during the war [see 4 Jan].

**10 March** Switzerland deposits its instrument of ratification of the CWC [see 9 Dec 94], the 27th signatory state to do so.

**10 March** The Executive Secretary of the OPCW Preparatory Commission announces his intention of making recommendations to the Commission at its tenth plenary session for two appointments to senior positions in the PTS, both at D1 level. These have been necessitated by the resignation of Deputy Executive Secretary Li Chang-he of China in order to return to government service as from 6 February, and the intended departure of Administration Director Reuben Lev of the United States upon expiration of his contract on 31 May. {PC-X/6}

**10 March** In Washington, Senator Sam Nunn, ranking minority member on the Senate Armed Services Committee, speaking to reporters, says that it is more likely that terrorist groups and "would-be nuclear states" will go after chemical weapons than nuclear weapons. Chemical weapons "are cheaper [and] the material is available". {*Inside the Navy* 13 Mar}

**11–12 March** In Irving, Texas, Gulf War veterans from all over the United States, and some from the United Kingdom as well, meet in conference on the so-called Gulf War Syndrome. They welcome President Clinton's announcement of an independent investigatory panel [see 6 Mar] and call for veterans' representation on the panel. The president of Gulf War Veterans of Georgia, Paul Sullivan, releases documents obtained through

the Freedom of Information Act: US Central Command desk logs recording reports of CBW-agent detections in the theatre of operations during January and March 1991. The conference is also told about preliminary findings from a privately funded study of 40 veterans from Portland, Oregon: the director of the study, microbiologist Dr Howard Urnovitz, founder of Calypte Biomedical Inc of Berkeley, California, reports that 34 of the 40 veterans had tested positive for human endogenous retroviruses. {*USA Today* 10 Mar, *Fort Worth Star-Telegram*, 12 and 13 Mar}

**12 March** In the United States, a television documentary on Gulf War Syndrome is broadcast as a *60 Minutes* segment by CBS News. It addresses evidence that, contrary to Defense Department denials [see 16 Nov 93, 25 May 94 US Senate, and 4 Jan], troops in the Gulf War theatre had in fact been exposed to CBW agents, whether accidentally or by Iraqi design. {*Gannett News Service* 13 Mar} Advance publicity had included reference to the rumour that exposures had followed the blowing-up of a Saudi Arabian factory [see also 9 Nov 93]. {*London Today* 27 Feb}

**12–18 March** In Iraq, UNSCOM conducts its 23rd biological-weapons inspection, a team of nine people, UNSCOM 115, visiting 5-6 sites to investigate the past Iraqi BW programme. {*AFP* 19 Mar, UN document S/1995/284}

**13 March** In Beijing, the head of the visiting Japanese government team studying abandoned chemical weapons in China [see 26 Feb], Kazuya Ogawa, tells reporters that munitions examined by the team had belonged to the Japanese Imperial Army. This is the first time that Japan has officially indicated any such responsibility. {*Kyodo* 13 Mar, *Daily Yomiuri* 14 Mar} In Tokyo next day, the Foreign Ministry announces that it will be conducting further surveys of chemical weapons abandoned in China {*Xinhua* 14 Mar in *FBIS-CHI* 15 Mar, *Yomiuri Shimbun* 16 Mar} and that Japan will destroy the weapons thus far uncovered. The Japanese government is thereby moving away from its long-maintained position that the 1972 Sino-Japanese treaty ended its war-reparation obligations. {*Australian Financial Review* 7 Apr}

**13 March** The UN Security Council conducts its 24th bi-monthly review of the economic sanctions imposed on Iraq [see 23 Feb], once again deciding not to lift them. {*Reuter* 13 Mar} The United States had earlier let it be known that it would veto a contrary decision. {*AFP* 3 Mar} France and Russia have indicated that they will seek to lift the sanctions if the next six-monthly progress report from UNSCOM, due in mid-April, concludes that Iraq has complied properly with the Security Council disarmament and demilitarization stipulations. {*DPA* and *AFP* 14 Mar}

**14–16 March** In Havana, the government of Cuba in conjunction with the OPCW Provisional Technical Secretariat, and with the support of the British and Canadian governments, hosts a Regional Seminar on National Implementation of the Chemical Weapons Convention. Representatives of 14 regional states and the Provisional Technical Secretariat participate, and Canada, Germany, the Netherlands, Russia, Switzerland and the UK participate as guests. There is also non-governmental participation from Germany (the SSF project) and the United States. Among the presentations are accounts of experiences

relating to the establishment of National Authorities in Argentina, Chile, Cost Rica, Cuba, Russia and the UK. There is a demonstration exercise at a near-by chemical plant producing triethanolamine in which a routine inspection of a Schedule-3 facility is simulated. {*PC-X/B/WP.19*}

**15 March** In Japan, at Kasumigaseki subway station in Tokyo, three mysterious attaché cases are discovered each one holding three containers of liquid and a battery-driven ultrasonic aerosol-generator of the type used in humidifiers. One of the devices is emitting vapour. {*Japan Times* 21 Mar} The station manager five days later says that security at the station had been stepped up several days earlier following a terrorism alert. {*Boston Globe* 20 Mar} On 5 March, passengers in a Yokohama railway carriage had been affected by strong-smelling fumes, 11 people being taken to hospital. Police and emergency workers had searched the train but found nothing suspicious. {*Japan Times* 21 Mar}

**15 March** In China, the recent discovery is announced of chemical munitions apparently abandoned at Guanqiao in Jiangxi Province by Japanese forces in 1941 [see also 18 Feb 92 and 13 Mar]. {*Xinhua* 15 Mar in *FBIS-CHI* 17 Mar}

**15 March** In Iran, at a seminar on the study of the effects of chemical weapons held in Kowsar Health Complex, Tehran, it is reported that more than 60,000 veterans of the war with Iraq have now received the services of the medical centre that is dealing with those disabled by chemical weapons. The head of the centre says that respiratory disorders are the most prevalent of the residual symptoms. {*Vision of the Islamic Republic of Iran* 15 Mar in *BBC-SWB* 17 Mar}

**15 March** The UK House of Commons Defence Committee publishes a progress report on its inquiry into the so-called Gulf War Syndrome [see 27 Feb and 7 Mar]. It says that it will be taking further oral evidence from the Ministry of Defence as soon as may be possible. {*HC Papers (Session 1994-95)* 317} Meanwhile the Ministry continues to respond to Parliamentary questions on the subject. {*Hansard (Commons)* written answers 14 and 30 Mar}

**15 March** In the US House of Representatives, Dr Kathleen Bailey testifies on CBW weapons proliferation before subcommittees of the Committee on National Security. Dr Bailey, a senior fellow of Lawrence Livermore National Laboratory, states that neither the Australia Group nor the Biological and Chemical Weapons Conventions can be effective in stopping the proliferation. She advocates enhanced missile and air defences, advanced CBW-agent detection capabilities, anti-CBW-stockpile weapons, improved protective measures, and reconsideration of options for deterring CBW attack, including that of retaliation in kind. {*Prepared statement*}

**16 March** In Poland the lower house of parliament unanimously approves a bill authorizing the President to ratify the Chemical Weapons Convention. The upper house must now act on the bill. {*Reuter* 16 Mar}

**16 March** The US Senate Banking Committee conducts a hearing on proposals to strengthen the trade embargo against Iran. According to testimony it receives from Kenneth Timmerman, now director of the Middle East Data Project, American

companies have been shipping to Iran a variety of goods that could be used to manufacture nuclear and CBW weapons. This is described as "inaccurate and without foundation" in a statement issued by the Under Secretary of Commerce for export administration, William Reinsch. {*Washington Times* 17 Mar}

**19 March** Concerning Japan, the London *Sunday Times* carries a feature article about the release of what police had subsequently identified as sarin nerve-gas in the town of Matsumoto some nine months previously, a release which had killed seven and put at least 250 people into hospital and which still remains unexplained [see 28 Jun 94]. The article draws in part from a "special study" of the Matsumoto episode done by Kyle Olson, executive vice-president of the Chemical and Biological Arms Control Institute in the United States. The article reports that, "[a]fter further analysis of [Olson's] findings, western intelligence agencies supported his judgment" that the release of sarin had been "a deliberate use of a chemical weapon against an unprotected civilian population", an attack having "all the hallmarks of an act of terrorism". At the time, suspicion had fastened on a local resident who was portrayed as having accidentally created sarin by mixing chemicals to kill weeds in his garden. Police removed canisters of chemicals from his dwelling, but it had since been established that the chemicals did not include essential sarin precursors, and the erstwhile suspect, himself a casualty, is now suing for libel. {*New York Times* 22 Mar} The *Sunday Times* quotes from a just-conducted interview with him: "As far as I know from the news, somebody had gone into the [nearby] parking lot or pond and mixed the binary ingredients, and the wind blew it towards the house and I was exposed". The article reports that intelligence agencies "fear that sarin...is in the hands of a terrorist group". It continues: "Alarmed at the conclusion their investigations point to, Japanese police and security services are racing to catch the killers before they commit mass slaughter". The article identifies the Japanese agencies involved here as "a special sarin unit of Tokyo's metropolitan police criminal investigation laboratory, the national police agency and the security services, which report directly to the cabinet". Their "intensive investigation", it continues, "has concluded that the attack was a trial run by terrorists" of a sarin delivery system. The article goes on to speculate about the identity of the supposed terrorists, referring to North Korean agents, criminal extortionists, the Japanese Red Army Faction, and the millennial sect Aum.

**20 March** In Tokyo, poison gas is spread by persons unknown in the city's underground railway system in trains converging on Kasumigaseki station [see 15 Mar] during the morning rush hour. Seven people die and 122 others are seriously injured, 76 of them critically so. {*Reuter* 21 Mar} Hospitals treat 4695 for gas exposure during the immediate aftermath, with many hundreds more people coming in for treatment over subsequent days {*London Times* 23 Mar}. (Rather detailed clinical descriptions of patients and how they were treated are later published by teams at two of the Tokyo hospitals {*Lancet* 15 Apr}.) CW-defence units of the Ground Self-Defence Forces are deployed early on, NHK television later reporting that they had been on stand-by to defend subway stations across the nation from toxic attack {*DPA* 20 Mar} (the police themselves had requested a special issue of 500 sets of respirators and protective clothing the day previously {*London Times* 23 Mar}). Police soon identify the poison as sarin {*Reu-*

*ter* 20 Mar} or, on another account, as "an organophosphorus compound that might be sarin" {*Chemical & Engineering News* 27 Mar}. The nerve gas had apparently spread by evaporation following rupture of glass bottles {*London Daily Telegraph* 24 Mar} or thick plastic bags {*Los Angeles Times* 28 Mar} containing the poison diluted with something initially identified as acetonitrile but later as diethylaniline {*Japan Times Weekly* 27 May}. At least five such delivery devices are later recovered by the authorities, the dimensions given in press accounts suggesting that each one might have contained upto 1.5 litres of chemicals but probably no more than half of that {*Japan Times* 21 Mar}. Witnesses reportedly say that two of the five containers emitted white fumes, this and their apparently lower casualty effect in comparison with the other three suggesting to police spokesman that these two might have been 'binary' devices, generating nerve gas from the interaction of two precursors. {*Los Angeles Times* 28 Mar} However, a report one month later attributing police sources says that, inside subway carriages, police had found 11 triple-layer plastic bags that had been punctured with a needle to allow release of the sarin which they contained. {*Reuter* in *Boston Globe* 23 Apr} A police spokesman comments on the remarkable purity of the sarin recovered from one of the underground trains. {*London Daily Telegraph* 22 Mar} Reportedly also found in affected subway cars are traces of "methyl phosphoric diisopropyl" (presumably diisopropyl methylphosphonate), investigators seeing this as evidence of a particular method of making the sarin that had been used. {*AP* and *Reuter* in *International Herald Tribune* 22 Mar} Links are postulated with the Matsumoto release the previous June [see 19 Mar] {*Japan Times* 21 Mar}, not least because traces of diisopropyl methylphosphonate had been found there also {*Reuter* 26 Mar}. By the end of the sixth day after the attack, the death toll has reached 11; it reaches 12 by the end of the fourth week {*AFP* in *Independent* 17 Apr}. There is speculation that the toll could have been enormously greater if the nerve gas had not been diluted or if it had been spread by means of aerosol generators.

In the public media, suspicion quickly falls on the millennial Buddhist-cum-Hindu sect Aum Shinrikyo [see 19 Mar], which, within hours of the attack, issues a statement threatening to sue anyone suggesting it had been responsible {*London Times* 21 Mar}. In a taped video later shown on television, involvement of Aum is denied by its leader, Shoko Asahara {*NHK Television* (Tokyo) 24 Mar in *FBIS-EAS* 24 Mar}.

**21 March** The Russian military newspaper *Krasnaya Zvezda* (in *FBIS-SOV* 21 Mar), in an account of Soviet chemical-weapons policy, quotes as follows from People's Commissar of Defense Order No.154 dated 21 July 1929: "The chemical weapons indicated in the Field Service Regulations will be used by the Red Army only if our enemy uses them first".

The newspaper also quotes as follows from what it reports, without any more precise citation, is a 1971 statement by the Stockholm International Peace Research Institute: "The Soviet Union...has never displayed a desire to wage an offensive chemical war. The West's supremacy in the chemical industry has led to the point where Soviet interests have been focused mainly on measures to ensure defense." [Note: in point of fact no such statement was ever published by SIPRI.]

**21 March** The US representative to the United Nations, Ambassador Madeleine Albright, speaks about Iraq as follows to the Senate Foreign Relations Committee: "If the oil embargo is

lifted unconditionally...Iraq would be able to begin producing Scud missiles in one year, rebuild its biological weapons program in less than a year and its chemical warfare program in two to three years. In five to seven years, it could build a nuclear device." She displays satellite reconnaissance photographs [see also 23 Feb] of the Habbaniyah (Fallujah) 2 factory where CW precursors had been produced before the Gulf War showing that the main production building and chlorine plant have now been rebuilt. {UPI and AFP 21 Mar}

Iraq subsequently displays Fallujah sites 2 and 3 to CNN News. Officials say that the factories make chemicals for civilian use, chlorine for water purification, and pesticides for agriculture, these being substances which Iraq cannot produce in quantity sufficient for its own basic needs. {CNN News 7 Apr}

**22 March** South Korean defence officials are quoted as saying that North Korea is now "the world's third largest chemical weapons possessor". It is capable of producing 4500 tons of chemical weapons per year during peacetime and 12,000 tons in time of war at 8 plants. The officials also say that North Korea has stockpiled some 1000 tons of CW agents in 13 varieties, including sarin. {Yonhap 21 Mar in BBC-SWB 23 Mar} These estimates are later identified as ones communicated to the ROK-US Combined Forces Command by US intelligence, which has actually estimated the stockpile to be in the range 1000 to 5000 tons. {Seoul *Sinmun* 15 Apr in BBC-SWB 17 Apr}

**22 March** US Defense Secretary William Perry, speaking at a news conference in Abu Dhabi, says that Iran is massing 6000 troops on islands in the Straits of Hormuz and has deployed anti-ship missiles, air defence missiles and chemical weapons to the region [see also 7 Mar]. He continues: "we really do not know why Iran would chose to deploy chemical weapons there but we consider it a very threatening action on their part." {*New York Times* 23 Mar} The Iranian mission to the UN, while referring to Iran's "defensive actions in its territories", rejects what the Defense Secretary had said about chemical weapons: "Mr Perry's baseless allegation that Iran has deployed chemical weapons in the islands in the Persian Gulf is fictitious and makes little, if any, military sense." {Reuter 22 Mar} Tehran radio later characterises US charges as "satanic diplomacy". {Reuter 24 Mar}

**22 March** President Mubarak of Egypt, addressing Arab League foreign ministers assembled in Cairo, reaffirms "in the context of defending pan-Arab security" his April 1990 initiative to free the entire Middle East of weapons of mass destruction: nuclear, chemical and biological [see also 14 and 23 Feb]. {Arab Republic of Egypt Radio 22 Mar in BBC-SWB 24 Mar}

**22 March** In Buenos Aires, a visiting US delegation which includes USACDA Director John Holum meets Argentinian officials for talks on regional security arrangements. The agenda reportedly includes the international negotiations on chemical and biological weapons. {Xinhua 22 Mar}

**23 March** In Japan some 2500 police officers assisted by CW defence units of the Ground Self-Defence Forces raid premises owned by Aum Shinrikyo [see 20 Mar] in Tokyo and Kamiku-Isshiki, the latter a small village near Mount Fuji [see 3 Jan] where the sect had bought a large tract of land in 1991 and built a compound on it {*Daily Yomiuri* 26 Mar}. The requisite search warrants had reportedly been issued some three weeks pre-

viously on a kidnapping charge {Reuter 22 Mar}; according to TV Asahi, the operation had been postponed at least twice, most recently because of the Kobe earthquake in January {AP in *Boston Globe* 24 Mar}. The raids are televised {London *Evening Standard* 22 Mar}. Over the next several days they are repeated and extended to other locations, such as Osaka {AP in *Boston Globe* 24 Mar}. By the fifth day, the warrant charge has changed from abduction to preparation for murder {AP in *International Herald Tribune* 27 Mar}, this evidently reflecting police findings during the previous searches. The police themselves are reticent, apparently preferring to leak information to Japanese news media, sometimes thereafter confirming it, but more often declining to comment for the record. {*New York Times* 29 Mar}

Such reports suggest that, after three days of searches, the police have impounded about 150 tons {*International Herald Tribune* 25-26 Mar} of 40 different chemicals {Reuter 25 Mar}, including all those that are needed to make sarin and such other materials as nitroglycerine and amphetamine {Reuter 25 Mar}. These chemicals had been found in storage facilities in Kamiku-Isshiki and in rented warehouses elsewhere. Specifically mentioned in press reports are 34 large containers of acetonitrile {Reuters 22 and 23 Mar}, several forklift pallets of sodium fluoride {*Daily Yomiuri* 24 Mar}, 500 200-litre drums of phosphorus trichloride {*International Herald Tribune* 24 Mar}, as well as methanol, isopropanol and methyl iodide {*Daily Yomiuri* 1 Apr, AFP 3 Apr}. Large quantities of a substance used to treat nerve-gas poisoning are also said to have been impounded {*New York Times* 25 Mar}. Atropine is found. {London *Independent* 24 Mar}. So is diethylaniline {Kyodo 15 Apr in BBC-SWB 17 Apr}. Yet another reported finding is 160 18-litre drums of peptone, which is a bacterial growth medium {Kyodo 28 Mar}. Front companies established by the sect had been used to purchase these materials from chemical supply houses and to rent storage space {*Daily Yomiuri* 24 Mar}. There are reports of the police having discovered nearly \$8 million in cash and 10 kilograms of gold bullion {London *Independent* 23 Mar}

As for the facilities themselves, unconfirmed police sources are reported as saying, after five days of searches, that the police now have proof that Aum sectants had been producing sarin in plant located in a four-storey building known as the Seventh Satian in the compound at Kamiku-Isshiki {AFP 3 Apr}. The evidence apparently includes a notebook detailing production of sarin {AP in *Boston Globe* 2 Apr} as well as traces of "methylphosphoric diisopropyl" found in the exhaust outlet of the building {*Daily Yomiuri* 1 Apr}. Later press reports state that investigators have found, apparently in this same building, traces of "methylphosphon acid monoisopropyl" {Reuter 7 Apr}, and there are also reports of traces of trimethyl phosphate [*sic*] and dimethyl methylphosphonate having been found in the complex {Kyodo 14 Apr in FBIS-EAS, 17 Apr}. Television footage and press photographs {AP in *Boston Globe* 27 Mar} of the building show what looks like a small industrial-scale manufacturing facility, complete with laboratories, cooling towers, elaborate ventilation ducting and air scrubbers {Reuter 25 Mar, *New York Times* 27 Mar, Kyodo 28 Mar, Reuter 29 Mar}. A Ground Self Defence Forces officer is quoted as saying that the facility is "larger and more sophisticated" than Iraq's chemical-weapons factory {*Mainichi Shimbun* 31 Mar in FBIS-EAS 4 Apr}

The police want for questioning 30 Aum chemists {AP in *Boston Globe* 2 Apr} who are part of the sect's 'Science and Technology Agency', which is one of the sect's 15 ministries {Reuter 6 Apr, *Asiaweek* 7 Apr}. The head of the Agency,

Hideo Murai, later tells reporters that the large amounts of chemicals acquired by Aum had been in preparation for doomsday, predicted by cult leader Shoko Asahara for 1997, after which the sect would rebuild world civilization. Murai says that the chemicals would be used in the sect's various industries, including production of plastics and insecticides. He also says that in order to survive in the aftermath of the predicted holocaust, the sect needed to study nuclear and CBW weapons {AFP 7 Apr}. Murai is fatally stabbed in front of television cameras outside Aum headquarters in Tokyo two weeks later. {London *Daily Telegraph* 24 Apr}

**23 March** In Moscow the head of the Russian Foreign Intelligence Service, Academician Yevgeniy Primakov, proposes that an international "multifunctional monitoring centre should be created which would unify monitoring of the non-proliferation of nuclear, chemical and biological weapons and have direct access to the UN Security Council". He continues: "The Russian FIS invites intelligence services of various countries to participate in supplying...information to the central organization". The occasion for his proposal is a press conference to announce a new open FIS report, *Nuclear Weapons Non-Proliferation Treaty: Problems of Extension*. {ITAR-TASS 23 Mar in BBC-SWB 25 Mar}

**23 March** The Russian delegation to the OPCW Preparatory Commission distributes at plenary level a position paper on the definition of Chemical Weapons Production Facilities {PC-X/B/WP.14}. The paper seems to suggest that Russia is interpreting the Convention in such a way as to exempt some or all of its erstwhile chemical-weapons factories from the treaty's requirements for routine inspection and destruction or conversion (though not for declaration or challenge inspection). Thereby displayed to multilateral gaze is a dispute that had hitherto been confined to the US-Russian bilaterals [see 23 Feb].

**23 March** The UK Defence Ministry announces that a pilot plant for the Silver II process [see also 12 May 94] for electrochemical oxidative destruction of chemicals is planned for construction, subject to funding approval, at Porton Down this summer. If trials are successful, the plant may be used for the chemdemil of old CW munitions found within the UK. The Ministry describes potential advantages of the process in the following terms: "It is an intrinsically safe process as the procedure stops as soon as the supply of electricity is switched off and the process is carried out at relatively low temperatures, i.e. below 100°C. The volume of effluent is minimal and, because the organic matter is totally oxidised, consists of an aqueous solution of inorganic salts. The method should allow complete decontamination of CW munitions, including their explosive content, regardless of their nature." {*Hansard (Commons)* written answers 23 Mar}

**23 March** The UK Ministry of Defence Supply Estimates for the year ending 31 March 1996, presented to Parliament, include a line item of £1.929 million for the UK contribution to the CWC Preparatory Commission [see also 9 Mar 93]. The total provision for the year 1994/5 had been £1.042 million. The Department of Trade and Industry later tells Parliament that it spent some £0.247 million during 1994/95 in preparing for domestic implementation of the CWC, and that it estimates the corresponding 1995/96 expenditure at £0.6 million {*Hansard (Commons)* written answers 18 Apr}.

**24 March** In Russia, President Yeltsin issues a decree *On Preparing the Russian Federation for the Implementation of International Commitments in the Field of Chemical Disarmament*. The decree formulates basic guidelines for the chemdemil programme. It states that the weapons are to be destroyed at their storage sites "in facilities constructed specifically for this purpose". Social-sphere infrastructure is to be developed for these locations. The decree also institutes an Interdepartmental Commission for Chemical Disarmament, to be chaired by the President's national security adviser, Yuriy Baturin. Its task is to coördinate the work of executive agencies in domestic implementation of chemical disarmament and to monitor the use of budgetary allocations for that purpose. In another decree, President Yeltsin appoints Pavel Siutkin to the chair of the Presidential Committee on CBW Convention Problems [see 22 Jun 94] and gives him 60 days to present a plan of measures to accelerate the preparations for chemical disarmament {*Svodnya* 28 Mar in *Current Digest of the Post-Soviet Press* 26 Apr, Inter Press Service 12 Apr}.

**24 March** The UK Defence Ministry, responding to a question in Parliament about what stocks of nerve agents it possesses, says: "[S]mall quantities are held at the Chemical and Biological Defence Establishment in order to enable us to carry out our work to ensure that the protective measures for the UK Armed Forces are effective. It would not be in the national interest to disclose the precise quantities held; however, the UK holdings of nerve agents are within the aggregate amount of Schedule 1 chemicals that will be permitted to be held for protective purposes under the terms of the Chemical Weapons Convention." {*Hansard (Commons)* written answers 24 Mar}

**24–25 March** The Western European Union Assembly Technological and Aerospace Committee organizes a large colloquy in Gran Canaria, *Towards a European Space-Based Observation System*, during which there is discussion of the help which the projected WEU Satellite Centre might provide for the verification work of the OPCW. {*Letter from the Assembly* Apr}

**24–27 March** In Baghdad technical talks resume [see 19-23 Feb] between delegations headed by UNSCOM Executive Chairman Rolf Ekéus and General Amer Rashid, the head of the Iraqi military industrialization organization. Upon arrival, Ambassador Ekéus tells reporters that his mission is principally aimed at filling gaps in information on Iraq's BW programme {AFP 25 Mar}. Upon departure, however, he says: "I don't think we have concluded the issue of biological warfare as yet. Iraq may be clean but we don't know that. We haven't been completely assured". New information had been provided, he says, but it remains to be evaluated {AFP 27 Mar}. No satisfactory accounting had been given by Iraq for 17 of 32 tonnes of imported growth media. He also says that Iraq had provided new complete declarations of its past chemical-weapons programmes, correcting earlier declarations. {DPA 28 Mar}

**24 March–6 April** In Iraq, UNSCOM conducts its 24th biological-weapons inspection, UNSCOM 116. {UN document S/1995/284}

**27 March** The Western Group has recently met in preparation for the next session of the BWC Ad Hoc Group [see 4-6 Jan], in particular to advance work on the projected verification protocol. The United States is reportedly isolated on the issue of

developing a list of controlled biological agents. *Chemical & Engineering News* reports that the US has been alone in opposing a list detailing the types and quantities of biological agents to be controlled.

**27 March** In Washington the Chemical Weapons Working Group holds a press conference on the theme *Chemical Weapons Incineration: A Program Out of Control*. Among the speakers are Steven Jones, former Chief Safety and Security Officer at the Tooele chemdemil facility [see 1 Dec 94], and Charles Oughton, former contract administrator and cost-and-price analyst at JACADS. {Chemical Weapons Working Group media advisory 19 Mar} The Working Group is arguing that, until a safer method of chemdemil can be assessed and applied, chemical fills should be drained and the toxic agents then neutralized and stored for the short-term. {*BNA Occupational Safety and Health Daily* 29 Mar}

**28 March** The Chinese Foreign Ministry issues a statement denying recent reports that China and Iran are trading in nuclear and chemical weapons technology [see also 2 Sep 93]. Spokesman Chen Jian says "China upholds the principles and goals of the Nuclear Nonproliferation Treaty and the Chemical Weapons Convention". {*Zhongguo Xinwen She* 28 Mar in FBIS-CHI 29 Mar}

**28 March** Peruvian Deputy Foreign Minister Eduardo Ponce, speaking in Chile at the opening of the 14th General Conference of OPANAL (the Organization for the Prohibition of Nuclear Weapons in Latin America), proposes a study of the possibility of extending the jurisdiction of OPANAL to the proscription of CBW weapons. {*EFE* 28 Mar in BBC-SWB 30 Mar}

**29 March** The UK dumped canisters of mustard gas and phosgene, previously held at a Royal Air Force depot near Buxton, in the Irish Sea in 1953 [see also 27 Jan], according to the *Guardian* newspaper, quoting unidentified armed forces staff. The newspaper also reports that 700 canisters, some containing blistering gas, have been washed up on the Antrim coast in Northern Island, the Isle of Man and the West Scottish Coast. And it reports, too, that Liverpool University scientists have detected inexplicably high levels of arsenic in plaice caught in Liverpool Bay. {*London Guardian* 29 Mar}

**30 March** In Japan, the Diet passes legislation required for ratification of the CWC [see 7 Feb]. The bill, approved today by the Lower House and the day previously by the Upper House, among other things criminalizes production, possession and use of chemical weapons. Initially it had been drafted to enter into force when the CWC had done so, but it has been amended to take effect in three months time. {*AFP* 28 Mar, *London Daily Telegraph* 30 Mar, *Reuter* and *AFP* 30 Mar}

Also approved by the Lower House today is a bill to ratify the CWC. This now passes to the Upper House, which is expected to approve it sometime next month. {*AFP* 30 Mar}

Additional legislation is being drafted by the National Police Agency for submission to the Diet on 18 April that will criminalize production, possession or unlawful use of what is variously described as lethal gas in forms other than in chemical weapons or poisonous substances that fall outside the definition of chemical weapons. {*Singapore Straits Times* 31 Mar, *Kyodo* 31 Mar}

**30 March** In Ukraine, the Green World association calls for ratification of the Chemical Weapons Convention. Speaking at a press conference, an association official says that six chemical weapons storage sites were maintained in Ukraine during the Soviet era. The Defence Ministry later denies that there are chemical weapons in the country, and states that Ukraine never did have chemical weapons on its territory. {*Radio Ukraine* 31 Mar in FBIS-SOV 3 Apr}

**30 March** In the UK House of Commons, the Leader of the House is asked by his Opposition counterpart, Ann Taylor, to explain why the government have not yet found time to introduce enabling legislation for ratification of the CWC [see 18 and 31 Jan]. She continues: "may I make him an offer? The Opposition will co-operate fully in the speedy passage of such legislation, perhaps even taking all stages in one day. Could we make progress on that immediately after Easter?" {*Hansard* (Commons) business of the House 30 Mar}

**31 March** President Yeltsin signs Russian Federation federal law No 39-FL, *On the Federal Budget for 1995*. In Article 17, under the heading "Implementation of the Russian Federation's international treaties", this provides R105,835 million (about \$21 million) for elimination of chemical weapons. {*Rossiyskaya Gazeta* 7 Apr in BBC-SWB 13 Apr}

**31 March** In Moscow the International Science and Technology Centre [see 24 Sep 94] approves \$13.6 million for 38 new projects. The ISTC says that it is now providing grants to more than 3000 ex-Soviet weapons scientists. ISTC-funded projects include work on destruction of chemical weapons. {*DPA* 31 Mar}

**31 March** Iraqi government scientists killed several thousand Kurdish prisoners who were used during the period 1983-90 as human guinea pigs in tests of chemical weapons. Details are contained in documents seized by Kurdish fighters from Iraqi military intelligence headquarters in Kirkuk during the Kurdish rebellion of March 1991, and now reported by the Rome newspaper *Il Messaggero*. {*London Times* 1 Apr}

**31 March** The Netherlands armed forces contract with a British firm, Avon Rubber, for the supply of respirators — Avon's new FM12. The order is worth more than £8 million, and had also been competed for by Canadian, Swedish and Swiss manufacturers. {*London Financial Times* 1-2 Apr}

**1 April** In Moscow, *Nezavisimaya Gazeta* reports an interview with the new head of the Presidential Committee for CBW Convention Problems, Pavel Siutkin [see 24 Mar]. Asked about the new Interdepartmental Commission for Chemical Disarmament [see 24 Mar], Dr Siutkin had said that it had no permanent staff and was in effect run by his Committee, which was already coördinating the work of 12 federal agencies. The Commission, tasked among other things with supervising budgetary spending on chemical disarmament [see 31 Mar], was designed to improve the coördination. The total cost of the Russian chemdemil programme he had estimated as \$5-8 billion. His Committee had considered nearly 60 different technological approaches and had come to favour, on safety grounds, a two-stage process [see 27 Feb] in which the toxic agent is first neutralized, the neutralization products then being destroyed.

Dr Siutkin had also spoken of the need for painstaking work in persuading local administrations to promote the chemdemil programme, as by the “provision of objective and reliable information on the planning and implementation of destruction work” and also by ensuring “a priority development of the social infrastructure” in the affected regions.

The day previously, the regional Duma of Bryansk had heard deputies speaking against the local construction — near Pochep — of a chemdemil facility, plans for which had just been outlined by the regional administration. {ITAR-TASS 31 Mar} In Udmurtia and in the Saratov region, where there are to be chemdemil facilities at, respectively, Kambarka and Gornyy, the planning seems further advanced {*Segodnya* 28 Mar quoted on Greenwire 4 Apr}, even though the lewisite-destruction technology to be used at Kambarka still remains to be defined {Interfax 17 Apr in FBIS-SOV 18 Apr}, and even though local opposition continues to be expressed at Gornyy.

Three weeks later a spokesman for Dr Siutkin’s committee says that the chemdemil facility at Gornyy is now under construction, while the one at Kambarka is still in the planning stage. {RIA 26 Apr in BBC-SWB 27 Apr}

**1 April** The UK Defence Manufacturer’s Association now has an NBC defence equipment component, called ‘NBC UK’, comprising UK firms and Defence Ministry establishments. {*Jane’s Defence Weekly* 1 Apr}

**2 April** In Palestine, an apartment house in Gaza City is destroyed by an explosion which is described by police as a bomb-building effort gone awry. Among the dead are two people said to be members of the Issadin Kassem Brigades, the armed wing of Hamas. Eye-witnesses speak of “poison gas” having been released. Police attribute this, however, to “bomb making chemicals”. {*Washington Post* 3 Apr}

**3 April** In Viet Nam, the Ministry of Labour, War Invalids and Social Affairs discloses further governmental statistics on losses incurred during the Vietnam War [see 21 Jun 94]. The figure for North Vietnamese and associated armed forces dead is put at 1.1 million (nearly double earlier Western estimates), with 600,000 wounded. Other statistics show 4 million civilian casualties, half of them fatalities, and also 50,000 children born with deformities allegedly due the use of Agent Orange. {AP in London *Daily Telegraph* 4 Apr, AFP in *International Herald Tribune* 5 Apr}

The *American Journal of Public Health*, in its April issue, publishes new data from Viet Nam associated with the herbicide-warfare operations conducted there with Agent Orange and other such chemicals: a study based on, in particular, 160 analyses for dioxin of tissue from Vietnamese people. The results indicate a much lower level of the dioxin 2,3,7,8-TCDD in people living in the unsprayed north of the country as compared with people living in areas sprayed in southern Viet Nam. There were similar findings from analyses of samples of human milk.

**3 April** In Moscow, the Russian and US defence secretaries, Pavel Grachev and William Perry, speak separately to the press after a new round of talks. The US Defence Secretary says: “I expressed concern that there may still be some facilities in Russia that are continuing work on biological warfare. And Minister Grachev offered complete cooperation in that regard to make available inspection of his own units or inspection

of Americans or international forces to any site which I so designated, and we will have follow-up discussions and follow-up action in that regard. So, I got, I believe, complete cooperation from Minister Grachev in that regard.” {Federal Information Systems Corporation transcript 3 Apr} Grachev says that Russia is willing to resume the work of experts within the framework of the Russian-UK-US trilateral statement on biological weapons [see 1 Mar 94, 26-28 Apr 94] adding, however, that a clear interpretation of prohibited activity at biological installations satisfying all three sides has yet to be found, and also that agreement has not yet been reached on the procedure and conditions for on-site inspections. {ITAR-TASS 3 Apr in BBC-SWB 5 Apr}

**3 April** Japanese National Police Agency representatives arrive in Moscow and are received at the Russian Interior Ministry, reportedly in connection with the investigation into Aum Shinrikyo, the sect implicated in the Tokyo nerve-gas outrage. {ITAR-TASS 4 Apr in FBIS-SOV 5 Apr} Japanese news media have been dwelling on the possibility of a Russian connection; and some parts of the Russian press have been alleging that the sect has been promoted in Russia by certain influential political figures. {*Moscow Times* 2 Apr} More specifically, there have been reports that the sect’s large Russian membership has included people from the Radiation, Biological and Chemical Protection Troops {ITAR-TASS 23 Mar in FBIS-SOV 24 Mar}, but the commander of the Troops, Colonel General Stanislav Petrov, has expressly rejected the possibility of the sect having obtained nerve gas from Russian military bases: “All poisonous substances are rigidly controlled, reliably guarded and all attempts to steal them even in small quantities are ruled out” {ITAR-TASS 24 Mar in FBIS-SOV 24 Mar}. Later he also denies the possibility of any other such assistance {ITAR-TASS 4 Apr} The export of nerve-gas precursors from Russia to Japan and other countries, however, has been alleged by the deputy head of the State Duma Subcommittee for Religious Organizations, Vitaly Savitsky {*Moscow Times* 2 Apr}.

**3 April** In the European Parliament, Irish MEP Pat the Cope Gallagher calls on the British government to retrieve what he calls “chemical time bombs” from the Irish Sea [see 29 Mar]. {*Irish Times* 4 Apr}

**3 April** Britain, Canada and the United States are developing a joint plan for protecting their forces from BW attack, according to *Defense News*, which reports that a draft report on the plan, *The Development of a Trinational Biodefense Concept*, has just been completed, with finalization expected in May.

**3 April** The US Supreme Court agrees to hear an appeal by two US chemical companies who had manufactured Agent Orange during the Vietnam War — Hercules Inc, and Wm T Thompson Co — and who have been seeking compensation from the government for their contributions in 1984 to an out-of-court settlement with veterans claiming damage from exposure to Agent Orange [see 29 Dec 94, and see also 3 Apr Vietnam]. {*Baltimore Sun* 4 Apr}

**3–7 April** In The Hague, the OPCW Preparatory Commission convenes for its tenth plenary session [see 5–8 Dec 94]. Participating are 88 of the 159 CWC signatory states. {PC-X/23} [For further details, see *Progress in The Hague* above.]

**4 April** In Iraq, the first UNSCOM biological monitoring team, BG-1, commences activities from its base in the Baghdad Monitoring Centre. The second interim biological monitoring team, IBG-2 [see 1 Feb], had completed its mission the day previously. {UN document S/1995/284}

**4 April** US Secretary of State Warren Christopher, during a speech at the B'nai B'rith Anti-Defamation League National Leadership Conference in Washington, says: "We now have strong evidence that Iraq is conducting a large program to develop biological weapons for offensive purposes." Asked subsequently whether this statement reflected new evidence, State Department news-briefer David Johnson says that it was based on the UNSCOM investigations [see 24–27 Mar], meaning that it should really have been couched in the past, not the present, tense. {Federal News Service 4 Apr} Iraqi Foreign Minister Mohammad Saeed al-Sahaf had said in a radio interview five days previously: "There is absolutely no military biological weapons programme in Iraq". He had also said that UNSCOM had been given "full information" on the imported growth media, which were "for medical purposes" and had a 1993 expiry date. {Radio Monte Carlo 30 Mar quoted by Reuter 4 Apr}

Speaking alongside visiting UK Prime Minister John Major, who then makes similar remarks, President Clinton later says that Iraq "could be regaining" a capacity to produce biological weapons. Iraqi Information Minister Hamed Yousef issues a statement characterizing the comments as "political fabrications" aimed at keeping the UN oil embargo in place. {AP in *New York Times* 6 Apr}

**4 April** In Moscow, *Pravda* {in FBIS-SOV 6 Apr} carries an interview with Academician A Kuntsevich [see 22 Jun 94], now director of the Ecotoxinometry Centre of the Russian Academy of Sciences, in which he had rejected the rumours of a "Russian trail" in the Tokyo nerve-gas episode [see 3 Apr] and raised questions, repeated in an "exclusive" interview with *Izvestiya* {4 Apr in FBIS-SOV 5 Apr}, about the behaviour of Japanese authorities.

He had also spoken in the interview about his own past: about how, since 1952 his life had been associated with military chemistry, 25 years of it at the Shikhany military-chemical centre where, during 1975 through 1984, he had been "chief of a combined institute and test-range complex". Asked about accidents among people working in the former Soviet chemical-weapons programme [see 4 Feb], he had said: "There have been no major injuries when the Army has been involved in storing them. Throughout the period from the 1970s through 1987, when chemical weapons production was suspended, four people died in the industry at all production units as a result of breaches of individual safety procedures. Around 15 people sustained injuries." Asked whether there had been instances of chemical weapons "going missing" from storage, he had said: "In all the time that the dumps have existed there have been a few cases. I am not concerned with the prewar period or those cases when 'resourceful skilled craftsmen' stoked ovens with mustard gas: it burns well. But when the generation of organophosphorus substances came along, the recklessness stopped."

**5 April** In Japan, following the enactment of legislation domesticating the prohibitions of the CWC [see 30 Mar], the Ministry of International Trade and Industry issues an Administrative Instruction requiring the Japan Chemical Indus-

try Association and the country's two Reagent Manufacturers' Associations to strengthen controls on the chemicals listed in the legislation. Kyodo reports that this will require more than 330 chemical companies and brokers to review their inventory management and customer checking systems.

**5 April** In Almaty, Kazakhstan, where President Nursultan Nazarbayev and Defence Minister Sagadat Nurmagambetov have been talking with visiting US Defense Secretary William Perry, the latter's Special Assistant, Dr Harold Smith, announces four collaborative demilitarization projects. One is a \$5.8 million project for the conversion of the former BW research facility at Stepnagorsk to the manufacture of antibiotics, vitamins and other pharmaceuticals. It links Biomedpreparat and Allen & Associates International, and has the US Defense Department putting \$2.6 million into the joint venture. All 100 employees of the project, which is called Kamed Resources, are former workers at the facility. The plan is to commence full-scale production within two months. {AFP 5 Apr, *Washington Times* 6 Apr}

**5 April** Israel launches into low earth orbit its first reconnaissance satellite, *Ofek 3*. Israel Radio says, eight hours after launch, that the satellite had transmitted pictures "that allow identification of licence numbers of automobiles on the streets of Baghdad". {Reuters 5 Apr}

**5 April** The UK House of Commons Foreign Affairs Committee [see 18 Jan] releases a report from its inquiry into UK arms control and proliferation policy. On the Chemical Weapons Convention, the Committee uses strikingly strong language to express concern about the government not yet having introduced legislation enabling UK ratification. It recommends that "a suitable opportunity be identified in the present Session of Parliament to enable the Department of Trade and Industry to bring forward the necessary legislative provisions" [see 30 Mar]. {HC Papers (session 1994-95) 34-1}

**5 April** In the US House of Representatives, the Department of Commerce testifies in support of the FY 1996 budget request of its Bureau of Export Administration. The request [see 6 Feb] includes \$3.454 million for the 32 positions (24 full time equivalents) required "to administer and enforce the new and complex declaration, inspection, and reporting requirements imposed on commercial chemical manufacturing facilities under the Chemical Weapons Convention, if it is ratified" [see also 8 Mar]. Of the 24 full time equivalents, 11 are for Export Administration activities (e.g. for policy analysts and chemical engineers) and 13 are for Export Enforcement (e.g. for enforcement policy analysts and criminal investigators). {Federal Document Clearing House Congressional Testimony 5 Apr}

The Bureau of Export Administration currently has eight people working in the Treaty Compliance Division which it established in October in anticipation of CWC ratification [see 1 Oct 94]. The division has been drafting CWC-implementing regulations [see 23 Dec 94] and is preparing for a field test in the US chemical industry of data-reporting forms developed for meeting the CWC industry-declaration requirements. The division is headed by Charles Guernieri and has responsibilities for BWC concerns as well. Alongside it is the Chemical & Biological Controls Division headed by Steven Goldman which deals with CBW antiproliferation export controls. {*Chemical & Engineering News* 10 Apr}

**6 April** In Poland, the Senate considers the bill passed by the Lower House authorizing the President to ratify the CWC [see 16 Mar] and decides against amending it. {PAP 6 Apr}

**6 April** In Bosnia-Herzegovina, government forces in the Majevica hills east of Tuzla suffer casualties from a Bosnian Serb gas attack, according both to a spokesman for the Bosnian army 2nd Corps and to unidentified Western sources in Sarajevo. These sources later say that the gas used was of the CS type such as Bosnian Serbs had previously used in November. No one is killed by the gas, but several affected soldiers are hospitalized in Tuzla. {AFP 9 Apr}

**6 April** In the United Kingdom, the legal basis of government export controls is called into question by the Lord Chief Justice, who orders an urgent hearing of the issue. The authority for UK export controls derives from the Import, Export, and Customs Powers (Defence) Act of 1939, legislation conferring powers justified by wartime emergency; but the emergency had officially been deemed to have ended in 1950. Lord Justice Scott, whose inquiry into UK exports to Iraq [see 20 Sep 93] is still continuing, has described the law as "totalitarian in concept and in effect". {*Guardian* 7 Apr}

**6 April** In the US Congress, the heads of both the CIA and the FBI give testimony that Middle East terrorist groups have the ability to produce and use CBW weapons {*Ma'ariv* on Israel Line 7 Apr}. Acting CIA Director William Studeman, speaking of the Tokyo outrage [see 20 Mar] before the House Judiciary Committee, says: "Unfortunately, we believe that we will witness more of this type of attacks". He also says that this new type of terrorism will increase "with media exposure of major incidents and with prolonged investigations by civil authorities" {*Kyodo* 6 Apr}. His prepared statement describes the work of the US Counterterrorist Center, founded in 1986, in which ten government agencies collaborate {*Federal News Service* 17 Apr}.

**9 April** In the United States, a team of scientists working on the putative Gulf War Syndrome at Duke University Medical Center in North Carolina with funding from H Ross Perot [see 2 Nov 94] announces preliminary findings that will soon be submitted for publication in the scientific literature [see also 11-12 Mar]. The team leader, Dr Mohamed Abou-Donia, has told reporters that exposure of chickens to pyridostigmine [see 9 Mar] in combination with insect-repellent and/or insecticidal chemicals, of kinds that were also used in the Gulf, can produce nervous-system damage comparable to that displayed by some sick Gulf War veterans; the damage was not evident, however, when chickens were exposed to any one of the chemicals alone. The Veterans Administration has been informed, and has invited Dr Abou-Donia to Washington to present his data. {*Durham NC Herald-Sun* 9 Apr} The Defense Department later states that its own studies of pyridostigmine-insecticide combinations in rats have yielded findings similar to those of the Duke work in chickens, and that it shares the concerns of the Duke researchers {*London Guardian* 13 Apr}.

**10 April** In Moscow, the Russian Foreign Ministry and the Duma Committee for Defence participate in a meeting during which ratification and implementation of the CWC is among the subjects discussed. At a press conference next day, Defence Committee Deputy Chairman Alexander Piskunov [see 27

Feb-3 Mar] speaks of the possibility of Russia not being among the initial 65 ratifiers of the CWC, citing the approaching elections as one cause of delay. He quotes a figure of \$5 billion for what experts have estimated Russia must spend [see 1 Apr] in order to destroy its 40,000 [agent-]tons of chemical weapons within 10 years. He says that Russia will not be able to cope with this "without coordination of efforts with the European and world community". {*Official Kremlin International News Broadcast* 11 Apr}

**10 April** Greenpeace is issuing a report critical, on environmental grounds, of the export of chlorine plant from Norway to India some six months previously. The plant, which had been producing 20,000 tons of chlorine per year in Norway and which is described as using the "latest membrane cell technology", has been imported by United Phosphorus Ltd. It will be rebuilt at Vapi in Gujarat. The previous owners of the plant will reportedly be inspecting it at its new location at the request of the Norwegian Foreign Ministry. {*Inter Press Service* 10 Apr} This is presumably in order to satisfy the end-use certification requirement of their export licence.

**10 April** The UN Secretary-General transmits to the Security Council the seventh 6-monthly progress report by UNSCOM on the ongoing monitoring and verification (OMV) of Iraq's compliance with the disarmament stipulations of ceasefire resolution 687 (1991) [see 7 Oct 94, 19-23 Feb and 13 Mar]. The UNSCOM OMV system has as its basic elements regular inspections of relevant facilities, inventories of dual-purpose items (meaning items having permitted uses but which could also be used for acquiring banned weapons) and accounting for all inventoried items until they are consumed, disposed of or no longer operable. The report observes: "The inspections and the establishment and maintenance of accurate inventories will be underpinned by a full array of interlocking activities: aerial surveillance with a variety of sensors, remote sensors, tags and seals, a variety of detection technologies, information obtained from other sources and, when sanctions on the dual-purpose items are lifted, notifications under the export/import control mechanism". Having described in some detail how these elements have been developed over the previous six months, the report goes on to state that the system is now operational [see 4 Apr].

The report also stresses the importance, for the building of confidence in the system, of complete and accurate descriptions, with full accounting, of past programmes on the now-banned weapons. It reviews progress thus made in the ballistic-missile, CBW and nuclear weapons areas, and presents the following conclusion: "[T]he Commission has continued its investigation in all areas of the past proscribed weapons activities in Iraq and its verification of Iraq's declarations. The Commission has come to the conclusion that Iraq has not provided a full and comprehensive disclosure of its past military biological programme or accounted for items and materials acquired for that programme.... The Commission will continue its intensive efforts to elucidate all such outstanding issues arising from this and the other past programmes. It notes that, if Iraq decided to provide full, accurate and verifiable information, such matters could be resolved expeditiously."

The report identifies the gaps in its knowledge of the past biological programme, notably the absence of accounting for some 17 tons of imported complex growth media [see 19-23 Feb]. It says: "The Commission assesses that Iraq obtained or

sought to obtain all the items [including spray-driers and filling machines] and materials required to produce biological warfare agents in Iraq. With Iraq's failure to account for all these items and materials for legitimate purposes, the only conclusion that can be drawn is that there is a high risk that they had been purchased and in part used for proscribed purposes — the production of agents for biological weapons. In these circumstances, the Commission cannot conclude that its biological monitoring is comprehensive in coverage and properly focused, i.e., that it is monitoring all biological facilities, activities, materials and items that should be subject to monitoring.”

As regards the chemical programme, the report expresses relatively little dissatisfaction with Iraq's “full, final and complete” declaration of past work, but notes that several aspects of the latest version of the declaration, submitted a fortnight previously [see 24–27 Mar], still remained to be verified. One noted feature of this new declaration is that it revised downwards, by 290 tons, the previous Iraqi declaration of total past production of CW agents. The major outstanding uncertainty was whether Iraq had in fact dumped — by scattering and land-burial, it said — the 247 tons of phosphorus pentasulphide it had had remaining from its abandoned VX programme, and whether in fact the 213 tons of diisopropylamine also left over from the VX programme had indeed been destroyed by Coalition bombing. Traces of these precursors had been detected by UNSCOM at the claimed destruction sites, but no quantitation had been possible.

The report considerably extends the public record of Iraq's past CW programme. The initial production, during the late 1970s, was of agent CS for purposes of riot control. This gave way in the early 1980s to “military scale production” of CS, the total output from which remains unknown. The CS was filled into rocket-propelled grenades, 82- and 120-mm mortar projectiles, and 250- and 500-gauge aircraft bombs. Mustard-gas production had started in 1981, total output being 2850 tons according to Iraq's revised figure. The agent was of high purity (at least 80%) and stable in storage. Nerve-gas production had begun in 1984: in all, 210 tons of tabun, and 790 tons of sarin and GF. A variety of methods had been used in response to poor product stability. The R & D programme for VX had run during 1987–88, Iraq stating that a total of 260 kg had been made. The report states that the total quantity of agent destroyed by UNSCOM, both bulk and weaponized agent, had been 30 tons of tabun, 70 tons of sarin and 600 tons of mustard. {UN document S/1995/284}

**12 April** In Yemen, President Ali Abdullah Saleh says in interview that the seven-week secessionist war in southern Yemen in 1994 had cost the country more than \$10 billion. But the fighting had prevented the secessionists from using the chemical weapons he says they had purchased but not yet received, thus sparing the country an “inevitable disaster” [see also 28 May 94]. {UPI 12 Apr}

**12 April** The Executive Secretary of the OPCW Preparatory Commission announces that the Secretariat is arranging a course for personnel of National Authorities in the Netherlands during 11–29 September. The course will be similar in content to those which the Netherlands in conjunction with the Secretariat had organized the previous summer [see 18 Jul 94]. The deadline for applications to participate is 1 July. {PC-XI/B/2}

**13 April** UK Home Secretary Michael Howard announces that he has authorized UK police forces to conduct street trials of a small portable CS-spray weapon which patrolling police officers can carry on their belts. Use of the weapon, which has a range of about one metre, is permitted only when an officer reasonably suspects that he or she is about to be assaulted; general use in public-disorder incidents is not permitted. {London *Daily Telegraph* and *Guardian* 14 Apr} This action by the Home Office follows tests of three different CS devices, apparently including a foam weapon {*Sunday Express* 5 Mar}, and a decision based on medical reports to reject US pepper sprays [see 1 Mar 94 and 15 Jun 94], which are believed to be dangerous to asthmatics and pregnant women. The Army had assisted the Home Office in these tests. {London *Times* 6 Mar} The CS sprays are in fact already in service with specialist firearms teams of the Metropolitan Police for dealing with gunmen, though they have never yet been used {London *Times* 8 Apr}

**14 April** In Japan, police initiate a large-scale security operation apparently in response to a much-publicized Aum Shinrikyo [see 23 Mar] prediction that a disaster more terrible than the Kobe earthquake would be striking Tokyo on 15 April {*International Herald Tribune* 14 Apr}, a day which in fact passes without serious incident. More than 130 Aum facilities are raided by police, who have by now arrested 107 members of the sect on a variety of charges, but are still searching for its leader, Shoko Asahara, and for his scientists. {*International Herald Tribune* 15-16 Apr, AFP in London *Daily Telegraph* 15 Apr}

Meanwhile, in the Diet, the House of Councillors begins its consideration of the Chemical Weapons Convention. The House of Representatives has already approved a ratification bill [see 30 Mar]. Prime Minister Tomiichi Murayama and members of his cabinet respond to questions about the government's investigations into the Tokyo subway outrage and about cooperation with other governments against CW terrorism. {Kyodo 14 Apr}

**14 April** In Seoul and its suburbs there is a civil defence exercise including, the Interior Ministry explains, “stepped-up drills against possible chemical and biological warfare” [see also 15 Jun 94]. {Reuter 14 Apr}

**14 April** The UN Security Council adopts unanimously a resolution authorizing Iraq to sell upto \$2 billion worth of oil and to spend two-thirds of the proceeds on importing food and medicine. Secretary-General Boutros Boutros-Ghali describes the resolution as a first move towards lifting all sanctions against Iraq. {*New York Times* 15 Apr} Two days previously the Council had heard an oral report from UNSCOM Executive Chairman Rolf Ekéus in which he had said that the ongoing monitoring and verification system now in place in Iraq was working “in a very satisfactory way”, except in the biological area [see 10 Apr]. Referring to the BW uncertainty, the British UN ambassador says that “as long as this continues” there could be no question of lifting the sanctions [see also 13 Mar] but that Iraq's humanitarian needs did now need to be addressed. {UPI 12 Apr}

Two days later the Iraqi cabinet rejects the resolution as “seriously compromising Iraq's sovereignty and national unity”, just as it had rejected a similar resolution in 1991. {DPA 16 Apr}

**14 April** The US General Accounting Office releases a report identifying financial management weakness in the Army's Chemical Stockpile Emergency Preparedness Program [see 22 Feb 94]. {GAO/NSIAD-95-133} The report states that the loose financial management reporting and internal control systems make it impossible to identify how funds are spent to ensure that CSEPP goals are met, "leaving the program susceptible to fraud, waste and abuse". The CSEPP mission is to respond to emergencies associated with the country's CW stockpiles and also to respond to terrorism involving such weapons. {*Intelligence Newsletter* 27 Apr}

**16 April** In Iraq, the third UNSCOM chemical monitoring team, CG-3, commences activities from its base in the Baghdad Monitoring Centre. The second chemical monitoring team, CG-2, had completed its mission the day previously. {UN document S/1995/284}

**18 April** The Japanese parliament receives draft legislation prepared by the National Police Agency and endorsed by the cabinet of Prime Minister Tomiichi Murayama that would create a state monopoly in the production, import, storage and transfer of sarin and, reportedly, other lethal chemicals as poisonous as sarin, and that would also criminalize the dissemination of such chemicals [see 30 Mar]. The legislation already has the support of both ruling and opposition parties. {UPI 18 Apr} It is approved next day {*New York Times* 20 Apr}.

**19 April** Johnston Atoll in mid-Pacific, site of a US chemdemil incinerator, would be brought within the jurisdiction of the US state of Hawaii, together with several other unincorporated Pacific territories administered by the US government, if a bill currently before the Congress is passed. The bill is part of a Republican plan to downsize the US Department of the Interior by abolishing its Office of Territorial and International Affairs. {*Los Angeles Times* 19 Apr}

**19 April** In Yokohama, Japan, acrid fumes affect people on trains in three subway stations [see also 15 and 20 Mar], creating huge alarm; people are rushed to hospital, the number eventually exceeding 600, but none is found to be seriously ill, although 22 are detained. It is not immediately clear whether this is another terrorist outrage or possibly something to do with air-conditioning systems, but police later say that they are viewing the incident as a "criminal case involving bodily harm". The Yokohama fire department, on the basis of a hospital diagnosis, say that phosgene may have been present, but police authorities later decline to confirm this. {AP in *Boston Globe* 19 Apr, *San Francisco Chronicle* 20 Apr, Reuter in *International Herald Tribune* 21 Apr}

In subsequent days Japan is afflicted by further poison-gas alarms, as when fumes drive people from a Yokohama department store on 21 April {*New York Times* 22 Apr} and from a restaurant in Maebashi on 26 April {AP in *Boston Globe* 26 Apr}.

**19 April** In the United States a car-bomb explodes alongside a federal office building in Oklahoma City, killing 169 people. The administration moves swiftly to seek wider intelligence-gathering and other counter-terrorism powers from the Congress, including amendment of the 1878 Posse Comitatus Act so as to allow the military to participate in domestic law-enforcement in the event of potential criminal use of CBW weap-

ons, rather as is already permitted to the military in the case of nuclear weapons. The package of proposed legislation, transmitted to the Congress two weeks after the bombing, also includes criminalization of the use of some chemical weapons not currently covered under federal law. {London *Daily Telegraph* 25 Apr, *Washington Post* 27 Apr, White House press release 3 May}

**19 April** Australian Foreign Minister Gareth Evans, addressing a news conference in Washington alongside US Secretary of State Warren Christopher and US Defense Secretary William Perry, speaks as follows of the Chemical Weapons Convention: "The job wasn't quite complete when we negotiated that convention back in 1990-92. We still have to get it ratified and brought into force, and it's our very strong hope that the Congressional logjam can be overcome to enable that ratification to occur in the very near future." {Federal News Service 19 Apr}

**22 April** In Tokyo police authorities reportedly say that they now have evidence linking Aum Shinrikyo to the Tokyo nerve gas outrage [see 20 Mar]. Equipment for forming and sealing plastic bags had been found on Aum premises which could have been used to make the peculiar plastic bags containing sarin residue found in the Tokyo subway {Reuter in *Boston Globe* 23 Apr, *New York Times* 24 Apr, Kyodo 2 May}. Furthermore, samples taken from five chemical reactors found in the Seventh Satian at Kamiku-Isshiki [see 23 Mar] indicated production of sarin. Apparently the sectants had "started with phosphorus trichloride, made an intermediate substance by mixing it with methanol and methyl iodide, and mixed the product with phosphorus trichloride again and with chlorine" to produce the sarin precursor methylphosphonyl dichloride, which was then reacted with sodium fluoride followed by isopropanol. Japan Defence Agency chemical experts are quoted as saying that the use of phosphorus trichloride and chlorine as the chlorinating agent "is exactly the way the Russian military manufactures sarin as a chemical weapon" [see also 3 Apr], noting that alternatives such as thionyl chloride or phosphorus pentachloride are both available for purchase in Japan. {*Daily Yomiuri* 23 Apr}

Four days later, Japanese police arrest someone subsequently identified as the chief of the cult's chemical unit, Masami Tsuchiya. After two weeks in custody he reportedly confesses to having overseen the manufacture of sarin, initially in November 1993, most recently shortly before the Tokyo subway attack (in January, according to one account) when 30 kilograms were produced, not in the large facility, which he said leaked, but in a makeshift lab that had been dismantled soon afterwards. {*New York Times* 16 May} He also reportedly states that remaining stocks of sarin, which in any case had been of insufficient purity to store for long, had been disposed of {*New York Times* 17 May}. Also arrested is the head of the sect's health and welfare ministry, Seiichi Endo, previously in charge of nerve-gas production, latterly responsible for biological-weapons work {*Mainichi Daily News* 28 Apr}.

**22 April** In Iraq, the biological facility at al-Hakem [see 19-23 Feb] is opened to 25 foreign journalists. They are shown the 16 monitoring cameras which UNSCOM has installed. Factory manager Rihab Taha [see 31 Jan] speaks of plans to construct five units for production of single-cell protein, one unit of which was already complete and expected to become operational by August. For the present the 200 Iraqi workers are producing

pesticide and fertilizer. {AFP and Reuter 22 Apr, AP in *Boston Globe* 23 Apr}

**22 April** In Belgium, some 150 officials and military veterans from 38 countries gather at Ypres to commemorate the 80th anniversary of the initiation of poison-gas warfare. {*International Herald Tribune* 22-23 Apr, *NRC Handelsblad* 29 Apr}

Foreign Minister Eric Derycke states that Belgium will be among the first 65 states to ratify the Chemical Weapons Convention. This will require action not only by the two houses of parliament but also by the regional assemblies. {Reuter 22 Apr, *La Wallonie* 24 Apr} He also says that the chemdemil facility in Houthulst will become operational in September {*Het Volk* 24 Apr}.

**22 April** In the United States, a threat of chemical terrorism at Disneyland in southern California precipitates a massive response from local and federal security forces, including Army CW experts, but proves to have been a hoax. {*Los Angeles Times* 23 Apr}

**24 April** The UK government tells Parliament during an adjournment debate that it intends, during the 1995-96 session, to introduce implementing legislation enabling ratification of the Chemical Weapons Convention [see 5 Apr]. A draft of the Bill is to be published "at a fairly early date" in order to attract comment on its provisions before the Bill itself is formally introduced [see also 31 Jan].

**24–25 April** In Warsaw, at the Military Institute of Chemistry and Radiometry, there is a NATO seminar on Modern Demilitarization Technologies, with participation from the Czech Republic, France, Germany, Poland, Russia, the UK and the USA. The focus is on new technologies for destroying chemical weapons that are more environment-friendly than chemdemil by incineration. {PAP 20 Apr}

Results are presented from US Army work on alternative chemdemil technologies, in particular neutralization and neutralization-plus-biodegradation methods [see 4 Feb 94]: it is reported that, on a laboratory scale, mustard gas has been successfully destroyed by hot-water hydrolysis and subsequent digestion by sewage-sludge bacteria; scaled-up experiments are to begin shortly. Success is also reported in destroying agent VX by prolonged exposure to a relatively small amount of room-temperature water, the process being one of autocatalyzed hydrolysis. {*Baltimore Sun* 7 May}

**25 April** In the Netherlands parliament, the Second Chamber debates the Chemical Weapons Convention. Foreign Minister van Mierlo speaks of the possibility of Dutch financial support for the Russian chemdemil programme, mentioning a figure of 30 million guilders. {*NRC Handelsblad* 29 Apr}

**25 April** The Council of the European Union finally publishes in its *Official Journal* the legal texts — Council Regulation (EC) No 3381/94, and Council Decision 94/942/CFSP, both of 19 December 1994 [q.v.] — establishing the Community regime for controlling exports of dual-use goods, including chemicals and equipments on the Australia Group lists [see 1 Mar]. {Agence Europe 25 Apr}

**25 April** In the United Kingdom, a press conference convened by the Porton Down Volunteers Association [see 19 Nov 94] is

told that 62 sick ex-servicemen who had participated as volunteers in experiments involving exposure to CBW agents are planning to sue the government for compensation. They are also calling for an authoritative study to be launched into the causes of their illnesses. {Reuter 25 Apr, London *Guardian* 26 Apr} The Ministry of Defence once again [see 28 Feb] rejects the demand for an independent medical assessment, repeating its position that there is no evidence to suggest that any of the service volunteers — some 6900 over the past 40 years — have suffered any harm to their health from participating in studies at Porton Down. {*Hansard (Commons)* written answers 2 May}

**26 April** In Australia, a BW defence research programme is to be conducted under the leadership of Dr Hugh Crone by the Defence Science and Technology Organization at its Melbourne laboratories. Described as "the first study of biological warfare ever conducted in Australia", it will be monitored by a newly established Biological Defence Advisory Committee. A spokesman for Defence Science Minister Gary Punch says: "The end of the Cold War and the breakup of the Soviet Union has led to a growth in the potential for proliferation of biological weapons". He says that several countries in the region are suspected of having biological weapons, including China, Burma, Laos, North Korea and Taiwan. {UPI 26 Apr}

**26 April** In Taiwan, a senior Defence Ministry official denies a report that Taiwan possesses biological weapons [see 26 Apr, Australia]. He states that Taiwan would never produce CBW or nuclear weapons. {*Chung Yang Jih Pao* 27 Apr in BBC-SWB 1 May}

**26 April** In Hong Kong, the *South China Morning Post* reports that three companies — Asian-Ways Ltd, World Co (Hong Kong) Ltd, and Mainway International Ltd — have been struck from the Companies' Register on suspicion of involvement in supplying nerve gas technology to Iran. The decision had been taken by the Governor's Executive Council on 17 February. The *Post* says that the three companies had been suspected of arranging shipment of precursors for mustard gas and sarin from China to Iran [see also 28 Mar]. {AFP 26 Apr}

**26 April** In Pakistan, Defence Minister Aftab Shabaan Mirani opens the first national seminar on defence against chemical and biological weapons, organized in Karachi by the Defence Science and Technology Organization. {*Saudi Gazette* 28 Apr}

**26 April** In Washington, visiting Russian Foreign Minister Andrei Kozyrev and Secretary of State Warren Christopher prepare for the Moscow summit meeting scheduled for 9-10 May. At the closing press conference Secretary Christopher says that the arms control issues for the summit include the CBW treaties. {ITAR-TASS 27 Apr} It is later reported that the US side will be seeking further progress on the BWC compliance issue [see 3 Apr Moscow] and also a resolution of the renewed dispute over conversion of chemical-weapons production facilities [see 23 Mar Russian] {*Washington Post* 9 May}.

**26 April** In the US Senate, Senators McCain and Lieberman introduce a bill to strengthen sanctions legislation against the proliferation of weapons of mass destruction to Iran and Iraq. {Congressional Press Releases 28 Apr}

**27 April** The Japanese government is petitioned, through Tokyo lawyers, by a group of 41 Chinese people seeking compensation as victims of Japanese aggression before and during World War II. The group includes people claiming they had been used as guinea pigs in Japanese BW experiments. {Kyodo 26 Apr in BBC-SWB 27 Apr} The following week the petition by the group receives public support from a spokesman for the Chinese Foreign Ministry, Shen Guofang. He reaffirms his government's position waiving claim to compensation against Japan as stated in the 1972 joint Sino-Japanese declaration [see 13 Mar], but differentiates claims of individuals from claims by government. He calls for swift action by the Japanese government and says, without further elaboration: "A part of the victims must be granted compensation". {Kyodo 4 May in BBC-SWB 5 May}

**27 April** From Burma into Thailand there is a new flood of refugees, most of them members of ethnic minorities. Many are sick from what they say had been a Burmese Army gas attack [see also 21 Feb], according to a Shan refugee official, Kyaw Oo, speaking by telephone from the border. {Reuter in *New York Times* 28 Apr}

**27 April** The UK Ministry of Defence is reported to have lost most of the records of the sea-dumping programmes of the period 1945-63 during which the UK disposed of more than a million tonnes of munitions and 24 shiploads of chemical weapons. This news is attributed to the Opposition defence spokesman, David Clark, who was releasing information provided by a Defence Ministry official. The information had included particulars of Operation Dismal, the 1946-47 relocation of German aircraft bombs charged with the nerve-gas tabun to RAF Llandwrog in North Wales. {London *Guardian* 28 Apr} Responding to a Parliamentary question soon afterwards, the Ministry states that rockets charged with phosgene [see 27 Jan] had been dumped in the North Channel (at the northern end of the Irish Sea) during 1945-46 [see also 29 Mar]. {*Hansard (Commons)* oral answers 2 May}

**28 April** In the Japanese Diet, the Upper House votes unanimously in support of the bill approving ratification of the Chemical Weapons Convention [see 30 Mar]. {DPA 28 Apr}

**28 April** Israeli Foreign Minister Shimon Peres speaks on television about the relatively weak present state of the Syrian army, but notes that one benefit of a peace agreement with Syria (on which negotiations have recently resumed at ambassadorial level in Washington) was that it would eliminate the possibility of the use of chemical weapons. {Xinhua 28 Apr}

**28 April** The US government is planning to spend about \$50 million over the next two years developing camouflaged sensors capable of detecting signs of nuclear or CBW weapons-development when secretly deployed in the vicinity of sites suspected of such activity. So says the director of research and development in the Department of Energy Office of Non-proliferation and National Security, Max Koontz, interviewed by *Defense News*. Linked into systems, a variety of such sensors could provide enhanced intelligence capability, says the Program Manager for Unattended Ground Sensors at the Defense Department Advanced Research Projects Agency, Steven Flank. They could also provide enhanced targetting capability for preëemptive strikes, says the director of the Defense Nuclear

Agency, Major-General Kenneth Hagemann. Efforts are being coördinated by two interdepartmental working groups, one chaired by Dr Koontz, the other jointly by the CIA and Dr Flank. {*Defense News* 1 May}

**28 April** In Paraguay, President Juan Carlos Wasmosy, speaking at a press conference, recommends that governments in Latin America begin a joint study on measures to be taken against CBW terrorism. Several embassies in Washington had recently received from California anonymous letters setting out a plan to launch CBW attacks in several Latin American cities, giving details of the agents to be used and the dates of attack. {Inter Press Service 28 Apr}

**1 May** The UK Defence Ministry, asked in Parliament what radiological, biological or chemical experiments it had carried out in the last thirty years in public areas, states that only simulant CBR agents had been used, in some 100 experiments during the period 1964-77. The response continues: "The majority of these experiments involved releasing the simulants at sea. There have been no experiments in public areas in the last 16 [sic] years." {*Hansard (Commons)* written answers 1 May}

**1 May** In Canada, legislation to implement the Chemical Weapons Convention is introduced into Parliament by the Department of Foreign Affairs and International Trade.

**2 May** In Washington, at a further seminar convened by the Arms Control and Disarmament Agency for briefing the chemical industry on the Chemical Weapons Convention [see 5 May 94], ACDA attorney-advisor Bernard Seward says: "The administration is reviewing the proposed act [to implement the CWC into domestic law] submitted last year [see 10 Oct 94] in order to address industry concerns and improve the quality of the legislation". The review is nearly complete, he says. {BNA Chemical Regulation Daily 5 May}

**3 May** In a Belgian court the trial begins of Professor Aubin Heyndrickx [see Jun 93] on a charge of fraud. {*De Standaard* 4 May}

**3 May** In London, Saferworld and Deltac Ltd release a study, *Proliferation and Export Controls*, which offers an analysis of sensitive technologies, including CBW technologies, and countries of export-control concern. {*Defense News* 8 May}

**3 May** In Washington, Greenpeace International reports that genetically modified organisms (GMOs) "can easily be mailed to an address anywhere in the world" notwithstanding regulations controlling the mailing of pathogens. These are the findings of an investigation in which packages of simulated GMOs bearing a variety of descriptive warning labels had been mailed around the world from Switzerland and the United States. Greenpeace accordingly calls for an international protocol under the Biodiversity Convention that would control and monitor genetic engineering activities in general and the transport of GMOs in particular. Without such tightened regulation, Greenpeace argues, abuse for biological-weapons purposes would remain too easy. {BNA Chemical Regulation Daily 5 May}

**3 May** President Clinton announces the selection of H Martin Lancaster [see 13 Mar 90 and 8 Mar 94], a member of the US

House of Representatives during 1987-95, as Special Advisor to the President and ACDA Director on the Chemical Weapons Convention. {*Chemical & Engineering News* 15 May}

**4 May** In Cambodia, a Khmer Rouge communiqué reports recent military actions against government forces in which Khmer Rouge units made extensive use of “poison-tipped punji stakes”. {Radio of the Provisional Government of National Union and National Salvation of Cambodia 4 May in BBC-SWB 6 May}

**5 May** In Tokyo, subway workers at Shinjuku station find two plastic bags in a lavatory, one containing about two kilograms of sodium cyanide crystals, the other a litre and a half of sulphuric acid — chemicals which, when mixed, can generate lethal hydrogen cyanide vapour. One of the bags is on fire. Supplies of both chemicals had been found on Aum Shinrikyo premises [see 23 Mar]. The area is speedily evacuated, and police begin investigating the incident as attempted murder. {AFP 6 May, *International Herald Tribune* 19 May}

**8 May** In Chechnya, federal Russian forces have been using chemical weapons against secessionists [see also 9 Jan], according to a statement from the headquarters of Chechen leader Dzhokhar Dudayev where, it is said, a number of dud Russian chemical artillery shell used in the Shali region have now been collected. The charge is described by a Federal Security Service public-relations official as complete nonsense: “Such missiles have not been part of Russian army weaponry for a long time now”. {Interfax 8 May in BBC-SWB 10 May} The charge is repeated, however, two weeks later, this time with specific mention of a death from sarin nerve-gas {Ekho Moskvyy radio 20 May in BBC-SWB 22 May}; and there are also reports of Russian forces using chemical defoliants in southern regions of Chechnya {ITAR-TASS quoted by AFP 21 May}. A TASS correspondent just returned to Moscow from Chechnya, Nadezhda Chaykova, speaks on the radio about another alleged Russian chemical weapon, found scattered in the woods 15 km from Gudermes — small transparent ampoules containing a green liquid: “When you pick them up in your hand, they blow up from the warmth or the pressure, spraying something like acid”, she says, adding: “A person dies if only a small amount touches the skin”. She says she had seen two people die in this way. {Ekho Moskvyy 22 May in BBC-SWB 24 May}

**8 May** In the United States, a surface acoustic wave CW-agent detection system mounted on a Pioneer Unmanned Aerial Vehicle has just been demonstrated in a series of flight tests against simulated atmospheric detonations of Scud CW warheads. The system successfully detected, identified and quantified the disseminated CW-agent simulant. The tests had been conducted in late April by the UAV Joint Project Office, funded by the Defense Reconnaissance Office. {*Aviation Week & Space Technology* 8 May}

**8 May** In Washington, the fourth W Averell Harriman Award is presented to the Chemical Manufacturers Association by the Lawyers Alliance for World Security to honour CMA work in support of the Chemical Weapons Convention. President Clinton has sent a message for the presentation ceremony in which he says: “One of my top priorities is securing the earliest possible ratification and entry into force of the Chemical Weapons Convention, and I look forward to working with CMA to ensure

the success of this vital treaty”. The Counsel to the President, Abner Mikva, gives the keynote address. {*Chemical & Engineering News* 15 May}

**8–11 May** In Yamoussoukro, the government of Côte d'Ivoire in conjunction with the OPCW Provisional Technical Secretariat, hosts the third Regional Seminar on National Implementation of the Chemical Weapons Convention for Africa. Participating are representatives of 28 African states, France and a number of nongovernmental organizations including the Harvard Sussex Program. {OPCW/PTS press release 17 May}

**9 May** In the United States, at a meeting of the Maryland Citizens Advisory Commission for Chemical Weapons Demilitarization, there is discussion of the recent findings from Army research on chemdemil technologies alternative to incineration, notably the hot-water-and-sewage-sludge method for mustard gas [see 24-25 Apr]. Some 1500 tons of bulk-stored mustard gas are awaiting destruction at nearby Aberdeen Proving Ground. Commissioners learn that existing federal law may impede use of the new method, even supposing that it can be developed within an acceptable time-frame, for the relevant statute requires that any alternative method applied in CW stockpile destruction be “significantly safer” than the current incineration technology. {*Baltimore Sun* 11 May, AP in *New York Times* 14 May}

**9–10 May** At the Moscow summit, Presidents Yeltsin and Clinton reportedly make progress on the BWC compliance issue. This is alluded to by President Clinton in his subsequent radio broadcast to the American nation: “we agreed to begin visits to biological weapons factories this August as a part of our common efforts to reduce the threat of biological and chemical weapons proliferation”. {US Newswire 15 May} This agreement seems to represent an end to the impasse over visits to military facilities within the framework of the trilateral Russia-UK-US statement on BWC compliance [see 3 Apr]. {*Washington Post* 17 May}

**10 May** In New York, the United Nations Association of the United States publishes a high-level international panel report, *Confronting the Proliferation Danger: The Role of the Security Council*, concluding that the UN Security Council is largely powerless to prevent the global spread of nuclear and CBW weapons. The panel, chaired by former Presidential National Security Adviser McGeorge Bundy, recommends the appointment of a Special Rapporteur to report directly to the Security Council on a regular basis regarding the state of proliferation. {Inter Press Service 10 May}

**11 May** Australian Federal Police announce that Aum Shinrikyo, the Japanese religious sect suspected of the Tokyo nerve gas outrage [see 22 Apr], had tested nerve gas on sheep in a remote part of Western Australia, on a ranch which the sect had purchased in 1993. Traces of sarin had been found in samples taken from soil and dead sheep there. {*International Herald Tribune* 12 May}

**11 May** In New York, the 1995 Review and Extension Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, which began on 17 April, ends with unanimous adoption of four key documents, one of which extends the treaty indefinitely. Another of the documents, the initial

draft of which was co-sponsored by Egypt [see 23 Feb] and other Arab League states, "calls upon all States of the Middle East that have not yet done so, without exception, to accede to the Treaty"; and it also calls upon those same states "to take practical steps in appropriate fora aimed at making progress towards, inter alia, the establishment of an effectively verifiable Middle East zone free of weapons of mass destruction, nuclear, chemical and biological and their delivery systems, and to refrain from taking any measures that preclude the achievement of this objective". {*Trust & Verify* May}

**11 May** In the United States, seven former manufacturers of Agent Orange are sued in a Texas District Court by civilian employees of Corpus Christi Army Depot who believe that chronic diseases from which they or their families are suffering originate in Agent Orange picked up from contaminated helicopters and other items sent back from the Vietnam War. At least \$500 million in damages is being sought. {*Dallas Morning News* 13 May}

**12 May** The UN Security Council conducts its 25th bimonthly review of the economic sanctions imposed on Iraq [see 13 Mar]. No draft resolution has been put forward recommending that sanctions be lifted, so they continue in place. {*Reuter* 11 May, *INA* 13 May}

**14–17 May** In Iraq, an UNSCOM mission led by Vice Chairman Charles Duelfer meets with Iraqi authorities mainly for the purpose of resolving remaining doubts about the accounting for imported VX precursors [see 10 Apr], on which new data have just been supplied by Iraq {*Reuter* 11 May}. Unidentified intelligence sources are being quoted as saying that as much as 400 tons of VX precursor material could have gone missing {*Reuter* 12 May}. Duelfer tells reporters that his mission has been "partially successful" and that UNSCOM Executive Chairman Rolf Ekéus will be travelling to Baghdad later in the month to try to obtain more answers {*AFP* 17 May in *FBIS-NES* 17 May}.

**15 May** The US company Satloc of Tempe, Arizona, is selling a navigational system for agricultural spray aircraft that uses the Defense Department's Global Positioning System to guide pilots to particular fields and then lay down precisely positioned swathes of spray material. {*Aviation Week & Space Technology* 15 May}

**16 May** In Japan, police raid the Aum Shinrikyo complex at Kamiku-Isshiki [see 23 Mar] and there arrest Shoko Asahara, leader of the cult. There is massive live television coverage. Other premises across the country are also raided. The previous night, 41 arrest warrants had been issued on charges of murder and attempted murder in connection with the Tokyo nerve-gas outrage [see 20 Mar]. Ten of the people named in the warrants were already in custody, on lesser charges, including the Aum intelligence minister, Yoshihiro Inoue, who is suspected by the police of having planned and ordered the Tokyo attack {*Kyodo* 14 May in *BBC-SWB* 16 May}. All but seven of the 41 suspects are now under arrest {*New York Times* 16 May}. They can be held for up to 23 days without being charged {*London Daily Telegraph* 19 May}.

Supporting materials presented with the police application for the arrest warrants included the information that Aum had bought chemicals and machinery from Russia [see 22 Apr] as well as from other countries. {*London Financial Times* 17 May}

**18 May** President Clinton transmits a message to Congress reporting on nuclear and CBW weapons nonproliferation activities under Executive Order No 12938 [see 16 Feb]. On the Chemical Weapons Convention, he says: "I am urging the Senate to give its advice and consent to ratification as soon as possible. The CWC is a critical element of US nonproliferation policy that will significantly enhance our security and that of our friends and allies. I believe that US ratification will help to encourage the ratification process in other countries and, ultimately, the CWC's entry into force." {*Congressional Record* 18 May pp H5354-5}

**19 May** China is planning to open to the public archives on Japanese BW research in northeastern China during World War II [see 10 Feb], says an official with the Liaoning provincial archives museum. The opening will happen in August, marking the 50th anniversary of the end of the war. {*Xinhua* 19 May in *BBC-SWB* 22 May, *Reuter* 20 May}

**19–21 May** The Pugwash Study Group on Implementation of the CBW Conventions holds its third workshop, again in the Netherlands, at Noordwijk [see 27–29 May 94]. The practical implications of the General Purpose Criterion, including its bearing on the work of the Australia Group, are the main topic of discussion. There are 45 participants from 17 countries, North and South.

**23 May** Croatia deposits with the UN Secretary-General its instrument of ratification of the Chemical Weapons Convention, becoming the 28th signatory state to do so.

**23 May** The US Defense Department announces that it will spend \$5 million from its FY95 clinical activities and research budget to fund independent peer-reviewed research into the so-called Gulf War Syndrome. Proposals are requested within 90 days for grant awards in the autumn. {*DOD news briefing* 23 May}

President Clinton announces, three days later, the creation of a 12-member panel to serve as his independent Presidential Advisory Committee on Gulf War illnesses [see 6 Mar]. {*DPA* 26 May}

**24 May** In China, an official Japanese fact-finding mission resumes the survey of sites supposedly containing chemical weapons abandoned by the Imperial Japanese Army [see 13 Mar], this time visiting Dunhua in Jilin Province [see 16 Jun 91 and 18 Feb 92]. {*Kyodo* 26 Apr, *Reuter* in *International Herald Tribune* 25 May}

Meanwhile, in Japan, Professor Keiichi Tsuneishi of Kanagawa University announces that Japan produced 5.18 million chemical munitions prior to the end of World War II, according to documents in the possession of a former Japanese Imperial Army officer, now living in Tokyo. The documents record production on Okuno Island [see 5 Dec 94] of about 6100 tons of CW agents during 1931-45, of which some went into 3.7 million toxic candles manufactured by the Army on the island, and some went into about 1.48 million shells made in a factory at Sone [see 13 Aug 93] in western Japan. {*Kyodo* 24 May, *Reuter* in *International Herald Tribune* 25 May}

**24 May** In Bosnia-Herzegovina, the Defence Ministry issues an NBC alert following the firing by Bosnian Serb artillery of "several poison gas projectiles" into central Sarajevo [see also

6 Apr] {Radio Bosnia-Herzegovina and HINA 24 May in BBC-SWB 25 May}. It is reported that UN Military Observers are making a detailed inquiry, and that what appeared to an UNPROFOR spokesman to be white-phosphorus shell had struck Sarajevo buildings during the bombardment {AFP 24 May}. Vice-President Ejup Ganic speaks with the UNPROFOR commander, Lt-Gen Rupert Smith, about "the fact that the aggressor used phosphorus bombs and chemical weapons in these attacks" {Radio Bosnia-Herzegovina 24 May in BBC-SWB 26 May}

Next day, at a time of renewed Bosnian Serb bombardments of UN safe havens in retaliation for the NATO air-strike on Pale, "nerve gas" is used in an attack on Serici near Zenica, according to Prime Minister Haris Silajdzic. {Croatian Radio 26 May in BBC-SWB 27 May}

**25 May** In Washington, a conference on *Tokyo and Beyond: Chemical and Biological Weapons Terrorism* is convened jointly by the George Washington University Terrorism Studies Program and the Chemical and Biological Arms Control Institute. An official of the State Department Office of Coordination for Counterterrorism, Michael Jakob, says that the government plans to examine more closely groups such as Aum Shinrikyo; it is the state-sponsored groups with a political agenda which have thus far dominated counterterrorism intelligence collection. {Kyodo 25 May}

**25 May** The US National Research Council panel charged with reviewing the public health and other implications of the Army's BW-simulant spray experiments over US cities and forests during the Cold War years [see 29 Jul 94] conducts its first field hearing, in Minneapolis, taking evidence from more than two dozen people. {*Star Tribune* 25 and 26 May}

**26 May** Syria possesses the largest stockpile of chemical weapons in the Arab world, according to a study by an Israeli strategic research institute quoted today by *Ha'aretz* [see also

28 Apr]. The report says that Syria produces hundreds of tons of chemical weapons a year, chiefly sarin and VX. {DPA 26 May}

**27 May** The US Army used about a million pounds of nerve agent in the 1200 open-air tests of chemical weapons it conducted in Utah during the Cold War years [see also 26 Feb], according to documents obtained by a reporter on a Salt Lake City newspaper. {Lee Davidson of *Deseret News* on National Public Radio 27 May}

**29 May** In Baghdad, UNSCOM Executive Chairman Rolf Ekéus accompanied by a team of experts begins four days of high-level talks with Iraqi authorities, primarily for the purpose of resolving suspicions that Iraq is concealing CW and, especially, BW materials [see 10 Apr and 14-17 May]. {AFP 29 and 30 May}

**29 May** In Helsinki, the Arms Control and Regional Security part of the Middle East peace talks [see 2 May 94 and 2 Feb] is scheduled to reconvene for a new round. Egyptian officials have been portraying it as "make or break". {*International Herald Tribune* 16 May}

**30 May** In the United States, hand-held micro gas-chromatographs for the detection of airborne CW agents are to be developed, produced and marketed in accordance with an agreement announced today between GRC International Inc and Orbital Sciences Corporation. {PR Newswire 30 May}

**31 May** President Clinton, while speaking at the US Air Force Academy graduation ceremony, says: "There is no excuse for the Senate to go slow on approving...the Chemical Weapons Convention... It would make a chemical terror, like the tragic attack in the Tokyo subway, much, much more difficult... [It] will make every American safer." {White House release 31 May}

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## Forthcoming Events

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The Ad Hoc Group of the States Parties to the Biological Weapons Convention will reconvene in Geneva during 10–21 July and again during 27 November–8 December 1995.

The eleventh plenary session of the OPCW Preparatory Commission will take place in The Hague during 24–28 July 1995. The twelfth plenary session will take place during 11–15 December 1995.

An invitation-only conference on *Effective National Implementation of the CWC* sponsored by the Volkswagen-Stiftung will be held in Bad Homburg, Germany, during 8–10 September 1995. For enquiry particulars see CWCB 27, p. 14.

An International Workshop on Anthrax will be held in Winchester, UK, during 19–21 September 1995. Enquiries to Dr PCB Turnbull, CAMR, Porton Down, Salisbury, Wiltshire, SP4 0JG.

The Review Conference of the States Parties to the 1981 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects will be held in Vienna during 25 September–13 October 1995.

The sixth Wilton Park arms control seminar (Wiston House, England, 29 September–1 October 1995) will be on "Verification of the Biological Weapons

Convention". Enquiries about participation to Elizabeth Harris, Wilton Park Conferences, telephone \*\*44-1903 815020, fax \*\*44-1903 815931.

The Amaldi Conference on Peace and International Security to be held in Piacenza, Italy, during 5–7 October 1995 will include a half day session organized by the UK Royal Society on biological warfare.

The Australia Group will meet in Paris during 16–18 October 1995.

The Pugwash Study Group on Implementation of the Chemical and Biological Weapons Conventions will hold its fourth workshop in Geneva during 2–3 December 1995.

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## News from the Harvard Sussex Program

### **HSP Home Page on the World Wide Web**

HSP is now placing information on the World Wide Web via a Harvard University Internet Web server. The address (URL) of the HSP home page is:

<http://fas-www.harvard.edu/~hsp/>

Material being made accessible through the home page includes:

- information about HSP, its publications and its activities;
- information about the Pugwash Study Group on Implementation of the CBW Conventions;
- the penultimate issue of the *Chemical Weapons Convention Bulletin*;
- treaty texts, including the 1993 Chemical Weapons Convention, the 1972 Biological Weapons Convention, and the 1925 Geneva Protocol;
- information on selected topics such as the Australia Group, disabling chemicals and the CWC, the general purpose criterion and the CWC, and the CWC and terrorism.

The HSP home page is still in an experimental form and will be modified with experience. Comments on its format and content are welcomed.

### **HSP Research Staff**

*R. Justin Smith* has now completed his term as HSP Researcher in The Hague. He is moving on to Philadelphia, where he will clerk for Judge Louis Pollak. He will continue to be associated with HSP.

*Treasa Dunworth* is the new HSP Researcher in The Hague. Like Justin Smith, she is a recent graduate of the Harvard Law School.

*Mitslal Kifleyesus* is HSP Researcher in Brussels. She is well known to many of those involved in implementing the CWC, especially among the delegations of states members of the OPCW Preparatory Commission that are based in Brussels.

*Sandra Ropper* and *Henrietta Wilson* continue as the HSP Researchers based at, respectively, Harvard and Sussex, working with *Matthew Meselson* and *Julian Perry Robinson*. Their work includes coördinating the efforts of HSP scanners in Berlin, Brussels, Geneva, Stockholm and Washington.

Subscriptions now available from Barbara Ring at the Harvard address: \$40 individuals and non-profit organizations or \$100 for corporate bodies. Cheque (in US\$) payable to 'Chemical Weapons Convention Bulletin'.

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