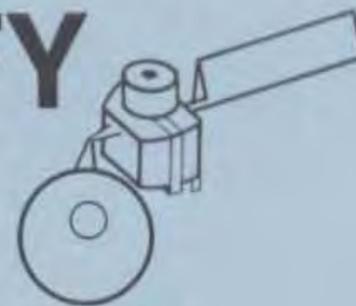


# TRUST AND VERIFY



## THE BULLETIN OF THE VERIFICATION TECHNOLOGY INFORMATION CENTRE

No. 23 October 1991

### Biological Weapons Convention Third Review Conference

From 9-27 September diplomats and technical experts from 87 States party to the Biological and Toxin Weapons Convention (BWC) met in Geneva for the Convention's Third Review Conference. The conference took place against the background of the recent first biological weapons inspection at Salman Pak in Iraq by the UN Special Commission and increasing concern about biological weapons proliferation and the dangers posed by microbiology and genetic manipulation. The Review reached a consensus that the BWC needs to be strengthened in the light of an increasingly dangerous threat posed by the possible development and use of such weapons.

Concern was expressed by a number of countries over alleged breaches of the Convention. Support was expressed for the work of the UN Special Commission in Iraq. Reference was made by the British delegation to long-standing concerns over the scale and nature of the Soviet biological warfare programme, suggesting that it went beyond what was necessary for a purely defensive and peaceful programme. Britain called for resources currently devoted to this programme to be redirected.

The report of the British delegation referred to what many at the conference saw as the most pressing weakness of the BWC, namely verification. The British had three objectives: to obtain agreement on an extended confidence building measures regime; the establishment of an ad hoc group to explore verification options; and the setting up of an interim group to oversee the Convention between Review Conferences. The first two were achieved but not the third because of problems over cost and membership of such a group.

A number of new confidence building measures (CBMs) were agreed, and existing ones strengthened. To quote a UK official, referring first to existing CBMs: "CBM A, which requires states to declare high containment facilities has been extended, by the addition of a new section requiring a very detailed declaration of information relating to biological defence programmes and facilities. CBM B, on the reporting of unusual outbreaks of disease, and which had not worked well in practice, has been improved, not least by the adoption of an agreed definition of what constitutes an unusual outbreak. There has also been an improvement to CBM D, which encourages States Parties to provide information on visits to biological research centres."

Of the new CBMs, the first, CBM E, will require states to declare what legislation and other regulations they have enacted both to implement the provisions of the Convention and to control the export or import of pathogenic microorganisms. It is hoped that this will encourage openness.

CBM F requires declaration of past activities in offensive and/or defensive biological research and development programmes and CBM G requires declaration of vaccine production facilities.

In the Final Declaration of the Conference it was made clear that "The Conference recognises that the new and revised procedures...will make even greater demands on the time of the United Nations Department for Disarmament Affairs." The UN Secretary General was therefore formally asked to allocate the necessary staff and other necessary resources to the implementation of the new arrangements.

The ad hoc group of Governmental experts from all interested States Parties set up to consider verification issues will have its first meeting in Geneva from 30 March to 10 April 1992. The group is mandated to make a final report as soon as possible. A special conference could be called following the report if a majority of States Parties agree.

The dual-use nature of both the biological agents and much of the equipment used makes verification extremely difficult, as does the often tiny quantities of materials involved. The Conference Final Declaration described the group's duties as follows:

"The group shall seek to identify measures which could determine whether a State Party is developing, producing, stockpiling, acquiring or retaining microbial or other biological agents or toxins, of types and in quantities that have no justification for prophylactic, protective or peaceful purposes; whether a State Party is developing, producing, stockpiling, acquiring or retaining weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict."

"Such measures could be addressed singly or in combination. Specifically the group shall seek to evaluate potential verification measures, taking into account the broad range of types and quantities of microbial and other biological agents and toxins, whether naturally occurring or altered, which are capable of being used as a means of warfare."

"To these ends the Group could examine potential verification measures in terms of the following main criteria:

- their strengths and weaknesses based on, but not limited to, the amount and quality of information they provide, and fail to provide;
- their ability to differentiate between prohibited and permitted activities;
- their ability to resolve ambiguities about compliance;
- their technology, material, manpower and equipment requirements;
- their financial, legal, safety and organisational implications;

- their impact on scientific research, scientific cooperation, industrial development and other permitted activities; and their implications for the confidentiality of commercial proprietary information.

"In examining potential verification measures, the Group should take into account data and other information relevant to the Convention provided by the States Parties."

The Declaration also welcomed UN proposals relating to guidelines and procedures in the "timely and efficient investigation of use of chemical and bacteriological (biological) or toxin weapons", and recalled UN Security Council Resolution 620 of 1988 which encouraged the UN Secretary General to carry out prompt investigations in response to allegations brought to his attention by any Member State concerning possible use of chemical and bacteriological (biological) or toxin weapons. The member states agreed to cooperate fully with any such investigation.

Much of the remainder of the Final Declaration consists of reaffirmations of existing BWC Articles, for instance adherence to the 1925 Geneva Protocol and commitment to negotiate towards prohibition of the development and production of chemical weapons. It also suggests that the setting up of a world data bank under UN supervision might be a suitable way of facilitating the flow of information in the fields of genetic engineering and biotechnology, areas where currently there is an increasing gap between developed and developing countries. Finally it calls upon the UN Secretary General to facilitate the exchange of data on all matters relating to the BWC and its provisions.

The Fourth Review Conference is due to take place not later than 1996. Progress on all issues covered in the Third Review Conference, including the report of the special group studying verification measures will be considered at that meeting.

A full annex to the Final Declaration on Confidence Building Measures was also published at the end of the Conference. (REF BWC/CONF.III/22/Add.3)

## Iraqi Nuclear Programme Could Be Revived - IAEA To Reconsider Safeguards

In the opinion of David Kay, head of the UN inspection team in Iraq, Saddam Hussein's nuclear bomb programme could be revived in just a few years. Aspects of the programme including, believes Kay, equipment for a gas centrifuge, have remained concealed from the inspectors.

Returning from Iraq, Kay said he was impressed at the "comprehensiveness of the design approach" of the Iraqi programme. He also said that Iraq had been at the testing stage of a surface-to-surface missile delivery system capable of carrying nuclear weapons. The 45,000 pages of documents seized by the inspectors seem likely to reveal still more secrets, as well as exposing the number of countries involved, perhaps unwittingly, in helping Iraq along the road to nuclear capability by failing to recognise the potential uses of materials and technologies exported to Baghdad.

The UN inspection team has faced many problems in attempting to carry out its duty, from which a number of lessons might be learned for future multilateral verification activity. First, it became clear that inspectors may have

to operate in hostile circumstances, with the host country actively trying to conceal information. This does not devalue the work carried out by such inspectors but it does make it all the more vital to develop the idea of short-notice challenge inspections without right of refusal, if deceit is to be avoided or at least minimised.

Asked how IAEA inspectors could have discovered more about the Iraqi programme earlier, rather than simply being allowed to visit two tiny research reactors twice a year, VERTIC's Dr Patricia Lewis told BBC Radio 4's Today Programme that "the inspectors didn't carry out special inspections or what we now call challenge inspections or spot checks to targeted facilities. Basically we have reason for suspicion, we want to go and have a look at this place. They didn't do that. The reasons they didn't do that are partly historic: it's partly the Cold War, it's partly the way the International Atomic Energy Agency has always seen its inspections. It's always prided itself on the fact that it was a confidence-building regime, it was one in which the country in question would demonstrate compliance rather than assume non-compliance to start with. The inspectors in Iraq, and indeed all IAEA inspectors, have also been unable to enforce compliance with international treaties. This clearly needs to be urgently addressed."

During the same programme, Imperial College's Dr John Hassard, a VERTIC working group member, added that the IAEA may even have helped build the Iraqi programme: "The IAEA's statute is to spread nuclear energy in countries like Iraq. Iraq has signed the Non-Proliferation Treaty and therefore has been helped enormously by the IAEA in nuclear technology. Unfortunately, as has been well-known since nuclear energy was born, the technologies of power production are very similar to those for weapons and therefore there's been a conflict of interests within the IAEA. The IAEA's very framework is one of the major causes, in my opinion, for the spread of nuclear weapons."

Indeed the Netherlands, on behalf of the European Community, proposed to the recent IAEA annual conference in Vienna, an overhaul of failed safeguards measures. The 23-member board of the IAEA has put off action until at least February. The board is dominated by industrial states who wish to keep public opinion on the side of nuclear energy and are therefore unwilling to accept that there is no effective barrier between peaceful and military uses of nuclear energy.

IAEA Director General Hans Blix has reported on weaknesses in the safeguards system which the Iraq affair has exposed, again pinpointing the need for challenge inspections. Although the IAEA's model safeguards agreement with NPT members authorises snap inspections of safeguarded facilities, the IAEA has not permitted them because of objections from members that they would be too extensive and intrusive.

Paul Leventhal, President of the Nuclear Control Institute in Washington and Visiting Fellow at Cambridge University, England, outlined five fundamental reforms needed in the IAEA's procedures in a recent *International Herald Tribune* article (24/9/91) entitled "The Nuclear Watchdogs Have Failed".

1. The IAEA membership should vote to amend the agency's statute, to relieve the board of governors of its safeguards authority, and limit the board to pursuing the agency's nuclear promotional activities.
2. The director-general should be authorised by vote of the members to report and to serve under the direction of

the UN Security Council on all safeguards matters, via a permanent form of the UN Special Commission set up to oversee removal of weapons materials and plants from Iraq.

3. Proliferation-related intelligence should be channelled by the US and other governments to the Security Council on all safeguards matters, via the new, permanent Special Commission, which would authorise IAEA challenge inspections or other UN-sponsored actions in any country in which safeguards violations or weapons activities were suspected.

4. Since there is no way of knowing whether the IAEA has been effective in verifying that countries other than Iraq are not diverting nuclear materials or building bombs, all of the agency's inspection reports should be reviewed by an independent, blue-ribbon panel named by the Security Council, and the results should be publicly reported.

5. The Security Council should authorise the IAEA director-general to propose international arrangements for supply of low-enriched uranium unsuitable for bombs and for custody over reactor-spent fuel and any recovered plutonium. This method of minimising weapons-capable uranium and plutonium in civil programs is an important "atoms for peace" approach long abandoned by the IAEA board of governors, but one that could still work.

Experts may disagree over the finer points of such proposals but few now doubt the need for serious changes in the IAEA's approach to safeguards procedures, and perhaps in the whole structure of the IAEA itself.

One positive development to emerge from the inspections in Iraq, though, and pointed out by Michael Krepon in *Defense News* (7/10/91), is that the United States has begun to distribute intelligence data to more recipients. This can only help any efforts to strengthen the nuclear Non-Proliferation Treaty, particularly with regard to undeclared facilities, or a future Chemical Weapons Convention. Also, the UN team have proved the value of aerial inspections as part of a verification regime. Aircraft and helicopters have been able to provide much-needed support to the inspectors on the ground.

## Bush-Gorbachev Start To Climb Down Nuclear Ladder

Over the past month the world has heard announcements regarding reductions in nuclear arsenals once thought virtually impossible. Presidents Bush and Gorbachev have made commitments which perhaps signify the beginning of a new approach to nuclear weapons policy.

At the same time, there is a danger of overstating the degree to which the world has suddenly become a safer place. Despite the reductions, as David White wrote in the *Financial Times*, (30/9/90) "the superpowers will retain enough weapons to wipe each other out".

The cuts in short-range missiles and nuclear artillery in Europe were inevitable after the break up of the old Soviet bloc and the democratisation of eastern Europe. Such weapons no longer had any military rationale. However the United States was reluctant to remove such weapons by Treaty, as it felt verification would be too complicated. The unilateral declaration avoided such complications. It is not clear whether inspectors will be allowed to witness the destruction of this equipment.

One aspect of the American initiative that has received relatively little attention is the decision to remove all tactical nuclear weapons from US ships. This will include the removal of the nuclear version of the Tomahawk sea-launched cruise missile (SLCM). This move is significant for a number of reasons, as described by Joseph Fitchett in the *International Herald Tribune* (4/10/91) in an article entitled "Quiet key point in Bush plan: the naval weapons".

In the first place, President Bush has broken down what had begun to seem like a psychological barrier against naval arms control. With the exception of a side-agreement negotiated alongside the START Treaty, limiting SLCMs held by the United States and the USSR, there had been little movement on the naval front. The usual excuse given for avoiding SLCM reductions was the difficulty in verifying whether a Tomahawk missile was carrying a nuclear or a conventional warhead. VERTIC and others have held the view that whilst difficult, there were methods, such as tagging, which allowed verification of SLCM warheads to take place. US naval planners have always disliked the idea of such verification as it would of necessity lead them to reveal whether or not ships were carrying nuclear arms, thus making a nonsense of their traditional "neither confirm nor deny" policy.

Other particularly significant measures were President Gorbachev's announcement that he will consider proposals on non-nuclear anti-missile defense systems, and the announcement of a one-year moratorium on nuclear tests. He has also proposed a further 50% cut in strategic weapons. As yet there has been no sign of movement from existing US policy as a result of President Gorbachev's move.

## In The News

### Uranium Mystery Loss

An investigation into the whereabouts of 4kg of uranium oxide fuel reported missing from the nuclear research centre in Karlsruhe, Germany led to a discovery that a further 48kg were also missing. Three fuel rods were missing from an assembly, representing about 4kg of uranium. The site has been investigated regularly by the IAEA, Euratom and German officials but it is now thought that the material may have gone missing up to ten years ago because for that period inspectors have mistaken the dummy assembly for a live one. The live assembly would contain around 48kg of uranium fuel. It is still not clear whether the missing uranium was stolen or simply "misplaced" on-site.

### US-Soviet Cooperation on ABM Systems

In the wake of the recent US-USSR disarmament initiatives, it appears that the USSR may be prepared to abandon the 1972 Anti-Ballistic Missile Treaty (ABM) and cooperate with the United States in the development of ABM defences, including space-based early warning and, perhaps, interceptor systems along the lines of the US SDI programme. *Aviation Week and Space Technology* (14/10/91) quotes Major General Samoilov as saying a joint ABM system "is a practical proposal, not just theoretical - one where we could practically work together. By the year 2000, about 15-20 more governments will have their own ballistic missiles and launchers. Half of them will have missiles with a range of more than 5,000 miles. This will be a very serious source of threat in the future. Therefore joint efforts toward an ABM agreement is full of promise and interest to us." Henry Cooper of the

Strategic Defense Initiative Organisation (SDIO) said the sudden surge of Soviet interest was "breathtaking". No agreement has yet been reached on the details of such a cooperative venture.

#### Israel To Join MTCR

Israel has bowed to US pressure and brought forward the date of its adherence to the Missile Technology Control regime (MTCR). Israeli sources suggest that the date has been moved from the end of 1992 to 31 December 1991. The sources, reports *Jane's Defence Weekly*, said that the United States had threatened sanctions if Israel did not bring the date forward. Such sanctions would have included banning of Israeli companies from participation in Pentagon tenders.

#### North Korea Moves Closer To Nuclear Weapon Capability

Following reports from a North Korean defector in August regarding uranium reprocessing and North Korean refusal in September to sign IAEA full-scope safeguards agreements, a second defector, Ko Yonghwan has brought information out of North Korea regarding its nuclear programme. The South Korean response was to repeat earlier warnings of "at the worst, military action" against nuclear facilities. *Jane's Defence Weekly* (12/10/91), reports that Ko, former First Secretary of the North Korean Embassy in Congo, said that North Korea had built "underground nuclear facilities in Pakchon". He also suggested that much of North Korea's nuclear technology was European in origin.

#### CWC Documentation

Two useful articles have appeared recently on the issue of a Chemical Weapons Convention. Brigitte Sauerwein in *International Defense Review* (Sept 1991) asks whether the window of opportunity for achieving a CWC is slipping away. It refers to barely veiled concerns among US negotiators and experts that the short-term achievability of a CWC could be undermined by the disintegration of the Soviet Union and by the number of smaller countries believed to have, or to be approaching, chemical weapons capability. One of the keys to a successful CWC is likely to be the achievement of agreement on the issue of challenge inspections of suspect sites. Amy E. Smithson's article, "On the Outside, Looking In" in *Bulletin of the Atomic Scientists* (Oct 1991) presents the recent

US proposal on challenge inspections as "a dud", not allowing short-notice, intrusive access to suspect facilities. Official American views can be studied in a recent Conference on Disarmament document (Ref CD/1107/Rev.1) entitled "USA - Report on the Fourth United States Trial Inspection Exercise". Also available are two reports on two trial challenge inspections carried out in Germany, one by German officials and the other with the participation of five other CD countries. (Refs CD/1101 and CD/1102).

## VERTIC News

VERTIC Working group member Bhupendra Jasani of King's College, London, was interviewed in *Jane's Defence Weekly* (21/9/91) on the subject of international satellite monitoring for arms control use. He said that WEU plans along those lines will act as a catalyst for a regional satellite system that can eventually "hook into a future international satellite monitoring agency." However Dr Jasani does not believe that the WEU is the best-suited platform to support a European satellite verification agency. Instead he proposes the formation of a broad European Verification Agency linked to the European Space Agency. Dr Jasani would like to see a European venture act as the starting point for similar ventures in other parts of the world.

#### A Message From The Editor

I have been compiling and editing *Trust and Verify* since the first issue in June 1989. It has been extremely rewarding to be associated with VERTIC and with *Trust and Verify* in particular. However, this will be my last edition of *Trust and Verify* as Editor. New work commitments mean that I will be no longer be able to devote adequate time to do justice to the publication.

I would like to thank VERTIC's Director, Dr Patricia Lewis for all her editorial and technical advice, expertise and support and Julie Cator for all the research and production work she has done since June 1989. Thanks also to all those who have contributed items of news and information. Finally best wishes to all of you who have read *Trust and Verify*. I hope you have found it useful and informative. I have no doubt that my successor will continue to provide you with up to date details of verification developments. I wish him or her, and you, the very best. John Grounds.

#### **What is VERTIC?**

VERTIC is an independent organisation aiming to research and provide information on the role of verification technology and methods in present and future arms control agreements. VERTIC co-ordinates six working groups comprising 21 UK consultants and 11 overseas advisors. VERTIC is the major source of information on verification for scientists, policy makers and the press. VERTIC is funded primarily by grants from foundations and trusts and its independence is monitored by an Oversight and Advisory Committee.

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"Trust and Verify" is compiled and edited by John Grounds; research and production by Julie Cator.

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