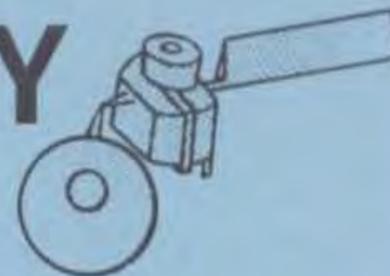




TRUST AND VERIFY



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Open Skies - Round One

The first round of Open Skies negotiations took place in Ottawa, Canada, from 12 - 28 February 1990. The session began with a meeting of Foreign Ministers and continued with negotiations between high-level officials. The talks were attended by representatives of the 23 NATO and Warsaw Pact nations with the intention of reaching agreement on the opening of skies above national territories to aerial surveillance flights.

The Open Skies scenario was first proposed in 1955 by a group of analysts working for Nelson Rockefeller, then advisor to President Eisenhower. The proposal was opposed by then Secretary of State Dulles and eventually disappeared from the arms control agenda when the Soviet Union rejected it out of hand. The idea was resurrected by President Bush in 1989 with calls for members of both alliances to permit aerial overflights by surveillance aircraft with the aim of enhancing trust and openness and helping to verify compliance with arms control treaties, complementing rather than replacing satellite and on-site verification procedures.

The 1990 talks did not meet with immediate success, as wide divergencies were identified between the two alliances' positions. US delegation leader John Hawes said that a lot of work would have to be done before the second session in April, while his Soviet counterpart, Viktor Karpov said he had "reasonable doubts" about being able to sign a treaty in May.

US officials pinpointed the main problem as being Soviet insistence on having only one common surveillance system with a pooling of data among the 23 nations, seen by Mr Karpov as the best way to ensure equal access to both technology and data. NATO does not accept this position. For example, NATO is unwilling to share advanced computer technology with the Warsaw Pact, which lags far behind the West in this area.

Mr Karpov also favours limits to areas of the Soviet Union over which NATO aircraft could fly. For instance he objected to surveillance of chemical and nuclear plants and of densely populated areas below 10,000 metres because of a fear of aircraft crashes.

Further differences remain over aircraft and sensors to be used. The Soviet Union wishes only aircraft of its choice to operate over its territory and only 34 flights a year to be carried out by each alliance. All planes taking part in overflights will be unarmed, non-military aircraft. The Soviet Union wants aircraft to be fitted with aerial cameras while the US wishes to use more complex day-night, all-weather sensors.

It is likely that any equipment used under an Open Skies agreement would have to be "off the shelf" because individual nations would not wish to reveal their National Technical Means to other parties to a treaty. However, any agreement is likely to include the use of 35 millimetre aerial cameras, high resolution video cameras and infra-red line scanners, capable of pinpointing heat emissions such as those that might come from an active nuclear power plant or munitions factory.

If differences are overcome and an agreement is reached, as many analysts believe will be the case, the signing ceremony will take place on 12 May, the 35th anniversary of President Eisenhower first proposing an Open Skies agreement.

Soviet Open Skies Overflight

Following the flight over Hungary by a Canadian C-130 Hercules (see *Trust and Verify* No. 7, Feb 1990) it now seems likely that the reciprocal overflight will now be made by a Soviet aircraft as Hungary has announced that it does not have a suitable plane with which to conduct the agreed Open Skies trial flight later this year.

Jane's Defence Weekly (17/2/90) reported that the information had come from Derek Burney, Canada's Ambassador to the US. The flight is likely to take place before the second session of Open Skies negotiations scheduled to take place in Budapest from April 23.

Open Skies Communique on CFE and CSBM

On February 13, Foreign Ministers in Ottawa for the Open Skies conference issued a communique on progress at the CFE and CSBM talks in Vienna. The communique welcomed progress on the withdrawal of troops from Europe and expressed hope that remaining obstacles (aircraft, helicopters, tanks and armoured combat vehicles and regional limitations, differentiation and storage), would soon be overcome in the light of recent proposals. The communique also recognised the outstanding need "to develop an effective verification regime". The Ministers also expressed willingness to give impetus to the simultaneous Confidence and Security Building Measures (CSBM) negotiations.

CFE Verification Unit for Belgium

A plan submitted to Belgian Defence Minister Guy Coeme by Chief of Staff Lt Gen Jose Charlier has outlined plans to set up a special unit to verify a CFE agreement. 30 inspectors will receive special training in East European languages as well as military equipment. The move follows news that Britain is setting up a similar Arms Control Implementation Group (see *Trust and Verify* 7, Feb 1990), and that the Netherlands has earmarked a budget of around \$20 million to train a team of up to 100 inspectors. West German officers are also thought to be undergoing East European language courses with a view to setting up a similar team.

Meanwhile NATO officials are still debating the proposal made by US Secretary of State James Baker in December 1989 to create a NATO verification agency to co-ordinate inspections and other verification activities as well as aiding individual NATO governments. Some, such as Dutch Defence Minister Relus Ter Beck said that the proposal interfered with national rights. Others have welcomed the idea with various degrees of caution.

Current arrangements for CFE means that each of the participating states is individually responsible for

verification measures. There is therefore some concern that such an agency would imply US domination of verification procedures, since the US is the only NATO nation with wide experience of treaty verification and the only one with certain verification technologies at its disposal, especially surveillance satellites.

However, it is widely recognised that some degree of co-ordination between NATO states' verification procedures is necessary because of the scale of the task ahead. For example, the number of sites that have to be visited for adequate verification cannot be achieved by states on their own. In addition, verification information from satellites is not available to every NATO member and some sharing of data will have to occur. Pooling of expertise and resources will be of great benefit to all parties and perhaps ease the expense for individual countries. It seems likely, therefore that some form of NATO agency will eventually emerge.

As William Taft, US Ambassador to NATO said in a January 29 interview with the *International Herald Tribune* "We are expecting an agreement among the allies that there will be within NATO a focal point for verification information, to help each country efficiently reach its own conclusions about whether the treaty is being complied with."

Apparently lending still greater credence to this view, *Jane's Defence Weekly* (17/3/90) reported that "NATO officials ...have suggested the establishment of an Alliance Consultative Body to co-ordinate verification. They say this could be an offshoot of the High Level Task Force already established at NATO, which is co-ordinating the alliance approach to CFE."

Verification Proposals Tabled

At the end of the fifth round of CFE negotiations in Vienna, NATO tabled draft articles on verification and information exchange as well as ground inspection protocols. The articles mark a degree of progress on verification issues although they do not give details of procedures for aerial inspections or the monitoring of the destruction of weapons removed under the terms of the treaty. IDDS's ViennaFax service outlined the content of the draft articles.

"The drafts define the rights and limitations of inspection teams, the process for listing sites where treaty-limited equipment is held (such as unit garrisons, storage depots and training centres - perhaps as many as 10,000 altogether in ATTU), and the number of inspections - an issue negotiators agree will be extremely difficult to resolve."

The NATO draft fails to cover the question of the inspection of production facilities. A plan presented by the USA to fellow NATO members for such inspections was unacceptable to some members, principally Britain and France. Proposals for stationing inspectors at transit points in Europe, a measure favoured by the Warsaw Pact, is also omitted from the drafts.

Dr Patricia Lewis of VERTIC has proposed that the US and the USSR enter into bilateral negotiations to establish monitoring for their production facilities outside the Atlantic to the Urals (ATTU) area. There are already precedents set by the US and the USSR on bilateral agreements within multilateral negotiations, (eg. the bilateral step-by-step talks on nuclear testing and bilateral agreements on chemical weapon reductions and inspections). If taken up this proposal would allow monitoring of a very important feature of conventional arms which is not being covered by the CFE Treaty.

However, NATO officials are confident that the Warsaw Pact will agree to the basic terms of the drafts and that agreement will be reached on verification issues in the next round of negotiations.

CSBM Talks Update

Ever since the Federal Republic's Foreign Minister Hans-Dietrich Genscher's call at the CFE plenary on 25 January for both the CFE and CSBM negotiations to be completed this year, officials from all parties to the CSBM talks have expressed willingness to reach an agreement in time for signing at the CSCE summit late in the year. It is widely believed that the more difficult areas such as Soviet proposals on naval and air forces will be left out of an initial treaty but that some kind of agreement is now likely.

With this in mind, four treaty-drafting groups were set up in mid-February to give further impetus to the negotiations.

A1: Information exchange and verification, chaired by Austria.

A2: Communications, consultations and contacts, chaired by Switzerland.

B1: Observations and notification of exercises, chaired by Sweden.

B2: Annual calendar and constraints, chaired by Finland.

Relocation of Soviet Nuclear Test Site

Pressure from citizens of Soviet Central Asia has apparently contributed to the Soviet Government's decision to end underground nuclear testing at its principal test site in Semipalatinsk, Kazhakstan. Tests will continue at the site for about three years, after which they will take place on a remote Arctic island of Novaya Zemlya, a secondary site north-east of Norway.

General Vladimir Gerasimov of the Soviet Defence Department made the announcement in early March at a joint meeting of the Supreme Soviet committees on Defence and State Security and on Ecology. He said that the Defence Ministry was "ready to end nuclear tests by 1993" at Semipalatinsk after 27 more underground blasts. Tests have been held at the site since 1949.

The move has been made in response to residents' claims that they have been exposed to radiation frequently as a result of tests. Indeed Dr Anatoly Tsyb, Director of the Soviet Nuclear Medicine Research Institute revealed that between 1949 and 1963, when atmospheric tests took place at the site, 10,000 people received radiation doses ranging from 2-160 rems. Since 1963 all US, USSR and UK tests have taken place underground but opponents claim that the seismic impact of the tests and the discharge of radioactive inert gases to the surface remain serious problems.

An increasingly powerful movement led by Kazakh poet and legislator in the Supreme Soviet, Olzhas Suleimenov is now reported to involve hundreds of thousands of local citizens. Soviet officials have already acknowledged that 11 of 1989's planned 18 tests were cancelled because of pressure from the group.

Experts around the world have said that the move implies a reduction in the scale of nuclear testing by the Soviet Union. However, the announcement has already provoked concern in Norway, whose Foreign Minister Kjell Bondevik has said "If the information is correct, we will express our concern and do what we can to get the Soviet Union to change their plans."

Chemical Weapons Ban Within Reach

Ambassador Carl-Magnus Hyltenius, who has recently taken up the post of Chair of the 40-nation Conference on Disarmament in Geneva, believes that an international chemical weapons ban is in sight and could be reached within a year. The talks on chemical weapons have resumed in Geneva with high hopes that more progress will be made, building on the work already done on banning the production, stockpiling and use of chemical weapons. The agreement between US Secretary of State Baker and Soviet Foreign Minister Shevardnadze to destroy the bulk of their chemical weapons and reduce stocks to "equal low levels" is likely to provide further impetus to the negotiations.

Verification of a chemical weapons ban remains one of the major obstacles to an agreement. In particular, according to Mr Hyltenius, an ad hoc system of controls is necessary to fill the gap between the routine checks and the "challenge" inspections which can be made at 48 hours notice.

Praise For Soviet Treaty Compliance But Clash Over INF

At the beginning of March the Bush administration's first report to Congress on Soviet compliance with arms control treaties was generally pleased with the level of cooperation. On the Anti-Ballistic Missile Treaty (ABM), it pointed out that the Soviet Union was addressing the violations represented by the Krasnoyarsk and Gomel radar deployments, while on the Intermediate-range Nuclear Forces Treaty (INF) "the Soviet Union had admitted certain technical errors and corrected them."

Concern remained, however, over perceived violation of the 1972 Biological and Toxic Weapons Convention. The US believes that the Soviet Union is conducting an active biological weapon programme that might include "advanced biological and toxin agents of which we have little knowledge and against which the United States has no defence".

Despite this positive report, *Jane's Defence Weekly* (24/3/90) reports a clash over INF verification. According to the US State Department there have been problems over the use of x-ray equipment by US inspectors to inspect the contents of sealed missile canisters at the Votkinsk missile plant. Tension was even raised to the point of reaching for guns. The US inspectors wish to ensure the canisters contain SS-25 missiles, permitted under the treaty and not the banned SS-20. The Soviet Union does not have x-ray equipment at US plants because US missiles are not shipped in canisters.

More Funding for US Agencies To Meet Verification Costs

Three US government agencies have requested an extra \$67 million in 1991 to ensure compliance with forthcoming arms control agreements on strategic arms, conventional weapons, chemical weapons and open skies.

Responsibility for equipment, personnel and research laboratories to monitor these agreements is shared between the Department of Defense, Department of Energy and the Arms Control and Disarmament Agency. The additional funding has been requested to cover, among other such things, continued construction of the Center for National Security and Arms Control at the Sandia National Laboratories in New Mexico, the start of construction of the Foreign Technology Center at the

Lawrence Livermore Laboratory and chemical agent technology and tamper-proof tags for equipment banned under arms control treaties.

Addressing Congress on 1 March, Ronald Lehmann, Director of ACDA said that staff requirements for the verification of a strategic arms reduction treaty would be three to five times greater than for INF. The On-Site Inspection Agency estimates that a typical US INF inspection costs \$60,000 and requires ten people.

British Aerospace To Form Remote Sensing Company

Following the success of an Environmental Remote Sensing Unit (ERSU) set up in 1989 as part of the Earth Observation and Science division of British Aerospace Space Systems Ltd, British Aerospace is planning to form a separate remote sensing company later this year, reports *Space News* (5-11 March 1990). The new company will probably be called NRSC Ltd and will incorporate staff from the government-run National Remote Sensing Centre.

The unit's success has come largely as a result of its successful marketing of data from the US Landsat satellites on behalf of the US-based Earth Observation Satellite Co. The unit also buys and sells images from the French company SPOT Image. More recently the unit has carried out market surveys using images from Soviet Resurs remote sensing spacecraft.

About 15% of ERSU's sales are to clients in the UK, with the remainder going abroad, mostly to the Middle East either to clients interested in oil or mineral exploitation or to the military.

In The News

Proliferation Counters Group

The US Department of Defense has set up a new working group to assess weapons proliferation outside the superpower blocs, reports Barbara Starr (*Jane's Defence Weekly* 10/2/90). The Proliferation Counters Group (PCG), will look at such questions as whether the US has appropriate equipment and technology to counter the increasing number of nations with high-leverage, low-cost weapons such as tactical ballistic missiles (TBMs). The study will focus initially on ballistic missiles and available countermeasures but the Pentagon insists it will not be used as a justification for SDI funding.

No to French Radar Satellite

The French government has decided not to develop a radar spy satellite which, it says, would be too expensive and too dependent on unproven technology, reports *Space News* (12-18 March 1990). France will now limit itself to optical surveillance satellites throughout the 1990s. It has already earmarked \$1.3 Billion for its Helios programme, the first launch of which is due to take place in mid-1993. Defence Minister Jean-Pierre Chevenement had been urged by Senator Emmanuel Hamel to launch a radar spy satellite to ensure national independence and reliable information from remote sensing. The US is believed to have launched its own first radar spy satellite in late 1988 on board the Space Shuttle Atlantis.

US Chemical Withdrawals

The United States is to withdraw its chemical weapons from Clausen in the West German Rhineland between July and September 1990, according to West German Defence

Minister Gerhard Stoltenberg. The withdrawal, reported in *Jane's Defence Weekly* (17/3/90), will cover 400 tonnes of the agents VX and Sarin contained in over 100,000 artillery shells. The chemicals, accounting for about one per cent of the total US chemical arsenal, have been stored in West Germany for more than twenty years and will be withdrawn under West German supervision. No Warsaw Pact observers will be invited.

PTBT Amendment Conference Schedule Agreed

Parties to the Partial Test Ban Treaty have agreed a schedule for the Test Ban Treaty Amendment Conference. Organisational matters will be addressed from 29 May - 8 June and negotiations will begin on 7 January 1991. The meetings will take place in New York.

Space-Based Environment Monitoring Systems for Canada

Four Canadian provinces and their leading high-technology firms have joined forces under the name Earth Environment Space Initiative to develop means of monitoring the Canadian environment from space. Government and industry officials believe the project could lead the way in the world's remote sensing industry. The project is likely to include space-based sensors, small satellites to test the sensors, ground equipment to control the satellites and sensors and computer hardware and software to analyse satellite observations. A memorandum of understanding outlining the project was signed on February 21 1990 by the science and technology ministers of British Columbia, Alberta, Saskatchewan and Manitoba. The cost of the project's development phase, approximately US\$1.2 million, will be split between the governments of these provinces and the four participating firms: MacDonald, Dettwiler and Associates Ltd.; INTERA Technologies Ltd.; SED Systems Ltd. and Bristol Aerospace Ltd.

Remote Sensing Data Guide

Autometrics Inc. of Alexandria, Va, USA, has published the first mass-produced book with high quality images for remote sensing analysts. "The Multispectral User's Guide" comprises plates printed directly from digital data using a colour image laser. The book is aimed at defence

and academic researchers wishing to understand how to use remote sensing data. The publication is priced at \$925.

Soviet Troops to Leave Hungary

An agreement for the withdrawal of Soviet troops from Hungary was signed on 10 March with the intention of removing all such troops by mid-1991. Some Soviet tank units have already left Hungary as part of the unilateral cuts throughout Eastern Europe announced by President Gorbachev. Hungary also plans to cut its own armed forces by 1992 to 65-70% of 1988 levels.

Verification Reports

Two recent reports on aspects of verification are worthy of particular consideration. "Verifying Compliance with a Conventional Arms Accord: Considerations for the Congress", by Stanley R Sloan, Senior Specialist in International Security Policy, Research Coordination Office, is available from the Congressional Research Service at the Library of Congress, USA. "The Role of WEU in the Verification of Conventional Arms Control Agreements" by Richard Tibbals, Political Affairs Division, Secretariat General, Western European Union, presented at a seminar in The Hague (23/2/90) is available from 9 Grosvenor Place, London SW1X 7HL.

VERTIC News

The Verification Technology Information Centre Annual Report 1989 has now been published. It details VERTIC's activities and successes over the last year as well as containing reports by VERTIC's Director Dr. Patricia Lewis, and Administrator, Julie Cator. For more details contact the VERTIC office.

VERTIC has received funding from Rockefeller Brothers Fund to produce an annual Verification Report covering all developments in verification technology, experiments and negotiations over the preceding year.

The Annual Short Course on The Technologies of Arms Control Verification takes place at Imperial College, London from March 26-30 1990. Full report in next issue.

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.

Voluntary Subscriptions: The production of this bulletin entails considerable cost to VERTIC so if you would like to pay a voluntary subscription of 12 pounds for a year's issues, your contribution would be gratefully received. Thank you to those who have sent a subscription. Anyone wishing to contribute information for inclusion in "Trust and Verify" should send it to the VERTIC office.

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