A GUIDE TO VERIFICATION

for arms control and disarmament

What is verification?

Verification permits the parties to an agreement to determine whether they are all complying with their obligations. Verification is the process of gathering, compiling and interpreting information to permit a judgment to be made about whether each party is fulfilling, neglecting, or, in the worst case, cheating, on its legal undertakings.

In arms control and disarmament agreements such obligations may involve limiting the size of armed forces, giving up the use or possession of a particular type of weapon, restricting the number, type or capability of weapons retained, or ending research, testing and development of a particular type of weapon. Verification may be used for treaties that ban or limit weapons of mass destruction (nuclear, chemical and biological), conventional weapons or armed forces. Verification may be applied not only to military facilities but also to civilian industry, to ensure that technologies and materials are being used only for peaceful purposes.

Why is verification important?

Strong verification is essential for effective disarmament, especially when there is deep distrust and suspicion between the parties. By being able to confirm compliance and detect non-compliance, verification aims to deter parties that may be inclined to cheat. The better the verification system, the more likely a violator will be caught and, therefore, the greater the deterrent effect.

Good verification aims at early detection, to provide sufficient warning of a potential or actual violation, so that other parties can take action before the violation becomes militarily significant.

In addition, verification can act as a confidence-building measure by providing parties that fully intend to comply with their obligations with an agreed means to demonstrate their compliance. Verification may also help to build trust between parties by requiring them to co-operate in jointly managing a verification system or through such simple measures as exchanges of information.

'In an imperfect world, verification measures offer a bridge over the troubled waters of international mistrust. They are needed now more than ever.'

United Nations Secretary-General
Kofi A. Annan, May 2002

How much verification is enough?

The answer depends on the type of military capability being banned or limited, the likelihood that a party will try to cheat and the severity of the consequences if cheating occurs. It also depends on the level of trust that already exists between the parties. The knowledge that a strong verification system will be put in place can give states the necessary confidence to convince them to sign and begin to implement an agreement. The need for verification may decline as confidence grows.

One hundred percent verifiability is unlikely ever to be achieved. It is also unnecessary. Even low levels of verification can effectively deter a potential violator by creating uncertainty about whether cheating will be detected or not. At the very least, verification increases the costs and risks involved in any attempt to cheat.

All verification systems are the result of trade-offs between the perceived costs and benefits of verification. One inevitable trade-off is between the need for effective and sufficiently intrusive verification on the one hand and the need to protect defence and commercial secrets on the other. Another balance must be struck between the cost of verification and its effectiveness: at a certain point additional costs may provide little extra verification benefit.

How does verification work?

A verification 'system' comprises institutions, arrangements, techniques and technologies. How such elements are designed and combined will depend on the specific requirements of each treaty. In the case of agreements between two states, it may be enough for each to verify the other's compliance, using what are known as 'national technical means', such as satellites. Examples are the nuclear arms control agreements between Russia and the US.

When agreements involve multiple parties or aim at global membership, a more elaborate international organisation may be required to establish and manage a verification system. This will usually include a technical secretariat to handle the monitoring technologies and inspection arrangements, an executive council of selected member states to oversee the system and a conference of all states parties to set policy and review the operation of the treaty. Usually, such organisations are headed by a director-general.

Verification systems use a variety of techniques and technologies. These are intended to complement each other, making the system stronger than the sum of its parts. Some of the most common elements are as follows.

Declarations and data exchanges are often the first step in implementing a treaty. Typically, parties declare the numbers, location and characteristics of the weapons they possess that are to be banned or limited. Verification will seek to confirm such 'baseline' data. Most treaties provide for periodic updating or even continuous provision of data.

Remote monitoring by satellites, aircraft and other off-site technologies and techniques is used to detect treaty violations. The Comprehensive Nuclear Test Ban Treaty (CTBT) relies on four different types of remote monitoring technologies (seismological, radiological, infrasound and hydroacoustic) to detect the location and determine the size of nuclear explosions. The data from a global network of stations will be transmitted by satellite to the Comprehensive Nuclear Test Ban Treaty Organisation (CTBTO).

Inspections are one of the most valuable verification tools, as they permit direct human observation. They may be used to witness a specific event, such as a military exercise, or to monitor a site continuously, such as a chemical weapon destruction plant. On-site inspectors have a balance of rights and responsibilities. While inspected states are required to co-operate with them as fully as possible, inspectors are never permitted literally to roam 'anytime, ▸

What is the role of the United Nations?

United Nations General Assembly (UNGA), New York

May pass non-binding resolutions relating to verification and compliance. Some treaties task it with addressing compliance issues. May also pass non-binding resolutions establishing ad hoc verification arrangements, as it did for the 1925 Geneva Protocol banning the use of chemical and biological weapons.

United Nations Disarmament Commission (UNDC), New York

Composed of all United Nations (UN) member states, it meets annually to discuss and produce reports on disarmament issues. Has produced several studies on verification and agreed a set of verification principles.

Conference on Disarmament (CD), Geneva

Limited membership body mandated by UNGA to negotiate multilateral arms control and disarmament agreements, including their verification arrangements. Sometimes establishes sub-groups, like the Group of Scientific Experts for the nuclear test ban treaty negotiations, to look specifically at verification issues.

United Nations Department for Disarmament Affairs (UNDDA), New York and Geneva

As well as carrying out specific duties under various treaties, promotes and advances the study of verification through publications and conferences. Also promotes transparency and openness in military matters that are vital to effective verification. Responsible for the collation of information for UN Conventional Arms Register (www.un.org/Depts/dda).

United Nations Institute for Disarmament Research (UNIDIR), Geneva

Undertakes studies on verification and verification-related issues as part of its brief to research disarmament questions (www.unog.ch/unidir).

▸ anywhere'. They are subject to restrictions as to how, when and where they conduct their work. The number of inspections is also limited. Such safeguards help contain costs, avoid any state being unfairly targeted and permit sensitive commercial or defence-related information, irrelevant to the treaty, to be protected.

How is verification information used?

Naturally it is hoped that the information obtained through verification will confirm that all states are complying with their obligations. Information that indicates otherwise may be used to clarify ambiguities, raise concerns about suspicious activities or support a request for a challenge on-site inspection. In the most extreme case, verification data that proves that a party has been deliberately and significantly violating a treaty may be used to make a case for enforcement measures to be taken against it.

Treaties usually establish procedures and set up treaty bodies for dealing with such issues of compliance and non-compliance. Most also encourage parties to try and resolve compliance problems among themselves before resorting to more formal procedures. In the last resort a strong case of non-compliance may be taken to the highest organs of the treaty parties, usually an executive council or conference of states parties. Alternatively, or in addition, a case may be put to the United Nations (UN) Security Council, the only international body authorised to impose binding global sanctions on another country, including the use of force.

What are the main verification organisations?

Comprehensive Nuclear Test Ban Treaty Organisation (CTBTO), Vienna

Verifies the 1996 Comprehensive Nuclear Test Ban Treaty, which bans all nuclear tests (www.ctbto.org).

International Atomic Energy Agency (IAEA), Vienna

Verifies compliance with nuclear safeguards agreements required under the 1968 Nuclear Non-Proliferation Treaty (NPT), which aims to prevent the spread of nuclear weapons (www.iaea.org).

Organisation for the Prohibition of Chemical Weapons (OPCW), The Hague

Verifies the 1993 Chemical Weapons Convention (CWC), which bans the production, acquisition, stockpiling, transfer and use of chemical weapons (www.opcw.org).

United Nations Department for Disarmament Affairs (UNDDA), New York and Geneva

Tasked by some treaties with receiving compliance data, providing 'good offices' in case of compliance disputes and assisting in organising fact-finding missions (www.un.org/Depts/dda).

United Nations Monitoring, Verification and Inspection Commission (UNMOVIC), New York

Mandated by the Security Council with verifying that Iraq has no weapons of mass destruction or longer-range missile capabilities (www.un.org/Depts/unmovic). Replaced the United Nations Special Commission (UNSCOM).

What role can you play?

Building and maintaining credible verification systems depends on sustained political, technical and financial support from governments. Citizens and non-governmental organisations (NGOs) can lobby governments to provide such support. Although there are many other priorities demanding government attention, verification is vital to long-term national and global security.

Public pressure can also help ensure that governments live up to their own disarmament commitments and that they do not turn a blind eye to the violations of others. Civil society may even play a role in directly monitoring compliance. The best example is the global network of NGOs, Landmine Monitor, which helps to monitor compliance with the Ottawa Convention banning landmines. The role of civil society in verification is being enhanced by affordable commercial satellite imagery, the internet and other open sources of information.

What are the issues to watch out for?

The 1972 **Biological Weapons Convention** (BWC) still has no verification system following the collapse of negotiations in 2001 due to the opposition of the United States. Support is needed for resumed talks and new initiatives.

The CTBT has not yet entered into force but its verification system is being established. Essential countries which have not yet signed and ratified (including

China, India, Pakistan, North Korea and the US) need to be pressured to do so to ensure earliest entry into force of the treaty. Completing the verification system needs the continued political and financial support of governments.

The OPCW, after five years in operation, is experiencing managerial and financial difficulties. States should conduct a thorough review in 2003 and pay their financial contributions in full and on time.

UNMOVIC continues to be unable to fulfil its role because of the opposition of Iraq to resumed inspections on its territory. This needs to be resolved before sanctions can be lifted.

What are the primary verification resources?

The United Nations' 16 Principles of Verification, reproduced in *Trust & Verify,* Verification Research, Training and Information Centre (VERTIC), no. 90, March 2000

Verification Yearbook 2001, VERTIC, London, 2001

'Verification in all its Aspects, Including the Role of the United Nations in the Field of Verification, Report of the Secretary-General', UN document A/50/377, 22 September 1995

Verification and Compliance Handbook, UNIDIR and VERTIC, Geneva and London, 2002

Acronym Institute, London, www.acronym.org.uk

Arms Control Association, Washington, DC, www.armscontrol.org

United Nations Association of Great Britain and Northern Ireland (UNA-UK), London, www.una-uk.org

Verification Research, Training and Information Centre, London, www.vertic.org

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