

Verification Under the Chemical Weapons Convention

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18 May 2012

Prepared for: *Academic Peace Orchestra Middle East, The Middle East and Arms Control Verification Lessons Learned*, Alghero, Italy, 23–25 May 2012

Introduction

The Chemical Weapons Convention (CWC) is a *disarmament treaty*. It calls for the total elimination of all chemical weapons (CW) and related equipment and installations. It thereby also removes the weaponry from military doctrine: never under any circumstances can a party to the CWC rearms itself with CW, which includes time of war, use or threats with CW by another state, or purposes such as deterrence. Universality of the convention is therefore a major guarantor of disarmament. Verification, in addition, generates the confidence that a party should never face a major chemical threat as an instrument of war or a tool for political blackmail. In first instance, verification has two primary components:

- certifying the destruction of declared weapon stockpiles, related equipment and infrastructure (storage sites and production facilities), or the conversion of former production plants to peaceful purposes; and
- overseeing the present and future non-development and non-production of CW, which covers activities in the (civilian) chemical industry, international commerce, as well as the creation and strengthening of various types of barriers to illicit activities.

Verification thus serves to demonstrate state party compliance with the CWC provisions and simultaneously offers reassurance to other states parties.

To serve these primary goals, the CWC has established in international organisation, the Organisation for the Prohibition of Chemical Weapons (OPCW) based in The Hague, The Netherlands. The OPCW comprises all states parties. Its Technical Secretariat employs a large pool of international inspectors with expertise covering the whole spectrum from munition destruction to industry manufacture and processing of toxic chemicals. The Technical Secretariat liaises assiduously with the National Authorities, a focal point each state party must establish under terms of the convention.

The threat of chemical warfare as conceived throughout the 20th century has receded considerably. A few of the eight non-parties are widely believed to hold CW stockpiles, and about half can be expected to declare past CW activities upon ratifying or acceding to the

CWC.¹ Some of the greatest future challenges to the CWC, however, may come from opportunistic use of toxic chemicals in (internal) warfare or by terrorist and criminal entities, the targeting of industrial production and storage sites with the intent of realising toxic chemicals, the discovery of new toxicants, advances in industrial production processes, and so on. Although the General Purpose Criterion (GPC) captures any of those possible illicit activities and artifacts, the CWC's verification criteria, tools and processes will have to be adapted to continue communicating a high degree of compliance confidence.

Cornerstones of the CWC verification regime

The CWC has an elaborate and complex verification system that not only oversees CW destruction, but also covers treaty relevant activities in government entities and private enterprises.

The General Purpose Criterion and schedules of chemicals

A key element in defining the CWC's scope is the so-called general purpose criterion. Not the objects themselves, but certain purposes to which they may be employed, are prohibited. The convention thus defines CW as any toxic chemical or its precursors intended for purposes other than those not prohibited by the CWC as well as munitions, devices or equipment specifically designed to be used with them. Permitted purposes include industrial, agricultural and medical applications, research and development of protection and defence against CW, and domestic law enforcement and riot control. Lachrymator agents or herbicides, for example, are not banned as long as their production and retention are consistent with the goals of the CWC.

The general purpose criterion affords two major advantages. First, the CWC is not restricted to compounds explicitly listed in the convention. Thus, the discovery of a new potential chemical warfare agent will not undermine the CWC regime, because it will be automatically banned if it has no justifiable non-military purpose. Moreover, the research installation or production facility where the new CW agent was made can become the object of inspection under the CWC. Second, the general purpose criterion allows the international community to deal with dual-use commodities. Many of the chemicals covered by the convention have widespread civilian application. Because it becomes possible to distinguish between permitted and prohibited activities, it is not necessary to determine the intrinsic threat posed by a chemical compound.

¹ The eight non-parties are Angola, Egypt, Israel, Myanmar, North Korea, Somalia, South Sudan, and Syria.

For a number of practical purposes related to verification, the CWC categorises chemical compounds of particular concern in three schedules depending on their relative importance for the production of chemical warfare agents or for legitimate civilian manufacturing processes. Each list has different reporting requirements with respect to the monitoring of the activities of the chemical industry and the transfer of the compounds to other states. The chemicals of concern are listed in an annex to the CWC:

- *Schedule 1* contains compounds that can be used as CW or for the production of chemical agents (precursors) and that have few uses for permitted purposes. They are subject to the most stringent controls.
- *Schedule 2* includes chemicals that are key precursors to CW but which generally have greater commercial application.
- *Schedule 3* chemicals can and have been used to produce CW but are also used in large quantities for non-prohibited purposes.

The CWC also deals with the transfer of chemicals among states parties and between states parties and states that are not parties to the convention. In the past, the inability to distinguish unambiguously between chemicals used as warfare agents and those that have peaceful industrial purposes rendered any ban on their trade or transfer impractical because of the impossibility to verify the end use in the recipient state. The general purpose criterion addresses this problem. Each state party is expressly forbidden to transfer chemical weapons, directly or indirectly, to other states parties, non-states parties or sub-national entities under any circumstances.

Some states parties tend to reduce the practical scope of application of the CWC provisions to the scheduled chemicals only, pointing to the fact that most of the verification machinery explicitly refer to the three lists. In that view, the special procedure of the challenge inspection (see below) guarantees the integrity of the general purpose criterion. This position, however, ignores a state party's individual responsibility in implementing the CWC obligations and complicates the confidence in the legitimacy of the end use of transferred chemicals. Although the negotiators envisaged a simplified amendment procedure for the schedules in order to be able to adapt easily to changing circumstances, in practice political considerations have trumped the technical and scientific discussions, thus essentially leaving the schedules unaltered since entry into force.

The division of labour between the OPCW and states parties

The CWC verification system functions on both the international and national levels. Although each level has its own sets of instruments, they are interconnected and mutually reinforcing.²

² Daniel Feakes, 'Evaluating the CWC Verification System,' *Disarmament Forum*, no. 4 (2002), p. 11.

On the international level, the tools are: *declarations* to be submitted by the states parties to the Technical Secretariat, *routine inspections* conducted by inspectors of the Technical Secretariat to validate the declarations and ascertain that no illicit activities take place, and *challenge inspections* (see below). The Technical Secretariat addresses ambiguities or omissions (particularly in the area of transfers of toxic chemicals) through clarification requests. Routine inspections can also help to resolve such matters.

On the national level, they are: *implementing legislation*, *data collection* and the *National Authority*. States parties must transpose the CWC provisions into their national legislation. As the treaty disallows any activity that would assist, encourage or induce anyone to engage in any undertaking that contravenes the convention, specific legislation must be adopted to prevent any natural or legal person from undertaking any activity prohibited by the CWC on its territory or territory under its control. The CWC also requires the adoption of the principle of extraterritoriality in national legislation.

Implementation legislation must also enable the state to collect the relevant data from public and private actors in order to fulfill its reporting obligations to the Technical Secretariat. States parties submit information on activities involving toxic chemicals for prohibited purposes (i.e., past weapon programmes), as well as on legitimate activities concerning the production, processing, consumption and transfer of chemicals listed in the schedules.

States parties are also obliged to designate or establish a National Authority, which acts as a focal point between the Technical Secretariat and the government of the state party, and with other states parties. Among the National Authority's principal responsibilities are escorting OPCW inspections of relevant industrial or military sites; submitting initial and annual declarations; assisting and protecting those States Parties which are threatened by, or have suffered, chemical attack; and fostering the peaceful uses of chemistry.³

Past CW programmes

Most of the OPCW's verification activities thus far have concentrated on organising the destruction of CW and related installations. These activities included declarations of CW stockpiles, production and storage facilities, CW abandoned on the territory of another state party and old CW,⁴ and their verification by the Technical Secretariat. As a consequence of the requirement that international inspectors must be onsite at all times during destruction activities (rather than relying on remote monitoring), these types of inspections have

³ OPCW, 'National Authorities', <<http://www.opcw.org/about-opcw/member-states/national-authorities>>.

⁴ Old Chemical Weapons were produced before 1946. The CWC distinguishes between two categories of OCW. The first contains those munitions produced before 1925, which can be disposed of as toxic waste. The second groups those weapons that were produced between 1925 and 1946, but which have deteriorated to the point that they are no longer useable. These must be destroyed like any other CW, but according to time lines that may differ from those of other CW following agreement with the OPCW.

consumed most of the inspector hours and verification budget, to the detriment of the prevention of future (illicit) armament programmes.

Russia and the USA have exceeded the ultimate CWC destruction deadline of April 2012 with operations expected to continue for at least another 10 years. Libya also has ongoing destruction activities. Meanwhile the number of weapon inspectors will gradually be reduced. As a consequence of budgetary pressures on the OPCW by member states, it is unlikely that they will be replaced by inspectors with expertise in industry verification, thus leaving open the question how future verification of prevention of future armament will be effectively implemented. This matter will be one of the crucial questions to be addressed at the 2013 Review Conference.⁵

Industry verification

The CWC establishes a verification regime of the civilian chemical industry to ensure that no illegal activities take place. The activities of the chemical industry are monitored through declarations and on-site inspections. The nature of an industrial facility's obligations depends on the types and quantities of chemicals it produces, possesses, transfers and consumes. Reporting requirements, monitoring activities and routine inspections are organised around the schedules.

The CWC also places reporting requirements concerning firms that produce specific quantities of discrete organic chemicals not on any of the schedules and special requirements on firms that manufacture more than a specified amount of unscheduled discrete organic chemicals with the elements phosphorus, sulphur or fluorine.

Former CW production installations that have been converted to peaceful uses remain under a reinforced verification regime.

The number of industry inspections have been capped and the number of such inspections that a state party may expect per year are calculated according to complex formulae weighing different factors.

Since the negotiation of the CWC, industry production methods have evolved considerable, many of which could allow sizeable production of scheduled chemicals, remain below reporting thresholds specified in the treaty. The large scale research into new compounds yields new toxic chemicals, which might have potential application in future weapon design. These developments are part of ongoing discussions on how to update the CWC verification regime. Although these new chemicals fall under the general purpose criterion, most verification activities are, as noted earlier, organised around the three schedules.

⁵ For a vision on the future of the OPCW, see Note by the Director-General, Report of the Advisory Panel on Future Priorities of the Organisation for the Prohibition of Chemical Weapons, OPCW Technical Secretariat, Document S/951/2011, 25 July 2011, URL

<http://www.opcw.org/index.php?eID=dam_frontend_push&docID=15031>.

Challenge inspections

Challenge inspections are in the view of many states parties the ultimate recourse to ensure compliance. Contrary to most other inspection activities, which are organised around the three schedules, challenge inspections cover the entire scope of the general purpose criterion and can take place in both declared and undeclared facilities. Only a state party can call for a challenge inspection and it is executed by OPCW inspectors.

Until today no state has requested a challenge inspection, although the Technical Secretariat of the OPCW has organised several increasingly sophisticated trial challenge inspections. Nevertheless, its non-invocation has left doubts unchallenged as to whether the procedure can uncover treaty violations, particularly ones that involve unscheduled chemicals. Most analysts nevertheless concur that a challenge inspection could detect indicators or patterns of questionable activities.