The Organization for the Prohibition of Chemical Weapons and the IAEA: A comparative overview

Drawing upon lessons learned from the IAEA's nuclear verification system, States have given the OPCW a strong mandate

by
A. Walter Dorn
and
Ann Rolya

The long-awaited Chemical Weapons Convention (CWC) — which was endorsed in New York by the United Nations General Assembly on 30 November 1992 — was opened for signature on 13 January 1993. The actions culminated nearly a quarter century of formal discussions and negotiations.

At the signing conference in Paris, 130 states became signatories and more have joined since then, providing a promising start to the Convention. The treaty prohibits the development, production, stockpiling, transfer, and use of chemical weapons and calls for the destruction of existing stocks. To oversee its implementation, a new international organization, the Organization for the Prohibition of Chemical Weapons (OPCW), will be established when the treaty enters into force, which could be as early as January 1995. Groundwork for the OPCW is already being done by a Preparatory Commission of signatories working in The Hague, which is to be the seat of the organization.

The OPCW will be responsible for sending inspectors to chemical plants and other sites in its Member States to verify declarations and to ensure that no prohibited activities are being performed. The IAEA — as the only existing organization with a mandate for implementing an international verification system — is an important model for the structure and functioning of the OPCW. Many provisions in the CWC benefit from the lessons learned through the implementation of the IAEA's safeguards system in such matters as rights of access for inspectors, the designation of inspectors, and procedural arrangements.

Overall, the structure of the IAEA and that foreseen for the OPCW are quite similar. They both have a full-membership organ comprising all Member States, an executive/governing body with regional representation giving priority to those States with a more developed chemical or nuclear industry, respectively, and a Secretariat headed by a Director General and including inspectors who perform on-site verification activities. Both organizations are funded by Member States, in accordance with or guided by the United Nations' scale of assessments.

There are, nonetheless, several structural differences. Most notably, the IAEA is charged with a dual mission, that of promoting the contribution of nuclear energy to social and economic development and of seeking to ensure that nuclear materials and facilities which have been placed under safeguards are not diverted from peaceful uses. The OPCW is responsible for achieving a complete ban on chemical weapons and is not responsible, at least as currently envisaged, for the promotion of peaceful uses of chemistry and chemical sciences. In addition, the CWC requires all signatories to destroy any existing chemical weapons within 10 to 15 years. The IAEA carries out verification activities in connection with its Statute as well as a number of treaties. The OPCW is to operate only under the CWC, which has the distinctive feature of combining in a single instrument the general obligations of the States Parties to the Convention and the verification system designed to ensure compliance with those obligations.

As for verification systems, there are several similarities between the IAEA and OPCW. Each organization is responsible for ensuring the non-diversion and non-production of materials for nuclear or chemical weapons, respectively. Each

Mr Dorn is a doctoral candidate in Chemistry at the University of Toronto and has served as the UN representative of Science for Peace since 1983. Ms Rolya is Assistant Project Co-ordinator for the Chemical Weapons Convention Project at Parliamentarians for Global Action, 211 East 43rd Street, Suite 1604, New York, NY 10017 USA.

The OPCW and the IAEA: Summary of structures and functions

	OPCW	IAEA
Constitutional Document	Chemical Weapons Convention (CWC) to enter into force 180 days after 65th State deposits instrument of ratification, but no earlier than 2 years after opening for signature (Art. XXI) earliest possible date is 13 January 1995	Statute of the IAEA entered into force on 29 July 1957 after ratification by 18 States
Main Objectives	Achieve object and purpose of CWC (i.e., a complete ban on chemical weapons: their development, production, stockpiling, transfer and use; and the destruction of existing chemical weapons and production facilities) Ensure implementation of CWC, including its verification provisions Provide a forum for consultation and cooperation among States Parties Provide assistance and protection against the use of chemical weapons (CWC, Art. VIII.1)	Promote peaceful uses of atomic energy and ensure that assistance provided is not used in such a way as to further any military purpose; administer a safeguards system designed to verify and build confidence that nuclear materials and activities covered in safeguards agreements are and remain peaceful (IAEA Statute, Art II and III A 5)
Depositary	Secretary-General of the UN (Art. XXIII)	Government of the USA (Art. XXI.C)
Full Membership Organ	Conference of the States Parties (CSP) composed of all parties to CWC (Art. VIII.9)	General Conference (GC) composed of all IAEA Member States (Art V): totalling 114 (in 1992)
Executive/Governing Body	Executive Council (EC) 41 members, designated according to geographic distribution and significance of national chemical industries, elected by the CSP for 2-year terms. within each of the five geographic regions, a designated number shall generally "be the States Parties with the most significant national chemical industry in the region as determined by internationally reported and published data" (Art. VIII.23)	Board of Governors 35 members, elected or designated according to geographic distribution and state of nuclear advancement; 13 are designated annually by outgoing Board and 11 are elected annually by the Conference for 2-year terms (Art. VI.A)
Voting in Executive/Governing Body	2/3 majority on matters of substance Simple majority on questions of procedure (Art. VIII.29) 3/4 majority to cancel a challenge inspection (Art. IX.17)	Simple majority or 2/3 majority depending on category of questions (Art VI.E)
Secretariat	Technical Secretariat (TS) Headed by a Director-General, appointed by CSP upon recommendation of Executive Council for 4-year term, renewable once (Art. VIII.43) Inspectorate: 150-250 inspectors (estimated)	Secretariat Headed by a Director General, appointed by Board with approval of General Conference for 4-year terms (Art. VII.A) Number of staff members: 2135 (Annual Report, 1992) Dept of Safeguards: approx 200 full-time inspectors
Main Roles of the Director General	Head and chief administrative officer of the Technical Secretariat Appointment of staff Responsible to CSP and Executive Council for functioning of Technical Secretariat; organization and functioning of Scientific Advisory Board Establishment of temporary working groups of scientific experts (Art. VIII.44-45) Transmit inspection reports after challenge inspections (Art. IX.22) and inform Executive Council of possible non-compliance found during other inspections (VA.II.65)	Chief administrative officer of the Agency Appointment and direction of the staff Fulfilment of the requirements of the Board (Art VII.A-B) Transmission of inspectors' Safeguards Implementation Reports (SIR) to Board (Art XII C) May determine need for a special inspection (INFCIRC/153, para.77)
Funding (annual)	$150-250 million (estimated)	Total: $202 million (1992 regular budget, as adjusted) Safeguards: $68 million
Source of Funding	From States Parties in accordance with UN scale of assessment, adjusted by CSP to take into account differences in membership between UN and OPCW (Art. VIII.7)	From Member States in accordance with scale fixed by the Conference, guided by UN scale of assessment (Art. XIV.D) Voluntary contributions (Art XIV.G)

The OPCW and the IAEA: Summary of verification systems

	CWC Verification System	IAEA Safeguards
Legal Foundations	Chemical Weapons Convention (esp. Art. IV-X and Verification Annex (VA)) Facility agreements (model agreements to be developed)	Statute of the IAEA (esp. Art. III & XII) Non-Proliferation Treaty (esp. Art. III.1), Treaty of Tlatelolco, Treaty of Rarotonga (Art.II & IV) Safeguards Agreements and Project Agreements (modelled after INFCIRC/153 and INFCIRC/66/Rev. 2) Subsidiary Arrangements and Facility Attachments
Monitored Activities	Temporary storage and destruction of chemical weapons (Art. IV) Destruction or conversion of chemical weapons production facilities (Art. V) Production, acquisition and transfer of scheduled chemicals (Art. VI) Production of non-scheduled chemicals at other facilities (Art.VI) Alleged use of chemical weapons investigated (Art. X)	Nuclear research Fabrication of nuclear fuel Fuel enrichment Reprocessing Reactor operation Waste management (Art. XII)
Materials Subject to Inspection	Scheduled chemicals: 43 toxic chemicals (or chemical families) and precursors, covering in theory thousands of chemicals, divided into three categories: Schedule 1: those posing high risk to CWC (e.g., nerve agents) Schedule 2: those posing significant risk (e.g., thiodiglycol) Schedule 3: chemicals and precursors posing risk and generally produced in large commercial quantities (e.g., hydrogen cyanide) Unscheduled organic chemicals, especially those containing elements phosphorus, sulfur and fluorine ("PSF-chemicals") (Art. VI, Annex on Chemicals and VA)	Special fissionable material (enriched uranium, plutonium) Source material (natural and depleted uranium and thorium) Some non-nuclear materials (Art. XX and AR, 1992)
Methods of Monitoring Compliance	Declarations Data monitoring On-site inspections: — Initial (VA.III.1) — Routine/systematic (Art. IV-VI) — Challenge (Art. IX.8)	Examination of design information Material accountancy Certain operating records (Art. XII.A.3) On-site inspections: — Ad-hoc — Routine — Special (INFCIRC/153, para. 71-73)
Number of States Monitored	At least 130 (based on number of original signatories at Paris signing conference)	68 States with significant nuclear activities (110 States have safeguards agreements in force) (AR, 1992)
Types of Information Received	Declarations by States of their aggregate national data and plant sites (initial and annual declarations) Declarations of transfers (Art. VI) Other information which States may wish to provide (Art. IX)	Declarations by States Information derived from inspection activities Reports by supplying States Third party information Other information which States may wish to provide (Art. VIII)
Types of Facilities Subject to Inspection	Chemical weapons production, storage and destruction facilities Single small-scale facilities (for Schedule 1 chemical production) Dual-use chemical production, processing and consumption facilities (Art. III-VI) For challenge inspections, any facility or site is in theory liable to inspection (Art. IX)	Facilities containing materials subject to safeguards such as: Bulk material processing facilities, including reprocessing plants Separate storage facilities Research reactors and critical assemblies Power reactors Conversion plants Fuel fabrication plants Enrichment plants (AR, 1992)
Number of Facilities	Approximately 1000 for routine inspections (Schedule 1, 2 and 3 chemical facilities) Thousands for "other chemical production facilities" which may become subject to inspection 4 years after Treaty's entry into force Unlimited number of potential sites for challenge inspections	492 nuclear facilities 321 other locations (AR, 1992)
Number of Inspections (annual)	Over 2000 (estimated)	2047 (AR, 1992)

	CWC Verification System	IAEA Safeguards
Frequency of Inspections	Initial inspections: "promptly" after facility is declared (VA.III.1) Schedule 1 facilities: Subsequent inspections to be decided by Technical Secretariat and facility agreement with State Party (VA.VI.E) Schedule 2 facilities: Subsequent inspections to be decided by Technical Secretariat (but no more than two per calendar year per plant site) (VA.VII.B) Schedule 3 and "other" facilities": No more than two per year per plant site; combined number for a State Party not to exceed three + 5% of total number of sites declared, or 20 inspections (whichever is lower) (VA.VIII.B and VA.IX.B)	Dependent on the nature of activities and form of nuclear material where safeguards are applied, but shall be kept to the minimum consistent with the effective implementation of safeguards (INFCIRC/66/Rev 2/III.47 and 153, para.78, 81) Between once a year and a continuous inspection presence
Notification of Inspections	Generally: 24 hours (VA.III.17) *Initial:* 72 hours (VA.III.18) *Schedule 1:* 24 hours (VA.III.17) *Schedule 2:* 48 hours (VA.VII.30) *Schedule 3:* 120 hours (VA.VIII.25) *Other:* 120 hours (VA.IX.21) *Challenge:* 12 hours (Art. IX.15)	Dependent on nature of inspections with individual States in accordance with INFCIRC/66 and 153 *Ad hoc:* 24-48 hours *Routine:* 24 hours-1 week, but can be also be unannounced *Special:* as promptly as possible (INFCIRC/153, Para.83-84)
Decisions on Compliance	Director General informs Executive Council of possible non-compliance (VA.II.65). Executive Council shall consider "concerns regarding compliance and cases of non-compliance" (VIII.35). CSP shall "review compliance" with the Convention (VIII.20). If challenge inspection is conducted, Executive Council reviews inspection report and may "address concerns as to whether any non-compliance has occurred". (Art. IX.21-22)	Inspectorate determines anomalies and inconsistencies arising from safeguards activities and reports any non-compliance to Director General who prepares report for Board of Governors. The Board then shall call upon State(s) to remedy any non-compliance it has found to have occurred and shall report the matter to the UN Security Council and General Assembly of the United Nations (Art. XII.C)

agency also relies upon on-site inspections as a tool of verification, and each has authority to perform challenge or, in the IAEA's case, special inspections.

There are some main differences, however. Some arise from the different characteristics of chemical and nuclear sciences, their applications, and the structures of the industries based on them. In order to verify the complete elimination of an entire class of weapons, the OPCW inspections will cover a larger variety of activities and the inspections will be more intrusive than those of the IAEA. Provisions in the CWC for the notification and frequency of inspections are more detailed, reflecting the comprehensiveness of its verification system. The materials of concern cover a wider range: toxic chemicals and their precursors are placed in three categories which could potentially include thousands of chemicals. The IAEA covers specifically identified nuclear materials which are comparatively easier to detect and quantify.

Summaries of the structures, functions, and verification systems of the OPCW and IAEA appear in the accompanying tables. They show that many significant concepts and lessons from the IAEA have been used in developing the structure of the OPCW. No doubt, there will be many opportunities for mutually beneficial cooperation and liaison in the future. Both organizations have a major role to play in seeking to verify compliance with arms-control treaties and in helping build international order in the post-Cold War world. ❑

Sources and references

In preparing this overview, a number of key sources and references were used. They include:

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