

III. Chemical arms control and disarmament

JOHN HART

The Organisation for the Prohibition of Chemical Weapons (OPCW) is tasked with verifying adherence to the 1993 Chemical Weapons Convention (CWC).¹ Much of the work under the CWC in 2014 was dominated by the OPCW–United Nations Joint Mission in Syria, which included an operation to remove chemical agents from Syria by sea. The OPCW also undertook a fact-finding mission into alleged chemical weapon use, which concluded that a toxic chemical (most likely chlorine) had been used in a number of attacks (see section IV of this chapter). In support of these actions, the OPCW made concerted efforts at the 19th Conference of the States Parties (CSP) to the CWC to confirm whether Syria was in compliance with its obligations under the treaty. Over the course of the year, the OPCW also oversaw the destruction of chemical weapons in various states and carried out inspections of old or abandoned weapons sites.

In a notable development in 2014 an advisory board of the OPCW issued guidance in reaction to the continued concern about chemical agents employed for law enforcement purposes, which could theoretically serve as a means of circumventing the CWC. The OPCW also renewed its call for all states not party to the treaty regime to commit to the membership process. As of 31 December 2014, 190 states were party to the CWC; 2 states had signed but not ratified it; and 4 states had neither signed nor ratified the convention.² No state joined the CWC in 2014.

On 4 November 2014 the OPCW–The Hague Award Committee announced its first award to honour individuals or institutions that have made substantial contributions to chemical disarmament. The recipients of the inaugural award were Dr Robert J. Mathews of Australia and the Finnish Institute for the Verification of the Chemical Weapons Convention (VERIFIN).³ Each recipient was awarded a medal, a certificate of recognition and a cash prize of €45 000.⁴

¹ For a summary and other details of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention, CWC) see annex A, section I, in this volume. Documents relating to the CWC can be found on the OPCW website at <<http://www.opcw.org>>.

² Israel and Myanmar had signed but not ratified the CWC, while Angola, Egypt, North Korea and South Sudan had neither signed nor acceded to it.

³ OPCW, 'First recipients of new "OPCW–The Hague Award" announced', Press release, 4 Nov. 2014, <<https://www.opcw.org/news/article/first-recipients-of-new-opcw-the-hague-award-announced/>>.

⁴ OPCW (note 3).

Conference of the States Parties

The 19th CSP to the CWC, held in The Hague, the Netherlands, on 1–5 December 2014, approved a programme and budget for 2015 totalling €69 319 000 (of which €32 831 300 is for verification costs, while the remaining balance will go towards administrative and other costs).⁵ The 2015 budget reflects the fact that a number of the CWC regime transition issues highlighted by a 2011 Advisory Panel Report (the Ekéus Report) are being implemented. These include: (a) improved ‘knowledge management’ to retain institutional memory; (b) increasing engagement with civil society (including the chemical industry); (c) the adoption of digital-based information management systems, education and outreach activity; (d) the option to rehire former inspectors; and (e) greater and more systematic consideration of science and technology developments.⁶ The CSP also approved the adoption of the enterprise-resource-planning tool, a business management software system that is meant to complement the OPCW’s results-based budgeting to try to improve cost effectiveness and to improve clarity and efficiency in programme delivery.⁷ Among the notable side events at the CSP was the official launch of the second edition of a definitive commentary on the CWC.⁸

The CSP devoted much attention to efforts to confirm that Syria is in full compliance of its treaty obligations. In addition, the OPCW’s Executive Council continued to hold special, regular meetings devoted to Syria’s treaty implementation throughout 2014.⁹ CSP discussions, some of which

⁵ OPCW, Conference of the States Parties, 19th session, ‘Decision, programme and budget of the OPCW for 2015’, OPCW Document C-19/DEC.4, 3 Dec. 2014, para. 5(c), p. 2. The 2015 budget represents a 5% reduction from the 2014 budget. OPCW, Conference of the States Parties, 19th session, ‘Note by the Director-General, opening statement by the Director-General to the Conference of the States Parties at its Nineteenth Session’, OPCW Document C-19/DG.16, 1 Dec. 2014, para. 37, p. 5.

⁶ OPCW, ‘Note by the Director General, Report of the Advisory Panel on the future priorities of the Organisation for the Prohibition of Chemical Weapons’, OPCW Document S/951/2011, 25 July 2011. In 2014 the OPCW launched the web-based Legislative Assistance Support Tool (LAST) and the secure information exchange (SIX) system that enables direct communication between the OPCW Technical Secretariat and the states parties. The adoption of SIX is meant to encourage a complete switch to a digital data declarations-based verification system. OPCW, ‘Legislative assistance support tool, what is it?’, <<https://www.opcw.org/legislative-assistance-support-tool/what-is-it/>>; and OPCW Document C-19/DG.16 (note 5), para. 21, p. 3. On recent sampling and analysis best standards and practice, see *Analytical and Bioanalytical Chemistry* [special issue: *Analysis of Chemicals Relevant to the Chemical Weapons Convention*], vol. 406, no. 21 (Aug. 2014). On the arms control implications for the convergence of chemistry and the life sciences, see Federal Office for Civil Protection (FOCP), *Spiez Convergence 2014* (FOCP: Spiez, Oct. 2014); and FOCP, *Spiez Convergence: Report on the First Workshop 6–9 October 2014* (FOCP: Spiez, Nov. 2014).

⁷ OPCW, Conference of the States Parties, 19th session, ‘Decision, implementation of an Enterprise-Resource-Planning system and establishment of a special fund for this purpose’, OPCW Document C-19/DEC.7, 3 Dec. 2014.

⁸ Krutzsch, W., Myjer, E. and Trapp, R. (eds), *The Chemical Weapons Convention: a Commentary*, 2nd edn (Oxford University Press: Oxford, 2014).

⁹ OPCW, Documents from the Executive Council, <<http://www.opcw.org/documents-reports/executive-council/>>.

were held in closed session, included: (a) the completeness and correctness of Syria's declarations to the OPCW; (b) the appropriate response to confirmation by the OPCW that a toxic chemical (suspected to be chlorine) had been dispersed by helicopter during the Syrian conflict; and (c) a more general philosophical difference of views among some of the parties as to the balance (if any) of a cooperative versus an adversarial approach when dealing with Syrian Government officials. The case of Syria underlined the importance of the OPCW maintaining and strengthening its expertise and capacity to respond to similar challenges in future.¹⁰ In order to help support this effort, the OPCW's Director-General was authorized by the CSP to rehire inspectors until at least 2017, subject to various conditions.¹¹

Chemical agents for law enforcement purposes

Whether and how the CWC's prohibition against chemical warfare might effectively be undermined by the use of riot control agents (RCAs) or 'incapacitants' for law enforcement purposes, including for counter-terrorism and peacekeeping, remained a concern in 2014.¹² For example, it was reported in June that a South African firm, Desert Wolf, had developed a drone capable of firing pepper-spray bullets and had sold 25 units to a mining company.¹³ The drone is reportedly capable of carrying 40 000 projectiles, has a firing rate of up to 80 projectiles per minute and is equipped with thermal and high definition cameras to help identify violent rioters.¹⁴

In May 2014 the OPCW's Scientific Advisory Board, which plays an important role in identifying and explaining science and technology developments relevant to the CWC, identified 17 substances that corres-

¹⁰ In line with other United Nations-type organizations, the OPCW currently implements (with exceptions) a 7-year tenure policy for secretariat staff. Personnel holding P-level positions in the Verification and Inspectorate divisions have been subject to 7-year minimum tenure. It should also be noted that some former OPCW inspectors were involved in the Syria operations as secondments from their governments, or were employed by the World Health Organization (WHO) and the United Nations Office for Project Services (UNOPS).

¹¹ Conditions include: such individuals are to receive a 3-year contract, but must wait 1 year before receiving a 1-year follow-on contract; and the rehiring mechanism is to be used 'sparingly' and in a manner that does not result in more than 20% of the inspectors consisting of 'rehires' at any given time. OPCW, Conference of the States Parties, 19th session, 'Decision, rehiring of inspectors', OPCW Document C-19/DEC.11, 4 Dec. 2014.

¹² For a recent review of such concerns, see Crowley, M. and Dando, M., *Down the Slippery Slope? A Study of Contemporary Dual-use Chemical and Life Science Research Potentially Applicable to Incapacitating Chemical Agent Weapons*, Biochemical Security 2030 Policy Paper Series no. 8 (Bradford University: Bradford, Oct. 2014).

¹³ Watson, S., "'Riot control' drone to shoot pepper spray bullets at protesters", Infowars, 18 June 2014, <<http://www.infowars.com/riot-control-drone-to-shoot-pepper-spray-bullets-at-protesters/>>; and Kelion, L., 'African firm is selling pepper-spray bullet firing drones', BBC News, 18 June 2014, <<http://www.bbc.com/news/technology-27902634>>.

¹⁴ Gallagher, S., 'Flying Robocop is a "riot control" octocopter with guns and lasers', Ars Technica, 19 June 2014, <<http://arstechnica.com/tech-policy/2014/06/flying-robocop-is-a-riot-control-octocopter-with-guns-and-lasers/>>.

pond to the CWC definition of an RCA. The OPCW should be able to verify the presence of these chemicals during a challenge inspection or an investigation of alleged chemical weapon use. By implication, the routine declaration and verification regime should arguably also cover such chemicals accordingly.¹⁵

In November Australia called on states parties to the CWC to make their positions known on the weaponization of chemicals that act on the central nervous system, such as anaesthetics, analgesics and sedatives for law enforcement purposes; it also called for consultations, particularly among members of the OPCW's Executive Council, on whether such chemicals should be permitted for law enforcement purposes.¹⁶ The United States supported the paper and stated that it shared Australia's concern that 'an illicit chemical weapons program could be concealed under the guise of a legitimate treaty purpose, such as law enforcement'.¹⁷ The USA further noted that '[i]n this connection . . . the United States is not developing, producing, stockpiling, or using incapacitating chemical agents'.¹⁸

Universality

In March 2014 the OPCW's Director-General sent letters to the ministers of Foreign Affairs of all states not party to the CWC, urging that they commit to a process to join the treaty regime.¹⁹ The OPCW's Technical Secretariat also continued to invite officials from non-parties to various meetings and conferences connected to the implementation of the CWC.²⁰ In December the OPCW's Director-General reported that Myanmar was in the process of ratifying the CWC and that the OPCW had intensified discussions with Angola in conjunction with its accession to the UN Security Council for a two-year term from January 2015.²¹ A track 2 engagement process with Egypt and Israel to explore the modalities for CWC accession continued.²²

¹⁵ OPCW, Technical Secretariat, 'Note by the Technical Secretariat, declaration of riot control agents: advice from the Scientific Advisory Board', OPCW Document S/1177/2014, 1 May 2014. The Scientific Advisory Board is a scientific and technical advisory body, not a policy- or decision-making body. The Conference of the States Parties is the highest decision-making body, while most detailed discussions concerning treaty implementation issues are carried out by, or at the margins of, Executive Council meetings.

¹⁶ OPCW, Australia, 'Australia, weaponisation of central nervous system acting chemicals for law enforcement purposes', OPCW Document C-19/NAT.1, 14 Nov. 2014, paras. 6–7, p. 2.

¹⁷ OPCW, Conference of the States Parties, 19th session, USA, 'Statement by Under Secretary Rose E. Gottemoeller to the Nineteenth Session of the Conference of the States Parties, Organization for the Prohibition of Chemical Weapons, The Hague, Netherlands', 3 Dec. 2014, p. 3.

¹⁸ OPCW, USA, (note 17), p. 3.

¹⁹ OPCW Document C-19/DG.16 (note 5), para. 180, p. 28.

²⁰ OPCW Document C-19/DG.16 (note 5), para. 181, p. 28.

²¹ OPCW Document C-19/DG.16 (note 5), para. 34, p. 5.

²² OPCW Document C-19/DG.16 (note 5), para. 34, p. 5.

Israel stated that it had participated in five rounds of consultations at a senior, authoritative level in 2014. Convened by Finland's Under-Secretary of State for Foreign and Security Policy, Jaakko Laajava, these consultations were to discuss regional security and the conditions necessary for establishing a Middle East free from weapons of mass destruction.²³ Israel maintained that (a) such discussions must be held directly with regional partners and be based on consensus; (b) Iran and Syria have 'refrained from participating [in the Weapons of Mass Destruction-Free Zone in the Middle East process] altogether'; and (c) it supports the object and purpose of the CWC and 'remains committed to a process aimed at the establishment of a more secure and peaceful Middle East, free from conflicts, wars and all weapons of mass destruction'.²⁴

Destruction of chemical weapons

The OPCW continued its verification of the destruction or conversion for peaceful purposes of chemical weapons and chemical weapon production facilities (CWPFs) in 2014. As of 30 November 2014: (a) 61 445 tonnes of Category 1 chemical weapons had been destroyed, representing 87.2 per cent of the 70 493 tonnes declared; (b) 2032 tonnes of Category 2 chemical weapons had been declared, of which 1152 tonnes (56.7 per cent) had been destroyed; and (c) 97 CWPFs had been declared by 14 parties.²⁵ Of these declared CWPFs, 56 had been destroyed and 23 converted for non-prohibited purposes.²⁶

A total of eight states have declared chemical weapon stockpiles to the OPCW: Albania, India, Iraq, South Korea, Libya, Syria, Russia and the USA. Albania, India, South Korea, Libya and Syria have destroyed their Category 1 chemical weapon stockpiles. Albania, India, Russia and the USA have completed the destruction of their Category 2 chemical weapons. India, South Korea, Libya, Russia, Syria and the USA have completed the destruction of their Category 3 chemical weapons.²⁷ (For discussion of Iraq, Libya and Syria, see section IV of this chapter.)

²³ OPCW, Conference of the States Parties, 19th session, Israel, 'Statement, Ms. Tamar Rahamimoff-Honig, Director, Arms Control Department, Division for Strategic Affairs, Ministry of Foreign Affairs, Jerusalem, Israel', The Hague, 2 Dec. 2014, p. 5.

²⁴ OPCW, Israel, (note 23), pp. 1, 5, 6.

²⁵ OPCW Document C-19/DG.16 (note 5), para. 41, p. 6; para. 43, p. 6; and para. 67, p. 10. The CWC's Annex on Chemicals comprises 3 'schedules'. Schedule 1 chemicals consist of chemicals and their precursors judged to have few, if any, peaceful applications. Chemicals listed in schedules 2 and 3 have wider peaceful, including commercial, applications. The definition of chemical weapon categories, which is partly based on what schedule a chemical may be listed under, is given in CWC, Verification Annex, Part IV(A), para. 16.

²⁶ OPCW Document C-19/DG.16 (note 5), para. 67, p. 10.

²⁷ OPCW Document C-19/DG.16 (note 5), para. 44, p. 6.

Russia

As of 30 November Russia had destroyed 33 764 tonnes (84.5 per cent) of its Category 1 chemical weapons.²⁸ All five chemical weapon destruction facilities (CWDFs)—located at Kizner, Leonidovka, Maradykovsky, Pochep and Shchuchye—were operational in 2014.²⁹ It is scheduled to destroy the last of its chemical weapon stockpile by December 2020.³⁰

USA

As of 30 November 2014 the USA had destroyed 24 924 tonnes (89.75 per cent) of its Category 1 chemical weapons.³¹ The USA's last CWDFs are scheduled to begin operating in December 2015 (Pueblo Chemical Agent Destruction Pilot Plant) and April 2020 (Blue Grass Chemical Agent Destruction Pilot Plant), respectively.³² The USA is scheduled to complete the destruction of its chemical weapon stockpile by September 2023.³³

Old, abandoned and sea-dumped chemical weapons

In 2014 the OPCW carried out five inspections of old chemical weapon sites in five states.³⁴ The OPCW also inspected chemical weapons declared by Syria to be abandoned.³⁵

China

As of December 2014, 50 800 chemical weapons abandoned by Japan during World War II had been recovered in China, of which 37 373 were verifiably destroyed.³⁶ More than 120 operations have been carried out at more than 50 locations.³⁷ As of the end of 2013 Japan had spent approximately €1.1 billion on recovery and destruction activities in China.³⁸ Its

²⁸ OPCW Document C-19/DG.16 (note 5), para. 48, p. 7.

²⁹ OPCW Document C-19/DG.16 (note 5), para. 49, p. 7.

³⁰ OPCW Document C-19/DG.16 (note 5), para. 48, p. 7.

³¹ OPCW Document C-19/DG.16 (note 5), para. 45, p. 6.

³² OPCW Document C-19/DG.16 (note 5), para. 46, p. 7. A total of 8.5% of the original chemical weapon stockpile is located at Pueblo (sulphur mustard agent; and 4.2" mortars, 105mm projectiles and 155mm projectiles), while 1.7% of the original chemical weapon stockpile is located at Blue Grass (nerve and sulphur mustard agent; and M55/M56 rockets, 155mm projectiles and 8" projectiles). OPCW, Conference of the States Parties, 19th session, USA, 'United States chemical demilitarization program', The Hague, Dec. 2014, p. 5.

³³ OPCW Document C-19/DG.16 (note 5), para. 45, p. 6.

³⁴ The countries were Belgium, France, Italy and the UK. OPCW Document C-19/DG.16 (note 5) para. 65, p. 9.

³⁵ OPCW Document C-19/DG.16 (note 5), para. 66, p. 9.

³⁶ OPCW, Conference of the States Parties, 19th session, Japan, poster no. 1 ('Abandoned chemical weapons in China: progress in 2014'), Poster session, The Hague, 1–5 Dec. 2014.

³⁷ OPCW, Conference of the States Parties, 19th session, Japan, poster no. 5 ('5. Excavation and recovery operations'), Poster session, The Hague, 1–5 Dec. 2014.

³⁸ OPCW, Conference of the States Parties, 19th session, Japan, poster no. 6 ('6. Commitment'), Poster session, The Hague, 1–5 Dec. 2014.

2014 budget for abandoned chemical weapons (ACW) was approximately €209 million.³⁹ It is believed that an estimated 300 000–400 000 ACWs are buried at Haerbaling, Jilin province.⁴⁰

Japan has responsibility for the following: (a) overall project management, (b) excavation and recovery of ACWs, (c) procurement of the destruction system, (d) planning the requirements for destruction, and (e) operation and management of the destruction system, including technical troubleshooting.⁴¹ According to information provided by Japan, China is responsible for temporary storage of ACWs, preparation work (e.g. designing and construction of facilities), logistics (e.g. procurement of explosives, transport of ACWs and security), and coordination with stakeholders, including regional authorities.⁴²

In 2014 excavation and recovery operations were carried out at Tianjin and Dunhua, Jilin province; X-ray identification work was carried out at Tianjin and Shijiazhuang, Hebei province; and bilateral investigations were carried out at six sites: Zuzhou, Jiangsu province; Taiyuan, Shanxi province; Handan, Hebei province; Anqing, Anhui province; Shanghai, Heilongjiang province; and Hangzhou, Zhejiang province.⁴³

In December 2014 the status of mobile destruction facility (MDF) operations in China was as follows: (a) Nanjing, Jiangsu province, operations started in 2010 and were completed in 2014; (b) Shijiazhuang, Hebei province, operations started in 2012 and are currently ongoing; (c) Wuhan, Hubei province, operations were scheduled to start in December 2014; (d) Harbin, Heilongjiang province, construction of a site for MDF operations is ongoing; and (e) Guangzhou, Guangdong province, the site selection process is ongoing.⁴⁴ Excavation, recovery and destruction operations were ongoing at Haerbaling.⁴⁵ A total of 322 ACWs from 6 nearby temporary storage facilities have been consolidated at Shijiazhuang.⁴⁶ Destruction operations started at Haerbaling on 1 December 2014.⁴⁷

³⁹ OPCW, Japan, poster no. 6 (note 38).

⁴⁰ OPCW, Japan, poster no. 1 (note 36).

⁴¹ OPCW, Conference of the States Parties, 19th session, Japan, poster no. 2 ('Characteristics of ACW destruction project'), Poster session, The Hague, 1–5 Dec. 2014.

⁴² OPCW, Japan, poster no. 2 (note 41). It should be noted that this delineation of responsibility may not be fully shared by China.

⁴³ OPCW, Japan, poster no. 5 (note 37).

⁴⁴ OPCW, Japan, poster no. 1 (note 36).

⁴⁵ OPCW, Japan, poster no. 1 (note 36).

⁴⁶ OPCW, Conference of the States Parties, 19th session, Japan, poster no. 3 ('3. Destruction operations by MDF'), Poster session, The Hague, 1–5 Dec. 2014.

⁴⁷ OPCW, Conference of the States Parties, 19th session, Japan, poster no. 4 ('Operations in Haerbaling'), Poster session, The Hague, 1–5 Dec. 2014.

USA

Fieldwork at an old munitions disposal site located south of Pearl Harbor, Hawaii, by the Hawaii Military Munitions Assessment (HUMMA) drew to a close in late 2014.⁴⁸ HUMMA identified over 2500 munitions and took samples near 20 munitions. It failed to locate a number of 100-pound sulphur mustard bombs that archival research indicated should be present in the survey area. The exercise was carried out partly in response to US Public Law 109-364, which requires the Department of Defense to determine the possible environmental impact of dumped (including chemical) munitions.⁴⁹

⁴⁸ Shjegstad, S., Carton, G. and Edwards, M., 'Searching for history', TME Military Engineer Online, 2014, <<http://themilitaryengineer.com/index.php/tme-articles/tme-magazine-online/item/333-searching-for-history>>. See also Follet, G. C., 'Dredging up the past', TME Military Engineer Online, 26 June 2014, <<http://themilitaryengineer.com/index.php/tme-articles/tme-magazine-online/item/327-dredging-up-the-past>>. For information on the Hawaii Military Munitions Assessment and other sea-dumped chemical munitions-related developments, see previous volumes of SIPRI Yearbook; and US Department of Defense, Environment, Safety and Occupational Health Network and Information Exchange, 'Ordnance reef', [n.d.], <<http://www.denix.osd.mil/orh/>>.

⁴⁹ Shjegstad, Carton and Edwards (note 48).