OPCW

Technical Secretariat

Verification Division
S/869/2010
24 September 2010
ENGLISH only

NOTE BY THE DIRECTOR-GENERAL

SUMMARY OF VERIFICATION ACTIVITIES IN 2009

1. The Second Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (hereinafter "the Second Review Conference") reaffirmed the importance of factual reporting by the Technical Secretariat (hereinafter "the Secretariat") on verification results "in the interests of transparency and continued assurance of States Parties' compliance" (paragraph 9.51 of RC-2/4, dated 18 April 2008,). Accordingly, the Secretariat has prepared the attached OPCW Verification Summary for 2009, which reflects the verification work undertaken by the Secretariat in that year.

2. The summary provides valuable feedback on the Secretariat's verification activities, especially to States Parties that lack representation in The Hague. In terms of public outreach, it is consistent with the OPCW Media and Public Affairs Policy (C-I/DEC.55, dated 16 May 1997) and presents pertinent information on such work to a wider audience.

3. The summary follows a structure similar to the Verification Summary for 2007 (see document S/784/2009, dated 7 August 2009), and does not contain any confidential information.

Annex: OPCW Verification Summary for 2009

Annex

OPCW VERIFICATION SUMMARY FOR 2009

1. EXECUTIVE SUMMARY

Overview

1.1 During 2009, the Chemical Weapons Convention (hereinafter "the Convention") entered into force for the Bahamas (21 May 2009), the Dominican Republic (26 April 2009), and Iraq (12 February 2009). One new State Party—Iraq—declared possession of chemical weapons. As at 31 December 2009, there were 188 States Parties to the Convention, including five declared possessors of chemical weapons.

1.2 Eleven of the States Parties had not yet submitted their initial declarations pursuant to the Convention, and three States Parties had submitted unfinished declarations.

1.3 There were two signatory States not Party[1] and five non-signatory States,[2] for which no verification activities could be undertaken.

Verification operations

1.4 With regard to chemical weapons disarmament and non-proliferation, the Secretariat performed 388 inspections/rotations in 2009, including 180 connected to chemical weapons demilitarisation under Articles IV and V, and 208 associated with industry verification under Article VI of the Convention. The number of inspection days related to chemical weapons was 15,174 (83%), while 3,194 inspection days (17%) were allocated pursuant to Article VI of the Convention. No challenge inspection or investigation of alleged use (IAU) was requested in 2009. The Secretariat was able to meet the mandated inspection aims at all inspections carried out in 2009. No inspections registered uncertainties. Issues requiring further attention (IRFAs) were registered at 12 chemical weapons-related inspections and at nine Article VI inspections.

1.5 The Secretariat continued to verify the efforts of the States Parties with declared stockpiles of chemical weapons to meet their destruction obligations. The Secretariat verified the destruction of 9,696.505 metric tonnes (MTs) of chemical weapons at 13 chemical weapons destruction facilities (CWDFs) in India, the Russian Federation and the United States of America—the largest overall quantity of annual destruction achieved since the entry into force (EIF) of the Convention. No destruction took place in Iraq or the Libyan Arab Jamahiriya.

1.6 India completed destruction of all its declared chemical weapons on 16 March 2009, ahead of the 28 April 2009 extended deadline established by the Conference of the States Parties (hereinafter "the Conference"). In addition, the Russian Federation met

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[1] Israel and Myanmar.

[2] Angola, the Democratic People's Republic of Korea, Egypt, Somalia, and the Syrian Arab Republic.

its extended intermediate deadline for destruction of 45% of its declared stockpile of Category 1 chemical weapons.

1.7 The last remaining chemical weapons production facility (CWPF) in India, which had been converted temporarily for the purpose of chemical weapons destruction, was destroyed following completion of chemical weapons destruction in that State Party. Iraq declared five CWPFs in its initial declarations. The Secretariat performed 14 CWPF inspections in five States Parties in 2009.

1.8 Nine States Parties reported discoveries of suspected and/or confirmed old chemical weapons (OCWs)[3] in 2009. With regard to chemical weapons abandoned by Japan on the territory of China, recovery, excavation, identification, and over-packing operations continued throughout 2009, as did the preparations for their destruction. The Secretariat performed six OCW inspections in five States Parties and six abandoned chemical weapons (ACW) inspections in China.

1.9 In terms of verification pursuant to Article VI of the Convention, on-site inspections were carried out at 208 facilities and plant sites in 40 States Parties to verify declared activities at these sites. This comprised 11 Schedule 1 facilities (41% of the inspectable facilities), 42 Schedule 2 plant sites (25%), 30 Schedule 3 plant sites (7%), and 125 other chemical production facility (OCPF) plant sites (3%).

1.10 The Secretariat received notifications from 17 States Parties with regard to 36 transfers of Schedule 1 chemicals anticipated to take place in the year 2009.

1.11 In addition, declarations were received in 2009 regarding 492 transfers of Schedule 2 chemicals (involving 41 States Parties), and 1,138 transfers of Schedule 3 chemicals (involving 116 States Parties) in the preceding year.

Year-end status

1.12 The Secretariat verified the following year-end status of destruction of chemical-warfare agents at the end of the review period:

(a) A total of 40,160.204 MTs (or 56%, of the total declared chemical weapons stockpiles of 71,194.916 MTs[4]) had been destroyed.

(b) A State Party,[5] Albania, and India had completed destruction of their entire declared stockpiles of chemical weapons. Iraq, the Libyan Arab Jamahiriya, the Russian Federation, and the United States of America had yet to complete destruction.

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3 Chemical weapons produced before 1925 or chemical weapons produced between 1925 and 1946 that have deteriorated to such an extent that they can no longer be used as chemical weapons.

4 Excluding Iraq.

5 The State Party in question has requested that its name be regarded as highly protected information; therefore, for the purpose of this report, it is hereinafter referred to as “A State Party”.

(i) The Russian Federation had destroyed 45.8% and the United States of America 69.4% of their respective declared quantities of Category 1 chemical weapons.

(ii) The Libyan Arab Jamahiriya had destroyed 39% of its Category 2 chemical weapons and was still preparing for the destruction of its Category 1 and remaining Category 2 chemical weapons.

(iii) Discussions were being pursued on the destruction of declared chemical weapons in Iraq.

(c) The OPCW had certified destruction or conversion of 62 of the 70 CWPFs declared under the Convention in 10 of the 13 States Parties having declared such facilities. Five CWPFs in Iraq, two in the Libyan Arab Jamahiriya, and one in the Russian Federation had yet to be certified as destroyed or converted.

(d) Revised destruction deadlines applied to OCW stocks in Italy and to chemical weapons abandoned by Japan on the territory of China.

(e) According to declared information, 80 of the States Parties maintained at least one declarable facility pursuant to Article VI of the Convention.

Optimising the verification regime

1.13 Compared to earlier years, the Secretariat continued to increase the number of sequential Article VI inspections, and such inspections remain an important efficiency measure. Sampling and analysis (S&A) was used during nine Schedule 2 inspections in 2009. Signatures for several additional scheduled chemicals were added to the OPCW Central Analytical Database (OCAD).

1.14 Version 2.0 of the Secretariat's electronic declarations software for National Authorities (EDNA) was released in November 2009. This new release incorporates Schedule 2 and Schedule 3 declarations, as well as the option of automating aggregate national data (AND) from plant-site declarations. Thirty representatives from 21 States Parties received formal training on EDNA 2.0 in connection with the Fourteenth Session of the Conference.

1.15 The Secretariat's ability to implement its verification responsibilities effectively and efficiently continued to be adversely affected by outstanding initial declarations and by late or outstanding annual declarations from a number of States Parties. Moreover, the continued high number of transfer discrepancies complicated the task of data monitoring.

2. INSPECTIONS

Overview

2.1 During 2009, the Secretariat conducted 389 inspections/rotations, which accounted for 18,368 inspector days at 260 sites in 39 States Parties. On average, 32 inspections, equivalent to 1,530 inspector days, were carried out each month. Table 1 lists the number and types of inspections or rotations completed in 2009 and other summary statistics on inspection activities. Overall, the Secretariat carried out 3,953 inspections/rotations in 81 States Parties between the EIF of the Convention and 31 December 2009.

TABLE 1: INSPECTIONS COMPLETED IN 2009

	Inspections / Rotations	Facilities or Sites Inspected	Inspector Days
Chemical weapons-related inspections			
CWDF	131	14	13,926
CWSF[6]	23	14	699
CWPF	14	13	233
OCW	6	5	77
ACW	6	6	160
DHCW[7]	1	0[8]	79
Subtotal	180	52	15,174
Article VI inspections (chemical industry-related)			
Schedule 1	11	11	189
Schedule 2	42	42	1,022
Schedule 3	30	30	416
OCPF	125	125	1,567
Subtotal	208	208	3,194
Total	**388**	**260**	**18,368**

Distribution of inspections

2.2 The trend towards a decrease in the number of States Parties receiving Article VI inspections continued in 2009 (see Table 2). Two key determinants behind this development were a dwindling number of States Parties with uninspected Schedule 3 plant sites and OCPFs, and the use of the modified selection mechanism for OCPFs,[9] which has a strong focus on States Parties with a large number of declared OCPFs. As was the case in 2008, six States Parties—China, France, Germany, India, Japan, and the United States of America—accounted for more than 50% of the 208 industry inspections conducted during the year. China received the largest number of industry inspections, followed by the United States of America.

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6 CWSF = chemical weapons storage facility.
7 DHCW = destruction of hazardous chemical weapons.
8 Not a declared CWDF.
9 See S/641, dated 25 May 2007 and Corr.1, dated 4 June 2007.

TABLE 2: DISTRIBUTION OF ARTICLE VI INSPECTIONS

	2004	2005	2006	2007	2008	2009
No. of inspections	150	162	180	200	200	208
No. of States Parties hosting inspections	54	53	54	58	40	38
No. of States Parties accounting for 50% of the inspections	11	9	11	13	6	6

2.3 Table 3 shows the regional distribution of industry inspections during the reporting period.

TABLE 3: INDUSTRY INSPECTIONS BY REGION

Regional Group	No. of Industry Inspections	Percentage of Total
Africa	3	1%
Asia	80	38%
Eastern Europe	18	9%
Latin America and the Caribbean	10	5%
Western Europe and Other Countries	97	47%

Challenge inspections and investigations of alleged use

2.4 As in previous years, no challenge inspection was requested in 2009 and there was no request for an IAU.

2.5 The Secretariat has maintained its readiness to respond to a request for a challenge inspection at short notice. This was demonstrated by a no-notice two-day Headquarters exercise conducted in September 2009 to test the Secretariat's ability to respond to an unanticipated request for a challenge inspection. The exercise specifically tested the Secretariat's procedures governing the steps to be taken upon receipt of a request for a challenge inspection; the Secretariat's capacity to assemble a qualified inspection team at short notice; and the Secretariat's ability to ensure that the necessary equipment is ready to be transported.

2.6 Preparations were initiated for the major field exercise ASSISTEX 3, to be held in Tunisia from 11 to 15 October 2010. Over and above the delivery of assistance pursuant to Article X of the Convention, the exercise will provide an opportunity to train and test the Secretariat's ability to deploy and carry out field activities that would be required in the event of an IAU request.

2.7 In July 2009, the Director-General invited States Parties to nominate qualified experts whose particular field of expertise could be required in an IAU of chemical weapons, to be designated for the period from 2010 to 2012.[10] In response, the Secretariat received nominations for 92 individuals with expertise in forensics, toxicology, epidemiology, disaster management, or the disposal of unexploded ordnance and improvised explosive devices.

[10] Pursuant to paragraph 7 of Part XI of the Verification Annex to the Convention (hereinafter "the Verification Annex").

Training of new inspectors

2.8 Twenty-nine professionals from 19 States Parties joined the OPCW Inspectorate in 2009 and went on to complete successfully the 13-week intensive training course for new inspectors. The training programme included lectures by experts in chemical demilitarisation and industry verification, case studies, table-top exercises to ensure familiarity with on-site inspection procedures, and field training. For the first time, the trainees were able to observe a wide range of OCWs and to work on newly developed procedures for identification and assessing usability. On-the-job training is an important element of the training designed for new inspectors. In this regard, the United States of America hosted on-the-job training at one of its CWDFs in 2009. In addition, the OPCW Laboratory trained three new analytical-chemist inspectors in OPCW S&A procedures and chemical weapons analysis.

2.9 The field training was designed to improve protection skills and to provide training related to risk management in the event of toxic exposure. It involved dealing with live chemical-warfare agents and also covered OPCW health-and-safety procedures. One of the core training elements was a set of mock inspections at declared facilities, serving to expose trainees to a real inspection environment.

3. CHEMICAL WEAPONS[11]

Overview

3.1 The Secretariat verifies the destruction of chemical weapons by maintaining a continuous presence at all operating CWDFs, which allows ongoing declared activities to be monitored, either by direct physical observation or by monitoring with on-site instruments, including equipment specifically dedicated to the use of inspectors. For the purpose of verification, inspectors are granted access so that they can monitor process parameters and review relevant documentation. Furthermore, S&A allows the Secretariat to verify the type of chemical-warfare agent being destroyed. By observing the S&A of generated waste products and, where applicable, the mutilation of drained and decontaminated munitions bodies, the Secretariat can verify that declared quantities of chemical weapons have been completely destroyed. Inspections are also carried out at CWSFs to ensure that no undetected removal of chemical weapons takes place, except in accordance with the Convention.

Verification operations

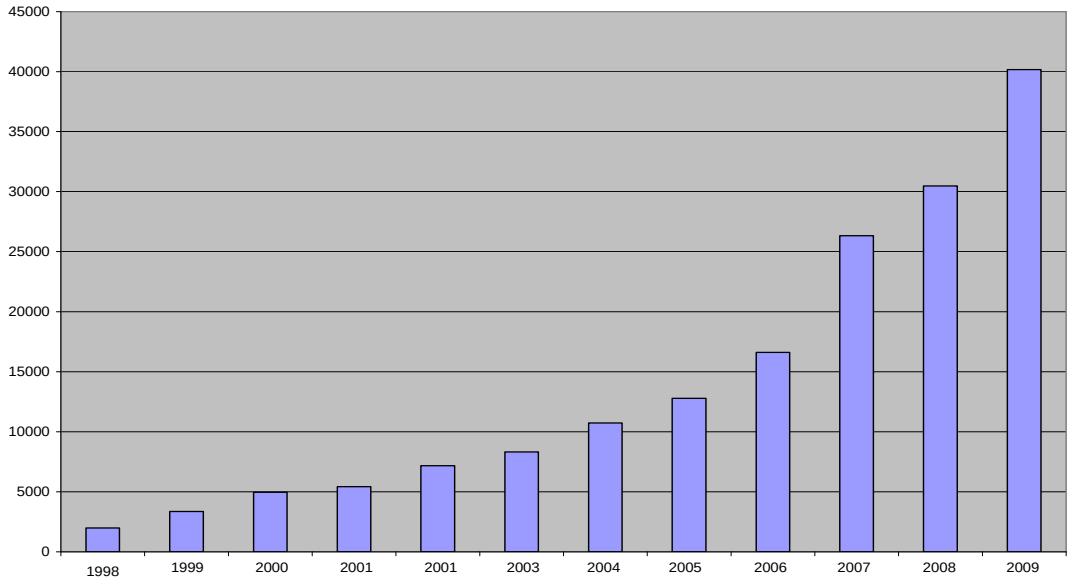
3.2 Inspections involving CWDFs and CWSFs totalled 13,995 inspector days in 2009, which included 699 inspector days (22 inspections) at CWSFs.

3.3 In 2009, 9,696.505 MTs of chemical weapons were verified as destroyed by the Secretariat. The largest overall quantity of annual destruction achieved since the EIF of the Convention, it represents a significant increase compared with 2008, when total destruction amounted to 4,137.277 MTs. On 31 December 2009, the Secretariat had verified the destruction of a total of 40,160.204 MTs of chemical weapons in A State

[11] OCWs and ACWs to which Part IV(B) of the Verification Annex applies are covered in section 5 of this report.

Party, Albania, India, the Libyan Arab Jamahiriya, the Russian Federation, and the United States of America (see Figure 1). Destruction of Category 1 chemical weapons passed 50% in 2009.

FIGURE 1: VERIFIED DESTRUCTION OF CHEMICAL WEAPONS, CUMULATIVE FROM 1998 TO 2009



3.4 In 2009, 13 CWDFs were involved in the destruction of Category 1 chemical weapons: one in India, four in the Russian Federation, and eight in the United States of America (see Table 4).

TABLE 4: CHEMICAL WEAPONS DESTRUCTION FACILITIES IN SERVICE OR UNDER CONSTRUCTION IN 2009

India
One remaining CWDF
Libyan Arab Jamahiriya
Ruwagha Chemicals Reloading System and Rabta Toxic Chemical Disposal Facility*
Russian Federation
Kambarka CWDF Leonidovka CWDF Maradykovsky CWDF Shchuchye CWDF Kizner CWDF* Pochep CWDF*
United States of America
Anniston Chemical Agent Disposal Facility Dugway Proving Ground Explosive Destruction System Newport Chemical Agent Disposal Facility Pine Bluff Explosive Destruction System Pine Bluff Chemical Agent Disposal Facility Recovered Chemical Weapons Destruction Facility Tooele Chemical Agent Disposal Facility Umatilla Chemical Agent Disposal Facility Blue Grass Chemical Agent Destruction Pilot Plant * Pueblo Chemical Agent Destruction Pilot Plant*

* Facility under construction as at the end of 2009.

3.5 The Secretariat verified the completion of destruction by India of all of its declared stockpiles of chemical weapons. The Russian Federation attained its 31 December deadline for destruction of 45% of its Category 1 chemical weapons.[12] The Conference granted a request by the Libyan Arab Jamahiriya for extension of the intermediate and final destruction deadlines for its Category 1 chemical weapons, establishing 15 May 2011 as the new deadline for completion.

3.6 Iraq became a State Party to the Convention in 2009. Its initial declaration comprised chemical weapons in a CWSF consisting of two bunkers.

3.7 Destruction operations were finalised at four CWDFs in 2009: Kambarka in the Russian Federation, NECDF and DPG-EDS in the United States of America, and the remaining CWDF in India. Consequently, the Secretariat discontinued systematic verification at these facilities.

3.8 Final inspections were also conducted at two CWSFs: the Dugway CWSF in the United States of America and the last remaining CWSF in India.

3.9 The high rate of operation in two CWDFs in the Russian Federation and two CWDFs in the United States of America contributed to the considerable increase in the overall pace of destruction in 2009. This high overall rate of destruction by States Parties was maintained in spite of the fact that other CWDFs were engaged in planned maintenance, retooling, or construction of additional units for new or ongoing destruction campaigns, or were engaged in chemical weapons treatments that were not counted as destruction. No destruction operations took place in Iraq or the Libyan Arab Jamahiriya during the review period.

Progress in meeting destruction obligations

Overall progress in meeting destruction obligations

3.10 At the end of the review period, six States Parties had declared a total of 71,194.916 MTs of chemical weapons (69,428.833 MTs in Category 1 and 1,766.083 MTs in Category 2), contained in 8,263,502 munitions and containers.[13] Approximately 56% of these chemical weapons, or a total of 40,160.204 MTs (39,244.629 MTs in Category 1 and 915.575 MTs in Category 2), had been verified as destroyed. More specifically, OPCW inspectors had verified the destruction of the following quantities of chemical weapons in these six States Parties:

(a) Category 1 chemical weapons: The Secretariat verified the destruction of 39,244.629 MTs of Category 1 chemical weapons, 38,024.667 MTs of which were unitary chemical weapons (9,696.505 MTs in 2009)—including lewisite, sarin (GB), sulfur mustard (including H, HT, and HD), and tabun (GA), VX, and Vx—contained in 3,108,110 munitions and containers (508,984 destroyed in 2009), as well as in other storage vessels that had a volume of less than $2m^3$ and in larger-volume storage tanks, from which the chemical-warfare agent

[12] C-11/DEC.14, dated 8 December 2006.
[13] Not including declarations by Iraq.

had been drained. Another 1,219.962 MTs were binary chemical weapons, which included the following: 489.416 MTs of the key binary components DF and QL, as well as 730.545 MTs of another binary component, OPA. Overall, the Secretariat verified the destruction of 785,066 binary items, including 415,108 artillery projectiles, 369,958 separately declared DF and OPA canisters, and 306 other containers for binary components.

(b) Category 2 chemical weapons: The Secretariat verified the destruction of 915.575 MTs of Category 2 chemical weapons: a-chloroacetophenone (CNS), thiodiglycol (TDG), 2-chloroethanol (2-CE), phosgene, sodium sulphide, sodium fluoride, chloroacetophenone (CN), and adamsite (DM), as well as 3,847 artillery projectiles.

(c) Category 3 chemical weapons: Prior to 2009, the Secretariat had verified the destruction of all 416,313 items of Category 3 chemical weapons declared to the OPCW.

India

3.11 According to the extension of the destruction deadline granted by the Conference in 2006, India was due to destroy all of its Category 1 chemical weapons stockpiles no later than 28 April 2009.[14] This was the first extension requested by India for the destruction of its chemical weapons.

3.12 On 16 March 2009, India completed the destruction of Category 1 chemical weapons at its second destruction facility, thus completing the destruction of all chemical weapons declared to the OPCW. (It had previously destroyed all of its Category 2 and Category 3 chemical weapons.) India became the third State Party, after A State Party and Albania, to complete the destruction of its entire stockpile of declared chemical weapons.

Iraq

3.13 Iraq's initial declaration referred to chemical weapons stored in a CWSF consisting of two bunkers. According to the declaration, the listing of chemical weapons is based on available information from the United Nations Special Commission (UNSCOM), as it was not possible for Iraq to conduct a detailed on-site inventory due to the hazardous conditions within the bunkers.

3.14 Consultations between the Secretariat and Iraq continued in 2009, with a view to clarifying some aspects related to Iraq's initial declaration that would have a bearing on the finalisation of a general plan for destruction. One such aspect is the condition of the chemical weapons stored in the CWSF declared by Iraq. Once such aspects have been clarified further, the Secretariat will be able to consider verification measures for the declared chemical weapons and their destruction.

[14] C-11/DEC.16, dated 8 December 2006.

Libyan Arab Jamahiriya

3.15 On 24 August 2009, the Libyan Arab Jamahiriya submitted a national paper[15] to the Executive Council (hereinafter "the Council") outlining the difficulties it had encountered in the preparations for the destruction of its chemical weapons stockpiles and the steps it had taken to deal with the situation. Consequently, the Libyan Arab Jamahiriya requested an extension of the intermediate and final deadlines for the destruction of its Category 1 chemical weapons stockpile.

3.16 Following the submission of further clarifications about the Libyan Arab Jamahiriya's plans for destruction, the Council recommended that the Conference grant the request for extended deadlines. The Conference, at its Fourteenth Session, established the following new intermediate and final destruction deadlines for Category 1 chemical weapons in the Libyan Arab Jamahiriya:[16]

(a) phase 1 (1%) to be completed by 1 November 2010;

(b) phase 2 (20%) to be completed by 15 December 2010;

(c) phase 3 (45%) to be completed by 31 January 2011; and

(d) final destruction to be completed by 15 May 2011.

3.17 In an earlier decision,[17] the Conference had called upon the Libyan Arab Jamahiriya to complete the destruction of its Category 2 chemical weapons as soon as possible, but in any case, not later than 31 December 2011.

3.18 No destruction activities took place in the Libyan Arab Jamahiriya during the review period. Consequently, destruction levels remained at 0% of its Category 1 chemical weapons and 39% of its Category 2 chemical weapons (246.625 MTs of sodium sulphide and 304.725 MTs of sodium fluoride). The Libyan Arab Jamahiriya has destroyed all of its declared Category 3 chemical weapons (3,563 items).

Russian Federation

3.19 The Conference established 31 December 2009 as the intermediate deadline for the destruction of 45% of the Russian Federation's declared stockpile of Category 1 chemical weapons, and 29 April 2012 as the final extended destruction deadline for Category 1 chemical weapons in this State Party.[18]

3.20 In 2009, the Secretariat verified the destruction by the Russian Federation of 6,374.397 MTs of Category 1 chemical weapons (2,183.557 MTs in 2008) at four destruction facilities, located at Kambarka, Maradykovsky, Leonidovka, and Shchuchye.

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15 EC-58/NAT.5, dated 24 August 2009 and Add.1, dated 14 October 2009.
16 C-14/DEC.3, dated 2 December 2009.
17 C-11/DEC.15, dated 8 December 2006.
18 C-11/DEC.18, dated 8 December 2006.

3.21 As at 31 December 2009, the Russian Federation had destroyed 18,320.501 MTs, or 45.84%, of its declared stockpile of Category 1 chemical weapons, thus meeting its 31 December 2009 deadline for completing the destruction of 45% of Category 1 chemical weapons. The Russian Federation has previously destroyed all of its declared Category 2 chemical weapons (10.616 MTs) and Category 3 chemical weapons (330,024 items).

United States of America

3.22 The Conference has established 29 April 2012 as the final extended destruction deadline for Category 1 chemical weapons in the United States of America.[19]

3.23 In 2009, the United States of America, using eight destruction facilities, destroyed 3,306.555 MTs of chemical weapons (compared to 1,874.817 MTs in 2008), consisting almost exclusively of sulfur mustard. As at 31 December 2009, the United States of America had destroyed 19,256.036 MTs, or 69.34%, of its declared stockpile of Category 1 chemical weapons. This State Party had also completed the destruction of the remainder of its declared Category 2 chemical weapons (0.010 MTs) and Category 3 chemical weapons (80,968 items).

4. CHEMICAL WEAPONS PRODUCTION FACILITIES

Overview

4.1 The Secretariat conducts inspections to verify progress at those CWPFs that have not yet been fully destroyed or converted for purposes not prohibited under the Convention.[20] Verification ceases once the Director-General certifies that destruction has been completed at a CWPF, whereas facilities that have been certified as converted remain subject to systematic inspections for at least 10 years.

4.2 In 2009, the Secretariat carried out 14 inspections at CWPFs in five States Parties, amounting to 233 inspection days. The Secretariat verified the completion of destruction of the last remaining CWPF in India, which had been converted temporarily for the purpose of destruction of chemical weapons. With this, India finalised the destruction of all of its declared CWPFs.

4.3 As at 31 December 2009, 70 CWPFs had been declared to the OPCW by 13 States Parties. For 62 of these, the Director-General had certified the completion of destruction or conversion. Forty-three had been destroyed. Nineteen CWPFs, in A State Party, the Russian Federation, and the United Kingdom of Great Britain and Northern Ireland, had been converted for purposes not prohibited by the Convention. The following eight CWPFs were yet to be certified as destroyed or converted:

(a) Rabta Pharmaceutical Factory 1, Libyan Arab Jamahiriya (to be converted);

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[19] C-11/DEC.17, dated 8 December 2006.

[20] See subparagraph 1(c) of Article III, and Article V of the Convention, as well as Part V of the Verification Annex.

(b) Rabta Pharmaceutical Factory 2, Libyan Arab Jamahiriya (to be converted);

(c) Facility for production of a Vx-type substance and filling it into munitions, Federal State Unitary Enterprise (FGUP) GosNIIOKhT, Novocheboksarsk, Russian Federation (to be converted);

(d) CWPF 1, Iraq (to be destroyed);

(e) CWPF 2, Iraq (to be converted);

(f) CWPF 3, Iraq (to be destroyed);

(g) CWPF 4, Iraq (to be destroyed); and

(h) CWPF 5, Iraq (to be destroyed).

Residual production capacity

4.4 The Convention provides that States Parties shall reduce residual production capacity (RPC) at their former CWPFs to zero ten years after the EIF of the Convention, that is, by 29 April 2007. The Libyan Arab Jamahiriya RPC was due to reach zero by 29 July 2008, in accordance with the approved conversion request for its remaining CWPFs. No deadline has been established for Iraq as yet. During 2007, the Libyan Arab Jamahiriya submitted a national paper to the Council, in which it informed States Parties that it expected to complete conversion of its two CWPFs after the approved date, but not later than December 2009[21] (see Table 5 below).

TABLE 5: REQUIREMENTS REGARDING RESIDUAL PRODUCTION CAPACITY

No.	Period After Entry into Force	Date	RPC
1.	End of year 5	29 April 2002	60%
2.	End of year 8	29 April 2005	20%
3.	End of year 10	29 April 2007	0%

4.5 By 29 April 2007, the zero RPC level had been reached at 61 of the 65 declared CWPFs in nine of the 12 States Parties that had declared CWPFs. By the end of 2009, the Secretariat assessed the RPC for all States Parties that had declared CWPFs and found that the remaining RPC was 9.74% for the Libyan Arab Jamahiriya[21] and 7.20% for the Russian Federation.

[21] On 28 January 2010, the OPCW received a notification from the Libyan Arab Jamahiriya, stating that conversion of the two facilities had been completed in 2009.

5. OLD AND ABANDONED CHEMICAL WEAPONS

Overview

5.1 With regard to OCWs, the Secretariat's verification work includes inspections at declared storage sites in States Parties that have declared OCW holdings in order to verify the consistency of any changes (recoveries or destruction) reported in the semi-annual declarations. The Secretariat carries out inspections to monitor ongoing activities at recovery/excavation and storage sites for ACWs. Moreover, once destruction activities are initiated with respect to chemical weapons abandoned by Japan on the territory of China, it is foreseen that such activities will also be subject to systematic verification by the Secretariat.

5.2 The OPCW has established a destruction deadline for OCWs for one State Party—Italy—which is to complete destruction by 29 April 2012. The same destruction deadline applies to chemical weapons abandoned by Japan on the territory of China.

Declared stocks

5.3 Between EIF and 31 December 2009, 13 States Parties—Australia, Austria, Belgium, Canada, France, Germany, Italy, Japan, the Russian Federation, Slovenia, the Solomon Islands, the United Kingdom of Great Britain and Northern Ireland, and the United States of America—had declared a total of 56,653 OCWs produced before 1925 (seven States Parties) and 70,824 OCWs produced between 1925 and 1946 (nine States Parties). At the end of the review period, seven States Parties had almost 38,000 OCWs stored on their territories.

5.4 As at 31 December 2009, the number of States Parties that had declared ACWs on their territories remained at three: China, Italy, and Panama. Japan had declared ACWs on the territory of China. At the end of the period under review, around 47,500 chemical weapons abandoned by Japan on the territory of China were being kept at storage sites in China.

Verification activities

5.5 During 2009, new discoveries of confirmed or suspected OCWs were declared by nine States Parties. The Secretariat conducted six OCW inspections in five States Parties in 2009. In addition, a technical visit was conducted in Australia, following an invitation from that State Party, in order to discuss OCW-related issues. Secretariat personnel visited an operating recovery site, observed recovered empty OCWs, and discussed declaration and destruction issues with regard to potential future OCW recoveries.

5.6 Six ACW inspections were conducted, each of which concerned chemical weapons abandoned by Japan on the territory of China.

5.7 With regard to Japanese ACWs in China, recovery and excavation operations continued throughout the year. The Secretariat, China, and Japan met three times in 2009 to discuss an anticipated increase in activity in 2010 and 2011, as well as the

verification measures the OPCW might take in response. Significant progress was made in the preparation of both a draft detailed plan for verification and a draft facility arrangement.

6. INDUSTRY VERIFICATION

Overview

6.1 States Parties to the Convention undertake to declare facilities and activities related to chemicals that are listed in Schedule 1, 2, and 3 of the Convention's Annex on Chemicals—as well as OCPFs that produce discrete organic chemicals (DOCs)—for purposes not prohibited by the Convention.

6.2 At the end of the review period, 5,553 facilities worldwide were declared in connection with the Article VI verification regime (see Table 6).

TABLE 6: FACILITIES DECLARED PURSUANT TO ARTICLE VI AS AT 31 DECEMBER 2009

Number of Declared Facilities Number of States Parties Having Declared Article VI Facilities					
Regime	**Schedule 1**	**Schedule 2**	**Schedule 3**	**OCPF**	**Total**
Declared	27	456	479	4,591	5,553
Declarable	27	377	471	4,582	5,457
Inspectable	27	167	434	4,400	5,028
States Parties	22	38	35	80	80

6.3 In 2009, the Secretariat verified, through on-site inspections, the declared activities at 208 Article VI facilities and plant sites. This comprised 11 Schedule 1 facilities (41% of the inspectable facilities), 42 Schedule 2 plant sites (25%), 30 Schedule 3 plant sites (7%), and 125 OCPFs (3%). These verification activities resulted in IRFAs recorded at nine inspections: two Schedule 1 inspections, five Schedule 2 inspections, and two OCPF inspections. Eight of the IRFAs were closed in 2009. No uncertainties were reported as a result of inspections conducted in 2009.

Sampling and analysis at Schedule 2 plant sites

6.4 In 2005, the Director-General announced that, beginning in September 2006, on-site S&A would be used during Schedule 2 inspections in order to provide the Secretariat with a useful tool to verify the absence of undeclared scheduled chemicals.[22] During the start-up period—from September 2006 to March 2008—S&A was carried out during 13 Schedule 2 inspections that were conducted in 13 States Parties.

6.5 Following the one-and-a-half year start-up period, the Secretariat has continued to conduct inspections using S&A on a routine basis, having carried out 29 such missions in 18 States Parties by the end of 2009. In 2009, there were nine inspections involving S&A (see Table 7).

[22] See paragraph 28 of Part VII of the Verification Annex.

TABLE 7: INSPECTIONS INVOLVING S&A

Number of Inspections with Sampling and Analysis				
2006	**2007**	**2008**	**2009**	**Total**
2	9	9	9	29

6.6 The development of a more flexible "blinded" mode was one of the key action items resulting from the lessons learned during the start-up phase. In 2009, the OPCW Laboratory concluded the work of testing and implementing this operating mode, which will enable much faster resolution of false-positive identifications while preserving the features meant to protect confidential business information. The Secretariat also completed the changes in the procedures, software, and hardware to allow the use of an auto-sampler during missions involving S&A. With the agreement of the State Party, the auto-sampler may be used 24 hours a day during inspections.

6.7 As at 31 December 2009, 75% (18 out of 24) of the States Parties with inspectable Schedule 2 plant sites had received at least one S&A mission.

Non-inspectable other chemical production facilities

6.8 In 2009, five inspections were conducted at sites that proved not to be inspectable, equal to the number recorded in 2008 and down from 13 in 2007 (see Table 8).

TABLE 8: INSPECTIONS AT SITES THAT ARE NON-INSPECTABLE

Number of Inspections at Non-inspectable Sites			
2006	**2007**	**2008**	**2009**
5	13	5	5

6.9 The causes for the five inspections at non-inspectable sites can be grouped into two categories:

(a) The failure of the States Parties concerned to update their OCPF declarations in a timely manner: two inspections were carried out in 2009 at plant sites that had ceased their production activities. The declarations covering their activities had not been updated to reflect this new state of affairs.

(b) Errors in the interpretation of the OCPF declaration requirements : there were two inspections at plant sites where the aggregate DOC production was below the declaration threshold of 200 MTs. In another case, an inspection was carried out at a plant site where only polymers were produced. Since polymers are excluded from the declaration obligations under Part IX of the Verification Annex, the plant site was found not to be declarable.

Transfers of scheduled chemicals

Transfers of scheduled chemicals between States Parties

6.10 According to the 63 notifications concerning transfers in 2009, 17 States Parties anticipated that they would be involved in 36 Schedule 1 transfers in 2009: five sending States Parties and 14 receiving States Parties. The total amount of Schedule 1 chemicals to be transferred in 2009 was 1.211 kg. Twenty-seven transfers anticipated to take place in 2009 were notified by both the sending and receiving States Parties.

6.11 The annual declarations on past activities (ADPAs) for 2008, provided by States Parties in 2009, indicate that 41 had transferred Schedule 2 chemicals in 2008 and that the total volume of this trade came to approximately 5,800 MTs. One hundred and sixteen States Parties reported in 2009 that they had transferred Schedule 3 chemicals in 2008, with the total volume of this trade amounting to approximately 308,000 MTs.

Transfers of scheduled chemicals to States not Party to the Convention

6.12 Data provided by States Parties in their ADPAs for 2008, and made available to the Secretariat as at 31 December 2009, indicated that nine States Parties had been involved in exports of Schedule 2 and 3 chemicals to five States not Party. Thionyl chloride accounted for 37% of the 2,173 MTs of the declared exports of Schedule 3 chemicals. There was one declared case of exports of Schedule 2 chemicals to a State not Party in 2008.

Optimisation of the Article VI inspection regime

6.13 During 2009, more efficient procedures were developed for the use of on-site S&A during Schedule 2 inspections. In addition, the Secretariat increased the number of sequential inspections (see Table 9). Sequential inspections are an important efficiency measure, and further efficiencies could be achieved should additional States Parties agree to the conduct of sequential inspections on their territories, particularly those with large numbers of yearly Article VI inspections. Eight of the 12 States Parties that received six or more industry inspections in 2009 have advised the Secretariat that they concur with the use of sequential inspections.

TABLE 9: SEQUENTIAL INSPECTIONS

Number of Sequential Inspections by Year						
2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
8	16	23	26	26	37	42

Secretariat support to consultations on Article VI issues

6.14 Industry-cluster consultations in 2009 covered the issues of “enhancement of OCPF declarations” and “applicable concentration limits for mixtures of chemicals containing Schedule 2A and 2A* chemicals”. The second of these issues, following

long-standing attempts to reach consensus,[23] resulted in a Conference decision in 2009,[24] establishing declaration thresholds for Schedule 2A and 2A* chemicals.

6.15 In 2008, the Director-General submitted a Note to the Council, which identified a number of recommendations that States Parties could implement on a voluntary basis. One of the recommendations, aimed at focussing inspections on the more-relevant OCPFs, was to use product-group code subcategories in order to identify sites that exclusively produce certain common bulk chemicals of low relevance to the Convention. Of the 73 States Parties that provided updates to their lists of OCPFs during 2009, 28 made use of the proposed product-group code subcategories. These 28 States Parties have 2,401, or 52%, of the declared OCPFs.

Other matters

6.16 On 25 and 26 November 2009, the Secretariat organised the Workshop on Matters Related to OCPFs, in response to the increasing interest of the States Parties in this type of inspection. Representatives from the chemical industry, experts on the OCPF regime, and representatives of the National Authorities discussed the technical features of OCPFs in connection with the declaration and verification requirements. Experts from the chemical industry referred to the impact of advances and developments in their area of expertise on the verification of such facilities. The Secretariat presented its experience and lessons learned in using the revised OCPF selection criteria and in conducting OCPF inspections.

7. OTHER VERIFICATION-RELATED ACTIVITIES

Implementation matters

7.1 This section provides information about a few ongoing matters that constitute challenges to the Secretariat's ability to effectively discharge its verification responsibilities. It is not an exhaustive list. By highlighting these subjects, the Secretariat is giving States Parties an opportunity to see how they are affected by remedial action taken by the Secretariat and States Parties, and how the challenges develop over time.

Outstanding initial declarations

7.2 Despite ongoing efforts to remind States Parties with outstanding declarations of their obligations and to provide declaration training to their representatives, a number of States Parties have still not submitted their initial declarations, as required by the Convention. The Secretariat is not able to fulfil its verification tasks with regard to these States Parties.

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[23] A decision on guidelines for low concentration limits for declaration of Schedule 2B and 3 chemicals was taken in 2000 (C-V/DEC.19, dated 19 May 2000), but did not cover Schedule 2A and 2A* chemicals.

[24] C-14/DEC.4, dated 2 December 2009.

Follow-up actions

7.3 Since the EIF of the Convention, the Secretariat has reminded States Parties of their declaration obligations through, inter alia, reminder letters, bilateral meetings, and presentations at regional and subregional meetings and workshops.

7.4 In 2007, the Council adopted a decision on the timely submission of Article VI declarations, in which it requested, inter alia, that all the States Parties concerned ensure that their Article VI declarations were submitted on time and that the Secretariat continue to inform States Parties of their reporting requirements. It also called on States Parties to inform the Secretariat of the circumstances for not meeting their reporting obligations and asked them to indicate whether they would welcome assistance from the Secretariat in order to meet these obligations.

Progress and status

7.5 Three countries became States Parties to the Convention in 2009. During the year, the Secretariat received the required initial declarations from two of these: the Bahamas and Iraq. In addition, Cambodia, the Comoros, and Lebanon submitted initial declarations pursuant to the Convention. That means that, by the end of 2009, 177 of the 188 States Parties had submitted initial declarations pursuant to Article III and/or Article VI of the Convention. This constituted a slight improvement compared with the situation one year before, when initial declarations were outstanding for 13 of the then 185 States Parties.

7.6 As at 31 December 2009, the following 11 States had not yet submitted their required initial declarations pursuant to the Convention: Barbados (due on 6 May 2007), Cape Verde (9 December 2003), the Congo (2 February 2008), Dominican Republic (26 May 2009), Guinea-Bissau (19 July 2008), Haiti (23 April 2006), Niue (20 June 2005), Timor-Leste (6 July 2003), Tonga (28 July 2003), Tuvalu (19 March 2004), and Vanuatu (15 November 2005).

7.7 In addition, two States Parties (Kiribati and the Solomon Islands) had yet to submit their initial declarations under Article VI, and one (Saint Vincent and the Grenadines) had yet to submit its chemical weapons-related initial declaration pursuant to Article III of the Convention. These States Parties' initial declarations thus remained unfinished at the end of the review period.

Outstanding or late annual declarations

7.8 In order for the OPCW to be able to continue to perform its verification tasks effectively, it is of the utmost importance that States Parties submit ADPAs and annual declarations on anticipated activities (ADAAs) in a timely manner. When planning its inspection activities, the Secretariat uses the most recent information available on file in order to determine inspectable facilities and plant sites and the relevance of these to the object and purpose of the Convention. Outdated information not only leads to erroneous site selection, but also risks increasing the rate of inspections at non-inspectable sites. Both of these scenarios result in an inefficient use of inspection resources. In addition, late submission of AND can cause transfer

discrepancies, resulting in unnecessary requests for clarification. This imposes a burden on States Parties that have submitted their AND declarations on time but then receive a request for clarification of a transfer discrepancy due to the late submission by the other State Party involved in the transfer.

Follow-up actions

7.9 The Secretariat consistently advocates that States Parties submit their ADPAs and ADAAs in full and on time, including, when applicable, nil reports, so that the Secretariat has access to up-to-date information on any facilities that are involved in declarable activities.

Progress and status

7.10 Eighty-five States Parties submitted ADPAs for 2008 during 2009. These included:

(a) fifty-five States Parties with declarable facilities or activities that met the cut-off date of 1 April 2009 (compared to 38 in the preceding year);

(b) twenty-five States Parties that submitted their ADPAs for 2008 between 2 April and 31 December 2009 (compared to 42 in the preceding year); and

(c) five States Parties that had submitted ADPAs for 2008 with no declarable facilities and activities (nil declarations) (compared to four in the preceding year).

7.11 By the end of the review period, the Secretariat had received ADAAs for 2010 from 46 States Parties. These included:

(a) thirty-six States Parties that met the deadline for submitting their required 2010 ADAAs (compared to 37 in the preceding year)—(20 States Parties for Schedule 1 chemicals and facilities, with a 3 October deadline, and 34 for Schedule 2 and 3 chemicals and facilities, with a 2 November deadline);

(b) eight States Parties that submitted their required ADAAs for 2010 after the deadline, but before 31 December 2009 (compared to seven in the preceding year); and

(c) two States Parties that reported no declarable facilities or activities (nil declarations) (compared to six in the preceding year).

7.12 The Council, in its 2007 decision on timely Article VI declarations, requested that States Parties anticipating difficulties in the timely submission of their declarations inform the Secretariat at the earliest possible date of the circumstances of such difficulties. Such information was received from some of the States Parties that submitted late declarations in 2009.

(a) Nine of the 29 States Parties that submitted at least part of their ADPAs after the deadline[25] informed the Secretariat about the circumstances of their difficulties, while the remaining 20 did not do so. Eight cited logistical difficulties as the reason for delays, and one cited a combination of difficulties with collecting data and preparing declarations.

(b) Of the nine States Parties that submitted at least part of their ADAAs after the deadline, four submitted similar information, while the remaining five did not. Three cited logistical difficulties, while one cited difficulties preparing declarations as the reason for late submission.

Transfer discrepancies

7.13 Since EIF of the Convention, discrepancies between the Schedule 2 and 3 transfer data provided by the importing States Parties and those provided by the exporting States Parties in respect of the same transfer have been of such magnitude that data monitoring for non-proliferation purposes is very difficult to achieve (approximately 76% of transfers between States Parties have discrepancies). One reason for this is that, until recently, there has been no common understanding of the meaning of the terms "import" and "export" for declaration purposes. A 2002 Conference decision[26] contained guidelines for reporting AND, but it stopped short of containing such a definition. In 2008, the Conference adopted a further decision,[27] setting out voluntary guidelines for the declaration of import and export data for Schedule 2 and 3 chemicals, with the intention of reducing the number of transfer discrepancies. This decision included a definition of the meaning of the terms "import" and "export" (albeit solely for the purposes of submitting declarations).

Follow-up actions

7.14 The Second Review Conference encouraged the Secretariat to continue efforts to resolve ambiguities and discrepancies in close consultation with the States Parties, and to provide them with appropriate assistance.[28] In this regard, the Secretariat organised seven regional and three national workshops in 2009, to provide in-depth training for customs authorities on practical ways of implementing the transfer provisions of the Convention with a view to reducing discrepancies. In addition, transfer issues and the implementation of the above-referenced voluntary guidelines were an important element of the agenda at all 2009 regional meetings of National Authorities.

Progress and status

7.15 As these voluntary guidelines were only adopted at the end of 2008 by the Conference at its Thirteenth Session, they had a very limited impact on the declarations of transfers of Schedule 2 and 3 chemicals between States Parties in 2008. As was the

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25 Excluding nil declarations.
26 C-7/DEC.14, dated 10 October 2002.
27 C-13/DEC.4, dated 3 December 2008.
28 Paragraph 9.45 of RC-2/4.

case in previous years, there were still considerable inconsistencies between the Schedule 2 and 3 transfer data provided by the importing States Parties and the data provided by the exporting States Parties in respect of the same 2008 transfers.

7.16 Based on AND declarations on exports and imports for 2008 received by the Secretariat in 2009, the equivalent of 201 Schedule 2 transfers between States Parties and 514 Schedule 3 transfers between States Parties were above the applicable declaration thresholds. Of these, 56% of Schedule 2 transfers (49% in the preceding year) and 35% of Schedule 3 transfers (34% in the preceding year) were declared by just one of the two States Parties involved.

7.17 According to the aforementioned decision of the Conference, the Secretariat is tasked with reporting back to the Council in 2011 about the progress achieved following the adoption of the voluntary export/import guidelines. The Secretariat will continue to monitor how the situation evolves in the coming years.

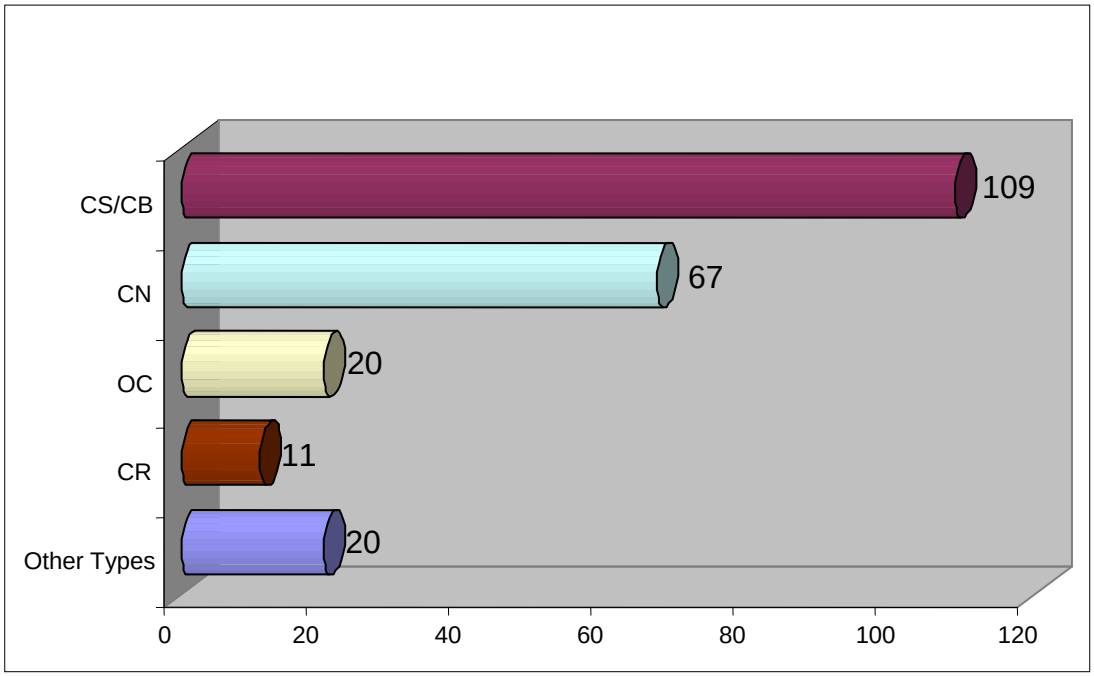
Status of required declarations

Riot control agents (RCAs)

7.18 During the period under review, four States Parties (the Bahamas, the Comoros, Lebanon, and Iraq) submitted their initial RCA declarations, while two States Parties (Portugal and the Ukraine) submitted amendments to their initial declarations providing updated information on RCAs.

7.19 As at 31 December 2009, the information on RCAs was missing from three of the 176 States Parties having submitted Article III declarations: Cambodia, Kiribati, and the United Republic of Tanzania. Of the 173 States Parties that provided information on their RCAs, 128 had declared possession of RCAs, while 45 States Parties had declared that they did not possess RCAs. Fifteen of the 125 States Parties that declared possession of RCAs had yet to provide other information required under subparagraph l(e) of Article III of the Convention (namely, the chemical name of the RCAs, their structural formulas, and CAS registry numbers, if assigned).

FIGURE 2: NUMBER OF STATES PARTIES HAVING DECLARED RIOT CONTROL AGENTS—BY TYPE OF AGENT[29]



Other facilities primarily for the development of chemical weapons

7.20 As at 31 December 2009, 30 other facilities primarily for the development of chemical weapons had been declared by 11 States Parties. This included 16 proving-and-testing grounds and 14 laboratories and research-and-defence establishments. At the end of the period under review, four such facilities were being used as research centres or laboratories for defence and protective purposes, or for the destruction of OCWs.

Handling of declarations

Clarification of declarations

7.21 In 2009, the Secretariat issued 81 requests for clarification (RFCs) with regard to transfer discrepancies and 152 reconciliation letters to ensure that the information held by the Secretariat on declared Schedule 2 and 3 facilities and OCPFs was up to date. It also issued two RFCs concerning inspectability-related issues and 51 other RFCs and reminder letters related to Article VI. In addition to the RFCs relating to Article VI, the Secretariat issued a smaller number of RFCs related to chemical weapons.

[29] Legend for riot control agents and CAS registry numbers:
CS/CB = 2698-41-1: (2-chlorophenyl)-methylene propanedinitrile
CN = 532-27-4: 2-chloro-l-phenyl-ethanone
OC = 404-86-4: N-[(4-hydroxy-3-methoxyphenyl)methyl]-6E-8-methyl-nonenamide
CR = 257-07-8: Dibenz-(b,f)-1,4-oxazephine

Processing of declarations

7.22 In 2009, the Secretariat received 985 declarations and other verification-related documents, comprising 19,004 pages, from States Parties. The majority of the pages that were received continued to be classified: 146 documents (8,441 pages) were classified as "OPCW Highly Protected", 95 (4,188 pages) as "OPCW Protected", and 155 (3,491 pages) as "OPCW Restricted". All the steps required for the processing of these documents—that is, the registration, classification-marking, database input, scanning, indexing, photocopying, document control, and checking, along with the evaluation of the verification-related information in the documents—continued to require substantial resources in order to ensure continuing compliance with the requirements of the OPCW confidentiality regime.

7.23 In accordance with the Convention,[30] the Secretariat provided redacted information on ADPAs for 2008 and on ADAAs for 2009 to a number of States Parties. Providing such information on CD-ROM rather than hard copy could lead to a substantial reduction of the Secretariat's workload with regard to the dissemination of information. Forty-four States Parties received declarations-related information in hard copy in 2009, while 17 requested at least part of this information on CD-ROM. Almost 140,000 pages from declarations containing information classified up to and including "OPCW Highly Protected" were provided to these States Parties in 2009.

Electronic declarations

7.24 The use of electronic declarations by States Parties greatly facilitates the processing of declarations. It is therefore welcome that 21 States Parties provided their original ADPAs for 2008, either solely or additionally, in electronic format (compared to seven States Parties in 2008), and seven States Parties submitted their original ADAAs for 2010 in electronic format (compared to seven in 2008).

7.25 In 2008, the Secretariat made the EDNA (the electronic declarations tool for National Authorities) available. EDNA version 1.0 enabled the annual declarations of OCPF and AND to be prepared and submitted in electronic format. EDNA version 2.0 was released in November 2009. This new release incorporates Schedule 2 and Schedule 3 declarations, as well as the option of automating AND data from plant-site declarations. There has been great interest in the EDNA amongst States Parties, which is reflected by the interest shown in informal demonstrations of the EDNA during the 2009 Annual Meeting of National Authorities, as well as by the fact that 30 representatives from 21 States Parties received formal training related to its use during the Fourteenth Session of the Conference.

7.26 The release of EDNA version 1.0 clearly led to an increased number of States Parties providing declarations electronically. It is expected that this positive trend will continue with the release of EDNA 2.0. Moreover, since the EDNA provides users with a series of data-validation warnings as data entry takes place, its expanded use should reduce the need for the Secretariat to issue requests for clarification from States Parties.

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[30] See subparagraph 2(b)(i) of the Confidentiality Annex to the Convention.

8. TECHNICAL SUPPORT FOR VERIFICATION ACTIVITIES

OPCW Laboratory accreditation

8.1 On 3 November 2009, the Dutch Accreditation Council, the *Raad voor Accreditatie* (RVA), conducted its annual surveillance assessment of the OPCW Laboratory. One non-conformity was noted, which the Secretariat addressed within the required timeframe. The Laboratory also received two internal audits by the Office of Internal Oversight (OIO) in 2009, as part of the OPCW quality-management system (QMS). All non-conformities and other observations had been addressed by the end of the reporting period.

Official OPCW Proficiency Tests

8.2 In 2009, the Secretariat completed the Twenty-Fourth and Twenty-Fifth Official OPCW Proficiency Tests. It also started the Twenty-Sixth Test, which will be completed in 2010. Particulars of those tests are provided in Table 10.

TABLE 10: SUMMARY OF THE TWENTY-FOURTH, TWENTY-FIFTH, AND TWENTY-SIXTH OFFICIAL OPCW PROFICIENCY TESTS

	Twenty-Fourth Proficiency Test	Twenty-Fifth Proficiency Test	Twenty-Sixth Proficiency Test
Sample preparation	OPCW Laboratory	Spiez Laboratory, Switzerland	TNO, the Netherlands
Evaluation of results	Lawrence Livermore National Laboratory, Forensic Science Center, United States of America	Centre d'Etudes du Bouchet (CEB), France	VERTOX, India
Number of nominations[31]	27	18	22
Results	12 As, 2 Bs, 3 Cs, 1 D, 1 trial test, 5 failures, 3 withdrawn	5 As, 2 Bs,4 Cs, 4 Ds, 1 failure, 2 withdrawn	Will be made available in 2010

8.3 Sample delivery to participants in the proficiency test improved in 2009 as a result of continuous sample tracking through the courier agency involved. In addition, the courier agency contacted the participating laboratories prior to sample dispatch to confirm contact details.

8.4 One previously designated laboratory (in the Czech Republic) chose not to participate in testing in 2009 and was therefore removed from the list of designated laboratories. At the end of the review period, there were 19 OPCW-designated laboratories from 16 countries, including two temporarily suspended laboratories. China, India, and the United States of America each have two designated laboratories (see attachment).

[31] Including sample preparation/evaluation laboratories.

OPCW Central Analytical Database

8.5 The Validation Group met on two occasions in 2009 and recommended the inclusion of 698 new spectra in the OCAD. The Council subsequently approved 448 new spectra, which were incorporated into the new version of the OCAD (V.12_2009). The new version was certified by the OIO and released in December 2009. The contents of the OCAD approved by the Council by the end of 2009 are reflected in Table 11.

TABLE 11: CONTENTS OF THE OPCW CENTRAL ANALYTICAL DATABASE

Number of Analytical Data in the OCAD (Status at the End of Each Year)									
	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
MS [32]	1495	2138	2824	3372	3476	3571	3742	3940	4183
IR[33]	670	670	713	811	859	903	921	925	936
NMR[34]	1255	1305	1389	1389	1389	1389	1389	1391	1391
GC(RI)[35]	2011	2598	3482	4244	4250	4356	4370	4616	4832

8.6 Problems related to chemicals that were declared but not contained in the OCAD were addressed. Specific spectra were sought from designated laboratories, and the OPCW Laboratory measured the retention indexes and mass spectra for a number of additional scheduled chemicals that were specifically related to declared facilities.

OPCW Laboratory support for sampling and analysis for verification purposes

8.7 The OPCW Laboratory continued to support inspection teams in S&A-related verification activities by providing extracts from the OCAD in hard copy and in electronic form to inspection teams for the conduct of on-site inspection activities. All such hard copy and electronic data are provided with OIO certificates of authenticity.

8.8 The Laboratory calibrated, prepared, and launched the gas chromatography-mass spectrometry (GC-MS) instruments for 10 S&A missions in 2009. In each case, the instrumentation was fully certified by the OIO.

8.9 Assistance and support were provided to the analytical-chemist inspectors in preparation for Schedule 2 inspections involving S&A. This included acquiring the chemicals needed to emulate process streams and consultations on the methods used for analysing the results.

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32 MS = mass spectrometry.
33 IR = infrared.
34 NMR = nuclear magnetic resonance spectrometry.
35 GC(RI) = gas chromatography-retention indices.

Approved equipment

8.10 Equipment-replacement plans were updated and implemented. Two new GC-MS systems were purchased. Old GC-MS systems are retained at the OPCW Laboratory for the purpose of inspector training.

Training

Training of inspectors

8.11 The OPCW Laboratory prepared samples for 10 certification exercises for new inspectors, who are analytical chemists, and prepared samples and instruments for a two-week training course in Wassenaar, the Netherlands.

Training provided to States Parties

8.12 In 2008, the Secretariat hosted Laboratory-familiarisation visits by five States Parties. Interns were received from two States Parties.

Attachment

LIST OF DESIGNATED OPCW LABORATORIES[36]

No.	State Party	Laboratory Name and Address	Laboratory Contact	Date of Designation
1.	Belgium	Defence Laboratories Department (DLD) Kwartier Majoor Housiau Martelarenstraat 181 B-1800 Vilvoorde (Peutie)	Mr Kris Geukens Tel: +32 2755 5816 +32 4688 63177 Fax: +32 2755 5808 Kris.geukens@mil.be	12 May 2004
2.	China	The Laboratory of Analytical Chemistry Research Institute of Chemical Defence P.O. Box 1043 Yangfang Town, Changping District, Beijing 102205	Ms Liu Shilei Ms Zhang Chunhong Tel: +86 106 976 0259 +86 136 6128 8823 Fax: +86 106 976 5318 ricdlacl@public.bta.net.cn	17 November 1998
3.	China	Laboratory of Toxicant Analysis Academy of Military Medical Sciences Institute of Pharmacology & Toxicology, Beijing 100850	Mr Jianwei Xie Tel: +86 106 822 5893 +86 136 213 45667 Fax: +86 106 822 5893 Xiejw1964@yahoo.com.cn AMMSLTA@gmail.com	14 September 2007
4.	Finland	Finnish Institute for Verification of the Chemical Weapons Convention (VERIFIN) P.O. Box 55 A.I. Virtasen aukio 1 FIN-00014	Mr Martin Söderström Tel: +35 89 191 50438 Fax: +35 89 191 50437 Martin.soderstrom@helsinki.fi	17 November 1998
5.	France	DGA - Centre d'Etudes du Bouchet (CEB) 5 rue Lavoisier P.O. Box 3 F-91710 Vert le Petit	Ms Anne Bossée Tel: +33 1 69908421 Fax: +33 1 64935266 Anne.bossee@dga.defense.gouv.fr	29 June 1999
6.	Germany	Bundeswehr Research Institute for Protective Technologies and NBC Protection (WIS-120) P.O. Box 11 42 29623 Munster Humboldstrasse 1 29633 Munster	Mr Damian Mageria Tel: +49 5192 136 201 Fax: +49 5192 136 355 Damianmagiera@bwb.org	29 June 1999

[36] An asterisk (*) next to the name of a laboratory means that its status as an OPCW-designated laboratory remained suspended as at the end of the reporting period because of its performance in a recent official OPCW Proficiency Test. These laboratories will not be considered for receipt of samples taken for off-site analysis until they perform satisfactorily in future OPCW Proficiency Tests.

No.	State Party	Laboratory Name and Address	Laboratory Contact	Date of Designation
7.	India	Defence Research & Development Establishment VERTOX Laboratory Jhansi Road Gwalior 474002	Mr D.K. Dubey Tel: +91 751 2233488 Fax: +91 751 2341148 dkdubey@rediffmail.com	18 April 2006
8.	India	Centre for Analysis of Chemical Toxins (CACT) Indian Institute of Chemical Technology (IICT) Tarnaka, Hyderabad 500 607	Mr R. Srinivas Mr J.S. Yadav Tel: +91 40 27193482 Fax: +91 40 27193156 srini@iict.res.in sragampeta@yahoo.co.in	4 September 2008
9.	Netherlands	TNO Defence, Security and Safety Lange Kleiweg 137 NL-2288 GJ Rijswijk	Ms Marieke van Deursen Ms Helma Spruit Tel: +31 15 284 3831 Fax: +31 15 284 3991 Marieke.vandeursen@tno.nl Helma.spruit@tno.nl	17 November 1998
10.	Poland	Laboratory for Chemical Weapons Convention Verification Military Institute of Chemistry and Radiometry* a1. Antoniego Chrusciela 105 PL-00-910 Warsaw	Mr Maksymilian Stela Tel: +48 22 516 9931 Fax: +48 22 673 5180 m.stela@wishir.waw.pl	29 June 1999
11.	Republic of Korea	Chemical Analysis Laboratory, CB Department Agency for Defence Development* 179-1 Su-Nam Dong Yuseong, Taejon 305-600	Mr Deasik Hong Tel: +82 42 821 4670 Fax: +82 42 821 2391 deasikhon@hanmail.et hpark@add.re.kr	17 November 1998
12.	Russian Federation	The Laboratory for the Chemical and Analytical Control of the Military Research Centre Brigadirsky pereulok, 13 105005 Moscow	Mr I. Rybalchenko Tel: +7 495 267 5107 Fax: +7 495 693 3857 riv@lumex.ru rivrus@mail.ru	4 August 2000
13.	Singapore	Verification Laboratory DSO National Laboratories Block 6, 11 Stockport Road Singapore 117605	Ms Sng Mui Tiang Ms Chua Hoe Chee Tel: +65 6871 2901 Fax: +65 6872 6219 smutian@dso.org.sg	14 April 2003

No.	State Party	Laboratory Name and Address	Laboratory Contact	Date of Designation
14.	Spain	Laboratorio de Verificación de Armas Químicas Fábrica Nacional "La Marañosa" Carretera San Martin de la Vega. Km. 10.5 San Martin de la Vega Madrid 28330	Mr Juan Carlos Fernández Tel: +34 91 8098591 Fax: +34 91 8098571 jcfernandez@oc.mde.es aferlop@oc.mde.es	16 August 2004
15.	Sweden	Swedish Defence Research Agency (FOI) Division of CBRN Defence Cementvägen 20 SE-901 82 Umeå	Mr Martin Nygren Tel: +46 90 106808 Fax: +46 90 106800 Martin.nygren@foi.se	17 November 1998
16.	Switzerland	Spiez Laboratory CH 3700 Spiez	Mr Peter Siegenthaler Tel: +41 33 228 1730 Fax: +41 33 228 1402 Peter.siegenthaler@ babs.admin.ch	17 November 1998
17.	United Kingdom	Defence Science and Technology Laboratory (Dstl) Porton Down Salisbury, Wiltshire SP4 0JQ	Mr James Riches Mr Robert Read Tel: +44 1980 61 3986 Fax: +44 1980 61 3830 Jriche_s@dstl.gov.uk rwread@dstl.gov.uk	29 June 1999
18.	United States	Edgewood Chemical and Biological Forensic Analytical Center RDCB-DRC-F, Bldg. E5100 5183 Blackhawk Road Aberdeen Proving Ground MD 21010-5424	Mr Lynn D. Hoffland Mr Stanley Ostazeski Tel: +1 410 436 8600 Fax: +1 410 436 3384 Lynn.hoffland@us.army.mil Stanley.ostazeski@us.army.mil	29 June 1999
19.	United States	Forensic Science Center L-091, Lawrence Livermore National Laboratory 7000 East Avenue Livermore, CA 94550-9234	Mr Armando Alcaraz Tel: + 1 925 423 6889 Fax: + 1 925 423 9014 alcarazl@llnl.gov	29 June 1999

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