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Verification Division  
S/963/2011  
22 September 2011  
Original: ENGLISH

### **NOTE BY THE DIRECTOR-GENERAL**

#### **SUMMARY OF VERIFICATION ACTIVITIES IN 2010**

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 2010, 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 previous years’ verification summaries, and does not contain any confidential information.

Annex:        OPCW Verification Summary for 2010



## Annex

### OPCW VERIFICATION SUMMARY FOR 2010

#### 1. EXECUTIVE SUMMARY

##### Overview

- 1.1 No additional States became party to the Chemical Weapons Convention (hereinafter “the Convention”) in 2010. Consequently, by the end of the year, 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<sup>1</sup> and five non-signatory States,<sup>2</sup> for which no verification activities could be undertaken.

##### Verification operations

- 1.4 With regard to chemical weapons disarmament and non-proliferation, the Secretariat performed 398 inspections/rotations in 2010, including 190 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 15,220 (82%), while 3,292 inspection days (18%) were allocated pursuant to Article VI of the Convention. No challenge inspection or investigation of alleged use (IAU) was requested in 2010. The Secretariat was able to meet the mandated inspection aims at all inspections carried out in 2010. No inspections registered uncertainties. Issues requiring further attention (IRFAs) were registered at four chemical weapons-related inspections and at 10 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 4,914.971 metric tonnes (MTs) of chemical weapons at 11 chemical weapons destruction facilities (CWDFs) in the Libyan Arab Jamahiriya, the Russian Federation, and the United States of America, compared with 9,696.505 in 2009. No destruction took place in Iraq.
- 1.6 The Libyan Arab Jamahiriya began destroying Category 1 chemical weapons at the Ruwagha Chemical Reloading System and Rabta Toxic Chemical Disposal Facility (RCRS-RTCDF), meeting its deadlines for 1% and 20% destruction and reaching 22% destruction by the end of the year.

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<sup>1</sup> Israel and Myanmar.

<sup>2</sup> Angola, the Democratic People’s Republic of Korea, Egypt, Somalia, and the Syrian Arab Republic.

- 1.7 The Secretariat certified conversion of the last two chemical weapons production facilities (CWPFs) declared by the Libyan Arab Jamahiriya. The Secretariat performed 10 CWPF inspections in three States Parties in 2010.
- 1.8 Nine States Parties reported discoveries of suspected and/or confirmed old chemical weapons (OCWs) in 2010. Two States Parties—France and Poland—declared OCWs produced between 1925 and 1946 for the first time. Between entry into force of the Convention and 31 December 2010, 14 States Parties had declared some type of OCWs: seven had declared pre-1925 OCWs that had deteriorated to such an extent that they cannot be used as chemical weapons, while 11 had declared OCWs produced between 1925 and 1946. The Secretariat performed nine OCW inspections in nine States Parties in 2010.
- 1.9 With regard to chemical weapons abandoned by Japan on the territory of China, the first CWDF became operational in October 2010. It is a mobile destruction facility that will initially be deployed in Nanjing City, Jiangsu Province, China. According to the 90-day reports submitted by both China and Japan, 9,229 chemical weapons were destroyed using the CWDF in 2010. Preparations were under way, at the end of the year, for the introduction of additional destruction facilities. In parallel with the destruction operations, recovery, excavation, identification, and over-packing operations continued throughout 2010. The Secretariat performed six inspections related to Japanese abandoned chemical weapons (ACWs) in China.
- 1.10 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%).
- 1.11 The Secretariat received notifications from 15 States Parties with regard to 36 transfers of Schedule 1 chemicals anticipated to take place in the year 2010.
- 1.12 In addition, declarations were received in 2010 indicating exports of Schedule 2 chemicals by 50 States Parties and exports of Schedule 3 chemicals by 123 States Parties during the preceding year.

### **Year-end status**

- 1.13 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 45,075.175 MTs (or 63%, of the total declared chemical weapons stockpiles of 71,194.804 MTs<sup>3</sup>) had been destroyed.

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<sup>3</sup>

Excluding Iraq.

- (b) A State Party,<sup>4</sup> 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.
- (i) The Russian Federation had destroyed 49% and the United States of America 83% of their respective declared quantities of Category 1 chemical weapons.
- (ii) The Libyan Arab Jamahiriya had destroyed 22% of its Category 1 chemical weapons and 39% of its 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 64 of the 70 CWPFs declared under the Convention in 11 of the 13 States Parties having declared such facilities. Five CWPFs in Iraq and one in the Russian Federation had yet to be certified as destroyed or converted.
- (d) Destruction deadlines applied to declared OCWs produced between 1925 and 1946 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**

- 1.14 The Secretariat continued to maintain a high level 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 2010. Signatures for several additional scheduled chemicals were added to the OPCW Central Analytical Database (OCAD).
- 1.15 A total of 68 representatives from 58 States Parties were given training on the use of the Secretariat's electronic declarations software for National Authorities (EDNA) in 2010. Thirty States Parties used the option to submit their annual declarations on past activities (ADPAs) for the year 2010 in electronic format. Declarations submitted in electronic form encompassed 88% of all declared facilities.
- 1.16 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.

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<sup>4</sup> 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".

- 1.17 In 2010, the Secretariat issued a document<sup>5</sup> highlighting the possible existence of non-declared facilities that should be declared to the OPCW. This situation applies to States Parties that are currently declaring some facilities, as well as to States Parties that have indicated that they are not aware of any declarable facilities on their territories. The Secretariat has approached some of those States Parties, notably in the context of requests for clarification (RFCs) of transfer discrepancies.

## 2. INSPECTIONS

### Overview

- 2.1 During 2010, the Secretariat conducted 398 inspections/rotations, which accounted for 18,512 inspector days at 257 sites in 40 States Parties. On average, 33 inspections, equivalent to 1,543 inspector days, were carried out each month. Table 1 lists the number and types of inspections or rotations completed in 2010, along with other summary statistics on inspection activities. Overall, the Secretariat carried out 4,351 inspections/rotations in 81 States Parties between the entry into force of the Convention and 31 December 2010.

**TABLE 1: INSPECTIONS COMPLETED IN 2010**

	<b>Inspections / Rotations</b>	<b>Facilities or Sites Inspected</b>	<b>Inspector Days</b>
<b>Chemical weapons-related inspections</b>			
CWDF	144	12	13,932
CWSF <sup>6</sup>	19	13	635
CWPF	10	9	159
OCW	9	9	135
ACW	7	6	184
DHCW <sup>7</sup>	1	N/A <sup>8</sup>	175
Subtotal	190	49	15,220
<b>Article VI inspections (chemical industry-related)</b>			
Schedule 1	11	11	190
Schedule 2	42	42	1,032
Schedule 3	30	30	467
OCPF	125	125	1,603
Subtotal	208	208	3,292
<b>Total</b>	<b>388</b>	<b>260</b>	<b>18,512</b>

<sup>5</sup> S/862/2010/Rev.1, dated 31 August 2010.

<sup>6</sup> CWSF = chemical weapons storage facility.

<sup>7</sup> DHCW = destruction of hazardous chemical weapons.

<sup>8</sup> Not a declared CWDF.

### Distribution of inspections

- 2.2 The number of States Parties receiving Article VI inspections remained at 38 in 2010 (see Table 2). Two key determinants behind the decrease of this number in recent years are a dwindling number of States Parties with uninspected Schedule 3 plant sites and OCPFs, and the use of the modified selection mechanism for OCPFs,<sup>9</sup> which has a strong focus on States Parties with a large number of declared OCPFs. As was the case in 2009, six States Parties accounted for more than 50% of the 208 industry inspections conducted during the year (China, Germany, India, Italy, Japan, and the United States of America). China received the largest number of industry inspections, followed by Japan.

**TABLE 2: DISTRIBUTION OF ARTICLE VI INSPECTIONS**

	2005	2006	2007	2008	2009	2010
Inspections	162	180	200	200	208	208
States Parties hosting inspections	53	54	58	40	38	38
States Parties accounting for 50% of the inspections	9	11	13	6	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	7	3%
Asia	90	43%
Eastern Europe	10	5%
Latin America and the Caribbean	8	4%
Western Europe and Other Countries	93	45%

### Challenge inspections and investigations of alleged use

- 2.4 As in previous years, no challenge inspection was requested in 2010 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. During the review period, Thailand offered to host a challenge-inspection exercise scheduled for 2011.
- 2.6 The third OPCW field exercise on assistance and protection (ASSISTEX 3) was held in Tunisia in October 2010. Some 32 staff members were deployed to conduct an IAU, as part of the exercise scenario, and to contribute to the OPCW assistance coordination and assessment team (ACAT). Additional staff from the Inspectorate Division participated as exercise control and directing staff. Moreover, an independent evaluation of ASSISTEX 3 was conducted by staff from the Inspectorate

<sup>9</sup> See S/641/2007, dated 25 May 2007 and Corr.1, dated 4 June 2007.

and Verification Divisions, as well as by external experts, acting in their personal capacities.

### **Training of new inspectors**

- 2.7 Thirty-two professionals in Group K from 22 States Parties joined the OPCW Inspectorate in 2010. Thirty-one of the new inspectors successfully completed the training course. The training programme included lectures by chemical demilitarisation and industry verification experts; case studies and table-top exercises to ensure familiarity with on-site inspection procedures; and field training in the use of approved OPCW inspection equipment and procedures. The trainees were able to observe a wide range of OCWs and to work on procedures for their identification and on usability criteria. In combination with the expertise of existing inspectors, the OPCW Laboratory trained five new analytical-chemist inspectors from Group K in OPCW S&A procedures and in chemical weapons analysis.
- 2.8 The field training was designed to familiarise the new inspectors with personal protection, detection, decontamination, and safe working procedures in toxic environments, and involved training with live chemical-warfare agents. One of the core elements of the training of new inspectors was a mock inspection at two declared facilities, with the support of the States Parties involved.
- 2.9 Ongoing training for existing inspectors delivered more than 5,000 training days to 150 inspectors. Ongoing training was provided to all speciality groups and involved the delivery of more than 80 training courses throughout the year.

## **3. CHEMICAL WEAPONS<sup>10</sup>**

### **Overview**

- 3.1 The Secretariat verifies the destruction of chemical weapons by maintaining a continuous presence at all operating CWDFs, which allows for monitoring of ongoing declared activities, either by direct physical observation or through the use of on-site instruments, including equipment specifically dedicated for 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 process of destruction and by means of 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.
- 3.2 Inspections involving CWDFs and CWSFs totalled 14,567 inspector days in 2010, which included 635 inspector days (19 inspections) at CWSFs.

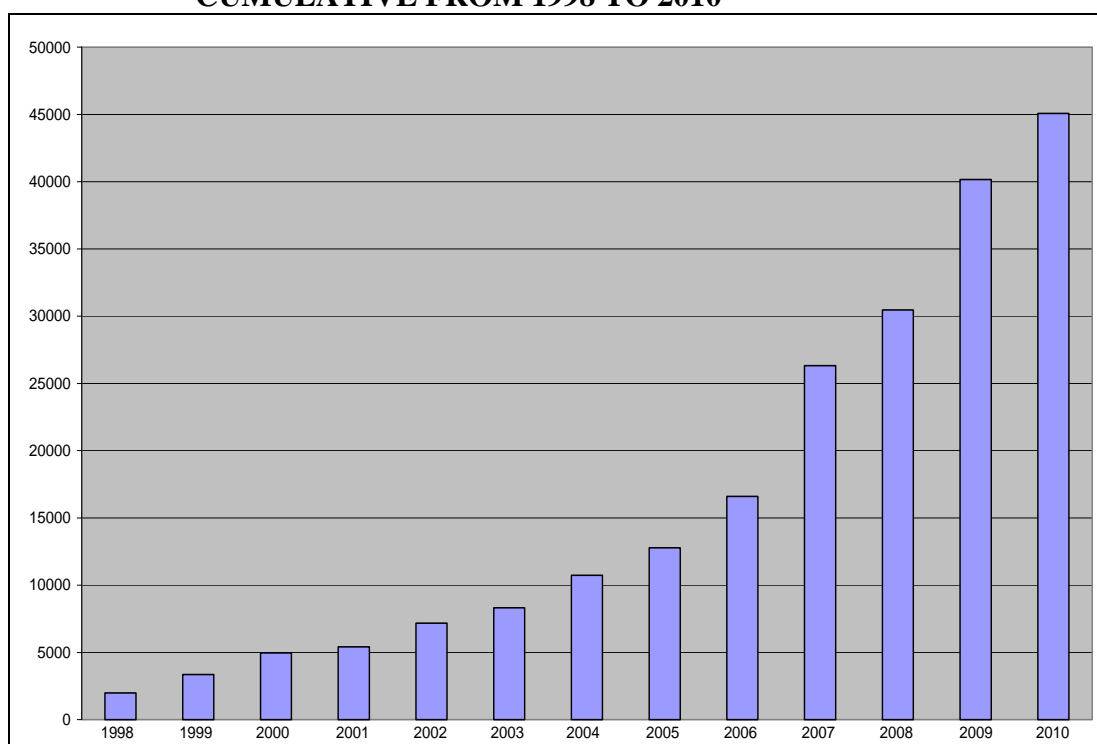
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<sup>10</sup> OCWs and ACWs, to which Part IV(B) of the Verification Annex applies, are covered in section 5 of this report.

3.3 In 2010, the Secretariat verified the destruction of 4,914.971 MTs of chemical weapons. This was a decrease in the overall quantity destroyed, as compared to 2009, when total destruction amounted to 9,696.505 MTs. Variations in the overall quantity destroyed on a yearly basis may be caused by a number of factors, including the number of destruction facilities operating during the year, the destruction technologies in use, the type of chemical weapons subject to destruction during the respective yearly campaigns (whether artillery or aerial munitions, or an agent in bulk containers), and the length of planned or unplanned periods of maintenance and servicing.

3.4 On 31 December 2010, the Secretariat had verified the destruction of a total of 45,075.175 MTs of chemical weapons in A State Party, Albania, India, the Libyan Arab Jamahiriya, the Russian Federation, and the United States of America (see Figure 1). This corresponds to the destruction of 63.31% of the declared chemical weapons.

**FIGURE 1: VERIFIED DESTRUCTION OF CHEMICAL WEAPONS, CUMULATIVE FROM 1998 TO 2010**



3.5 In 2010, 11 CWDFs (13 in 2009) were involved in the destruction of Category 1 chemical weapons: one in the Libyan Arab Jamahiriya, four in the Russian Federation, and six in the United States of America (see Table 4). The design and construction of additional units continued at four already operational facilities in the Russian Federation and one in the Libyan Arab Jamahiriya, while three other CWDFs (one in the Russian Federation and two in the United States of America) were, as at the end of 2010, in different phases of construction.



**TABLE 4: CHEMICAL WEAPONS DESTRUCTION FACILITIES IN SERVICE OR UNDER CONSTRUCTION IN 2010**

<b>Libyan Arab Jamahiriya</b>
Ruwagha Chemicals Reloading System and Rabta Toxic Chemical Disposal Facility (RCRS-RTCDF) <sup>11</sup>
<b>Russian Federation</b>
Leonidovka CWDF <sup>12</sup>
Maradykovsky CWDF <sup>12</sup>
Shchuchye CWDF
Pochep CWDF
Kizner CWDF*
<b>United States of America</b>
Anniston Chemical Agent Disposal Facility (ANCDF)
Pine Bluff Explosive Destruction System (PBEDS)
Pine Bluff Chemical Agent Disposal Facility (PBCDF)
Tooele Chemical Agent Disposal Facility (TOCDF)
Prototype Detonation Test and Destruction Facility (PDTDF)
Umatilla Chemical Agent Disposal Facility (UMCDF)
Blue Grass Chemical Agent Destruction Pilot Plant (BGCAPP)*
Pueblo Chemical Agent Destruction Pilot Plant (PCAPP)*

\* Facility under construction as at the end of 2010.

- 3.6 The Libyan Arab Jamahiriya commenced the destruction of its Category 1 chemical weapons on 30 October 2010 and, on 31 October 2010, met the phase 1 deadline established by the Conference of the States Parties (hereinafter “the Conference”) at its Fourteenth Session.<sup>13</sup> At its Fifteenth Session, the Conference amended its previous decision and granted further extensions for the intermediate deadlines for the destruction by the Libyan Arab Jamahiriya of its Category 1 chemical weapons, while maintaining 15 May 2011 as the final deadline for completion of Category 1 destruction.<sup>14</sup> By the end of 2010, the Libyan Arab Jamahiriya had also met the new phase 2 deadline for 20% destruction of this category of chemical weapons.
- 3.7 The Secretariat continued in 2010 to provide assistance to Iraq in clarifying remaining matters regarding its declarations.
- 3.8 Destruction operations were concluded at the PBCDF in the United States of America. Consequently, the Secretariat discontinued systematic verification at this facility.
- 3.9 At the end of the review period, there remained four States Parties with declared chemical weapons that had yet to be completely destroyed: Iraq, the Libyan Arab Jamahiriya, the Russian Federation, and the United States of America.

<sup>11</sup> Several units at the Ruwagha site were under construction at the end of 2010.

<sup>12</sup> A unit for the destruction of aerial bomb blocks with nerve agents was under design and construction at the end of 2010.

<sup>13</sup> C-14/DEC.3, dated 2 December 2009.

<sup>14</sup> C-15/DEC.3, dated 30 November 2010.

## **Progress in meeting destruction obligations**

### Overall progress in meeting destruction obligations

- 3.10 At the end of the review period, six States Parties had between them declared a total of 71,194.804 MTs of chemical weapons (69,428.721 MTs of Category 1 and 1,766.083 MTs of Category 2), contained in 8,263,504 munitions and containers.<sup>15</sup> Approximately 63.31% of these chemical weapons—or a total of 45,075.175 MTs (44,155.244 MTs in Category 1 and 919.931 MTs in Category 2)—had been verified as destroyed. Those States Parties had also declared 416,317 items of Category 3 chemical weapons, which had been destroyed pursuant to the deadline set by the Convention, except for four items recently discovered by the United States of America and added to its declaration. More specifically, the OPCW had verified the destruction of the following quantities of chemical weapons in these six States Parties:
- (a) Category 1 chemical weapons: The Secretariat had verified the destruction of 44,155.244 MTs of this category of chemical weapons, 42,935.282 MTs of which were unitary chemical weapons (4,910.615 MTs in 2010), including lewisite, sarin (GB), sulfur mustard (including H, HT, and HD), and tabun (GA), VX, and Vx, contained in 3,733,363 munitions and containers (625,253 in 2010), as well as in other storage vessels that had a volume of less than 2m<sup>3</sup> and in larger storage tanks, from which the chemical-warfare agent 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<sup>16</sup> 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 had verified the destruction of 919.931 MTs of Category 2 chemical weapons (4.345 MTs in 2010): CNS, thiodiglycol (TDG), 2-chloroethanol (2-CE), phosgene, sodium sulphide, sodium fluoride, chloroacetophenone (CN), phosphorous trichloride, and adamsite (DM), as well as 3,847 artillery projectiles.
  - (c) Category 3 chemical weapons: Prior to 2010, the Secretariat had verified the destruction of 416,313 items of Category 3 chemical weapons declared to the OPCW. The destruction of four Category 3 items was pending at the end of the year.

### Iraq

- 3.11 Iraq's initial declarations referred to chemical weapons stored in a CWSF consisting of two bunkers. According to the declarations, the listing of chemical weapons is based on available information from the United Nations Special Commission

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<sup>15</sup> Not including declarations by Iraq.

<sup>16</sup> This includes 154 OF canisters mutilated and confirmed as destroyed at the CWDF, the contents of which were withdrawn for purposes not prohibited by the Convention.

(UNSCOM), as it was not possible for Iraq to conduct a detailed on-site inventory due to the hazardous conditions within the bunkers.

- 3.12 Consultations between the Secretariat and Iraq continued in 2010, with a view to clarifying some aspects related to Iraq's initial declarations 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.

#### Libyan Arab Jamahiriya

- 3.13 In view of additional delays in destruction operations, the Libyan Arab Jamahiriya submitted a request<sup>17</sup> in 2010 for the revision of its intermediate destruction deadlines for Category 1 chemical weapons—phase 2 (20%) and phase 3 (45%)—established by the Conference at its Fourteenth Session.<sup>18</sup> According to the request, some technical specifications of the main destruction equipment had been reviewed in order to increase its capacity, and such developments could lead to a delay in the schedule previously decided for the manufacture of the destruction equipment, which in turn would prevent this State Party from meeting its intermediate deadlines. Concurrently, the Libyan Arab Jamahiriya reaffirmed its commitment to complete the destruction of 1% and 100% of its Category 1 chemical weapons by the deadlines that had already been established: 1 November 2010 and 15 May 2011, respectively.
- 3.14 Following the request made by the Libyan Arab Jamahiriya, and at the recommendation of the Executive Council (hereinafter “the Council”),<sup>19</sup> the Conference at its Fifteenth Session granted this State Party extensions of its phase 2 and 3 intermediate deadlines,<sup>20</sup> establishing the following dates: phase 2 (20%), to be completed by 30 March 2011; and phase 3 (45%), to be completed by 25 April 2011. The extensions of the intermediate deadlines were granted on the understanding that they shall not modify the Libyan Arab Jamahiriya's obligation to complete the destruction of its Category 1 chemical weapons by 15 May 2011.
- 3.15 In an earlier decision,<sup>21</sup> 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.
- 3.16 By the end of the reporting period, the Libyan Arab Jamahiriya had met its deadline for destruction of 1% of its Category 1 chemical weapons (1 November 2010) and its new deadline for destruction of 20% of its Category 1 chemical weapons (30 March 2011). By the end of 2010, this State Party had destroyed 5.526 MTs of sulfur mustard (all destroyed in 2010), a total of 22.34% of its Category 1 chemical weapons; and 555.706 MTs (39.64%) of its Category 2 chemical weapons (4.356 MTs of which were destroyed in 2010), including 246.625 MTs of sodium sulphide,

<sup>17</sup> EC-62/NAT.5, dated 2 September 2010.

<sup>18</sup> C-14/DEC.3.

<sup>19</sup> EC-62/DEC.1, dated 6 October 2010.

<sup>20</sup> C-15/DEC.3.

<sup>21</sup> C-11/DEC.15, dated 8 December 2006.

304.725 MTs of sodium fluoride, and 4.356 MTs of phosphorus trichloride. The Libyan Arab Jamahiriya had previously destroyed all of its declared Category 3 chemical weapons (3,563 items).

#### Russian Federation

- 3.17 The Conference established 29 April 2012 as the final extended destruction deadline for Category 1 chemical weapons in the Russian Federation.<sup>22</sup>
- 3.18 In 2010, the Secretariat verified the destruction by the Russian Federation of 1,244.520 MTs of Category 1 chemical weapons (6,374.397 MTs in 2009) at three destruction facilities: Leonidovka, Maradykovsky, and Shchuchye. Operations began in 2010 at the Pochep CWDF, although the sole operation at that facility involved the insertion of reagent into the munitions bodies.
- 3.19 As at 31 December 2010, the Russian Federation had destroyed 19,565.021 MTs (48.95%) of its declared stockpile of Category 1 chemical weapons. The Russian Federation has destroyed all of its declared Category 2 chemical weapons (10.616 MTs) and Category 3 chemical weapons (330,024 items).

#### United States of America

- 3.20 The Conference established 29 April 2012 as the final extended destruction deadline for Category 1 chemical weapons in the United States of America.<sup>23</sup>
- 3.21 In 2010, the United States of America, using six destruction facilities, destroyed 3,660.569 MTs of chemical weapons (3,306.555 MTs in 2009).<sup>24</sup> As at 31 December 2010, the United States of America had destroyed 22,916.605 MTs, or 82.53%, of its declared stockpile of Category 1 chemical weapons. This State Party had also completed the destruction of its declared Category 2 chemical weapons (0.01 MTs) and had destroyed 80,968 Category 3 chemical weapons. The destruction of four Category 3 items added by the United States of America to its declaration in 2010 was pending at the end of the year.

## **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.<sup>25</sup> 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.

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<sup>22</sup> C-11/DEC.18, dated 8 December 2006.

<sup>23</sup> C-11/DEC.17, dated 8 December 2006.

<sup>24</sup> This figure represents the amount of Category 1 chemical weapons destroyed at CWDFs, and does not include Schedule 1 chemicals withdrawn pursuant to Article VI, if applicable.

<sup>25</sup> See subparagraph 1(c) of Article III, and Article V of the Convention, as well as Part V of the Verification Annex.

- 4.2 In 2010, the Secretariat carried out 10 inspections at nine CWPFs in three States Parties, which amounted to 159 inspection days. No CWPF inspections were conducted in Iraq.
- 4.3 The Secretariat certified the conversion of the following facilities:
- (a) Rabta Pharmaceutical Factory 1, Libyan Arab Jamahiriya; and
  - (b) Rabta Pharmaceutical Factory 2, Libyan Arab Jamahiriya.
- 4.4 The Libyan Arab Jamahiriya initially declared three CWPFs, of which one was previously certified as destroyed. With conversion completed at the two remaining CWPFs, the Libyan Arab Jamahiriya has reduced its residual chemical weapons production capacity to zero. The two converted facilities remain subject to systematic verification for at least 10 years, in accordance with the Convention.<sup>26</sup>
- 4.5 Consultations between Iraq and the Secretariat continued in 2010, in order to clarify details of Iraq's initial declarations and with a view to developing detailed plans for destruction or conversion of the five declared CWPFs.
- 4.6 As at 31 December 2010, 70 CWPFs had been declared to the OPCW. With regard to 64 of these, the Director-General had certified the completion of destruction or conversion. Forty-three had been destroyed. Twenty-one had been converted for purposes not prohibited by the Convention. The following six CWPFs were yet to be certified as destroyed or converted:
- (a) the facility for production of a Vx-type substance and filling it into munitions, Federal State Unitary Enterprise (FGUP) GosNIIOKhT, Novocheboksarsk, the Russian Federation (to be certified as converted);
  - (b) Al-Muthanna, Iraq (to be certified as destroyed);
  - (c) Fallujah 1, Iraq (to be certified as destroyed);
  - (d) Fallujah 2, Iraq (to be certified as destroyed);
  - (e) Fallujah 3, Iraq (to be certified as destroyed); and
  - (f) Al-Rashad, Iraq (to be certified as converted).

### **Residual production capacity**

- 4.7 The Convention provides that States Parties shall reduce residual production capacity (RPC) at their former CWPFs to zero 10 years after the entry into force of the Convention, that is, by 29 April 2007. No deadline has been established for Iraq as yet. During 2010, the Secretariat verified that the residual production capacity at the declared CWPFs in the Libyan Arab Jamahiriya had reached zero.

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<sup>26</sup>

See paragraph 85 of Part V(D) of the Verification Annex.

**TABLE 5: REQUIREMENTS REGARDING RESIDUAL PRODUCTION CAPACITY**

<b>Period after Entry into Force</b>	<b>Date</b>	<b>RPC</b>
End of year 5	29 April 2002	60%
End of year 8	29 April 2005	20%
End of year 10	29 April 2007	0%

**5. OLD AND ABANDONED CHEMICAL WEAPONS****Overview**

- 5.1 With regard to OCWs, the verification work of the Secretariat 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 semi-annual declarations or other notifications.
- 5.2 The Secretariat also carries out inspections to monitor ongoing activities at recovery/excavation and storage sites for ACWs. With respect to chemical weapons abandoned by Japan on the territory of China, the Secretariat carries out quarterly inspections to verify destruction operations.
- 5.3 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**

- 5.4 Between the entry into force of the Convention and 31 December 2010, 14 States Parties (Australia, Austria, Belgium, Canada, France, Germany, Italy, Japan, Poland, the Russian Federation, Slovenia, the Solomon Islands, the United Kingdom of Great Britain and Northern Ireland, and the United States of America) had declared OCWs. In 2010, approximately 2,130 OCWs were discovered and recovered, while 1,210 OCWs were reported as destroyed.
- 5.5 By the end of the review period, States Parties had declared a total of 58,787 OCWs produced before 1925 (seven States Parties) and 71,018 OCWs produced between 1925 and 1946 (11 States Parties). About 38,000 of these OCWs were yet to be destroyed. Likewise, almost 38,000 chemical weapons abandoned by Japan on the territory of China were being kept at storage sites in China.

**Verification activities**

- 5.6 During 2010, OCW and/or suspected OCW discoveries were reported to the Secretariat by Australia, Belgium, Canada, France, Germany, Italy, Japan, Poland, and the United Kingdom of Great Britain and Northern Ireland. Two additional States Parties (France and Poland) declared OCWs produced between 1925 and 1946.

- 5.7 As far as ACWs are concerned, a major milestone was reached in 2010 with the approval of the facility arrangement and the agreed destruction plan for the first destruction facility for chemical weapons abandoned by Japan on the territory of China, along with the subsequent launch of destruction operations under OPCW verification. The Abandoned Chemical Weapons Mobile Destruction Facility (ACW-MDF) at Nanjing, China, will be inspected on a quarterly basis, at which time declared destruction activities in the preceding quarter will be verified. China and Japan reported that 9,229 ACWs were destroyed in 2010 using the ACW-MDF.
- 5.8 The two States Parties continued their preparations for the next major phases of recovery and destruction in China, including the operation of additional destruction units and CWDFs. The Secretariat, China, and Japan met three times in 2010 to discuss the anticipated increase in activity in 2011 and 2012.
- 5.9 The Secretariat conducted six OCW inspections in six States Parties in 2010, as well as one technical visit to discuss OCW matters. Six ACW inspections were conducted, each of which concerned chemical weapons abandoned by Japan on the territory of China.

## 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 The total number of facilities declared worldwide in connection with the Article VI verification regime at the end of the review period was 5,443 (see Table 6) of which 4,910 were subject to systematic verification.

**TABLE 6: FACILITIES DECLARED PURSUANT TO ARTICLE VI AS AT 31 DECEMBER 2010**

<b>Number of declared facilities</b>					
Regime	Schedule 1	Schedule 2	Schedule 3	OCPF	Total
Declared	27	467	489	4,460	5,443
Declarable	27	389	470	4,458	5,344
Inspectable	27	170	438	4,275	4,910
<b>Number of States Parties having declared Article VI facilities</b>					
States Parties	22	38	36	80	80

- 6.3 In 2010, the Secretariat verified the declared activities at 208 facilities and plant sites. The breakdown of inspections per verification regime was identical to that recorded for 2009, that is, 11 Schedule 1 facilities, 42 Schedule 2 plant sites, 30 Schedule 3 plant sites, and 125 OCPF plant sites. IRFAs were recorded at 10 inspections: one Schedule 1 inspection and nine Schedule 2 inspections. No uncertainties were reported as a result of inspections conducted in 2010. It was possible to close eight of

the IRFAs in 2010. Eight of the OCPF inspections and three of the Schedule 2 inspections were carried out at plant sites that turned out to be non-inspectable.

### 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.<sup>27</sup> During the start-up period (from September 2006 to March 2008) S&A was carried out during 13 Schedule 2 inspections 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, reaching 38 such missions in 20 States Parties by the end of 2010 (see Table 7).<sup>28</sup> In 2010, there were nine inspections involving S&A, two of which were in States Parties that had never received such inspections before, namely, Austria and Denmark.

**TABLE 7: SAMPLING AND ANALYSIS AT SCHEDULE 2 PLANT SITES**

Number of inspections with S & A					
2006	2007	2008	2009	2010	Total
2	9	9	9	9	38

- 6.6 As at 31 December 2010, 83% (20 out of 24) of the States Parties with inspectable Schedule 2 plant sites had received at least one S&A mission.

### Non-inspectable facilities

- 6.7 In 2010, eight inspections were conducted at OCPF plant sites that proved to be non-inspectable. Together with the three inspections at Schedule 2 plant sites that proved to be non-inspectable, this number totalled 11, higher than that recorded in 2009 (see Table 8).

**TABLE 8: INSPECTIONS AT SITES THAT ARE NON-INSPECTABLE**

Number of inspections at non-inspectable sites			
2007	2008	2009	2010
13	5	5	11

- 6.8 The causes for the eight inspections at non-inspectable OCPF sites can be grouped into two categories, namely:
- the failure of the States Parties concerned to update their OCPF declarations in a timely manner; and
  - errors in the interpretation of the OCPF declaration requirements.

<sup>27</sup> See paragraph 28 of Part VII(B) of the Verification Annex.

<sup>28</sup> To date, S&A has only been used on subsequent Schedule 2 inspections, that is, not on initial inspections to Schedule 2 plant sites.



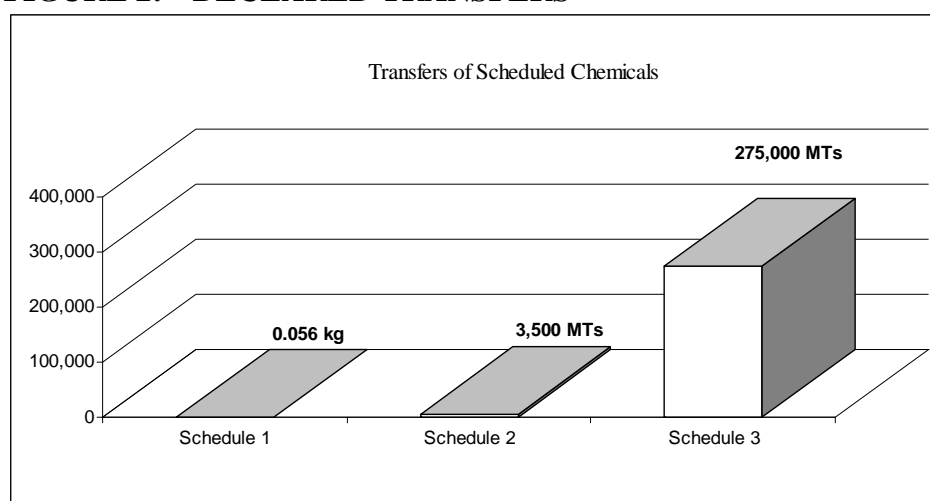
- 6.9 In the first category, two inspections were carried out in 2010 at plant sites that had ceased their production activities, but the declarations covering their activities had not been updated to reflect this new state of affairs. From the second category, there were four inspections at plant sites where the aggregate DOC production was below the declaration threshold of 200 MTs. In another case from the second category, an inspection was carried out at a plant site where only polymers were being produced. Since polymers are excluded from the declaration obligations (pursuant to Part IX of the Verification Annex), the plant site was found to be not declarable. In another case, the activities at the plant site consisted only of purification operations, with no production activities by chemical synthesis taking place.

### Transfers of scheduled chemicals

#### Transfers of scheduled chemicals between States Parties

- 6.10 According to the 52 notifications concerning transfers in 2010, 15 States Parties were anticipated to be involved in 36 Schedule 1 transfers in 2010 (three sending States Parties and 14 receiving States Parties); the total amount of chemicals to be transferred in 2010 was 56 grams. Sixteen transfers anticipated to take place in 2010 were notified by both the sending and receiving States Parties.
- 6.11 The ADPAs for 2009 provided by States Parties in 2010 indicate that 50 States Parties transferred Schedule 2 chemicals in 2009, and that the total volume of this trade came to approximately 3,500 MTs. One hundred and twenty-three States Parties had transferred Schedule 3 chemicals in 2009, with the total volume of this trade equalling approximately 275,000 MTs.

**FIGURE 2: DECLARED TRANSFERS<sup>29</sup>**



<sup>29</sup> The figure for Schedule 1 refers to 2010 notifications, while the figures for Schedule 2 and Schedule 3 reflect ADPAs for 2009.

Transfers of scheduled chemicals to States not Party to the Convention

- 6.12 Data provided by States Parties in the ADPAs for 2009, and made available to the Secretariat by 31 December 2010, indicated that nine States Parties had exported one Schedule 2 chemical and four Schedule 3 chemicals to two States not Party. Thionyl chloride and methyldiethanolamine accounted for 47% and 38%, respectively, of the 2,431 MTs of Schedule 3 chemicals declared as having been exported to States not Party in 2009.

**Optimisation of the Article VI inspection regime**

- 6.13 During 2010, the Secretariat was able to maintain a high number of sequential inspections (see Table 9). Sequential inspections are an important tool for making the inspection process more efficient, and further efficiencies could be achieved should additional States Parties agree to the conduct of sequential inspections on their territories, in particular those with large numbers of annual Article VI inspections. In this regard, 10 of the 13 States Parties that received four or more industry inspections in 2010 have advised the Secretariat that they concur with the use of sequential inspections on their territory.

**TABLE 9: SEQUENTIAL INSPECTIONS**

Sequential inspections (on a year-by-year basis)							
2003	2004	2005	2006	2007	2008	2009	2010
8	16	23	26	26	37	42	40

**Secretariat support to consultations on chemical-industry and other Article VI issues**

- 6.14 In 2010, the Industry Cluster discontinued its deliberations on the issue of the “enhancement of OCPF declarations” and began consultations on the “OCPF site-selection methodology”. The Secretariat assisted the Vice-Chairperson of the Council and coordinator of the Industry Cluster and provided presentations and non-papers at the request of States Parties in relation to all issues under consideration.
- 6.15 During the reporting period, Denmark brought to the attention of the Council a situation that had arisen at a pharmaceutical plant in Denmark, which involved captive use of a Schedule 1 chemical as part of the production of an active pharmaceutical ingredient. Several rounds of consultations on this issue took place in 2010, for which the Secretariat provided legal and technical support.

**7. OTHER VERIFICATION-RELATED ACTIVITIES**

**Implementation matters**

- 7.1 This section provides information about several 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 these matters are

affected by remedial action taken by the Secretariat and States Parties; the Secretariat will continue to monitor how these 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 pursuant to the Convention. The Secretariat is not able to fulfil its verification tasks with regard to these States Parties.

#### *Follow-up actions taken*

- 7.3 Since the entry into force 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. During the reporting period, the Secretariat sent notes verbales to all States Parties that had yet to submit initial declarations. In addition, the Secretariat held bilateral meetings with the Congo, the Dominican Republic, and Niue on declaration issues.
- 7.4 In November 2007, the Council adopted a decision on the timely submission of Article VI declarations,<sup>30</sup> by which it requested, inter alia, that all the States Parties concerned ensure that their Article VI declarations be submitted on time, and that the Secretariat continue to inform States Parties of their reporting requirements. The decision 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 those obligations.

#### *Progress and status*

- 7.5 During the year, the Secretariat received the required initial declarations pursuant to Articles III and VI from the following three States Parties: Barbados, the Dominican Republic, and Niue. The submission of those declarations resulted in part from the Secretariat's active outreach and bilateral contacts with those countries. This means that, by the end of 2010, 180 of the 188 States Parties had submitted initial declarations pursuant to Article III and/or Article VI.
- 7.6 As at 31 December 2010, the following eight States Parties had not yet submitted their required initial declarations pursuant to the Convention:<sup>31</sup> Cape Verde (9 December 2003), the Congo (2 February 2008), Guinea-Bissau (19 July 2008), Haiti (23 April 2006), Timor-Leste (6 July 2003), Tonga (28 July 2003), Tuvalu (19 March 2004), and Vanuatu (15 November 2005). 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

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<sup>30</sup> EC-51/DEC.1, dated 27 November 2007.

<sup>31</sup> The dates indicate the due date of the initial declaration for the State Party concerned (that is, 30 days after entry into force of the Convention for that State Party).

weapons-related initial declaration pursuant to Article III. The initial declarations of these three States Parties thus remained unfinished at the end of the review period.

#### Outstanding or late annual declarations

- 7.7 In order for the Secretariat to be able to continue to perform its verification tasks effectively, it is of the utmost importance that States Parties continue to 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, along with the relevance of these for the object and purpose of the Convention. Outdated information not only leads to erroneous site selections, but also risks increasing the rate of inspections at non-inspectable sites. Both of these scenarios involve an inefficient use of inspection resources. In addition, late submission of aggregate national data (AND) declarations can cause transfer discrepancies, resulting in unnecessary RFCs. This imposes a burden on States Parties that have submitted their AND declarations on time, but then receive an RFC for a transfer discrepancy, due to the late submission by the other State Party involved in the transfer.
- 7.8 In order to avoid the above scenarios, the Council adopted decision EC-51/DEC.1, in which it, inter alia, requested States Parties to ensure that their declarations are submitted in accordance with the deadlines provided for in the Convention. It also required the Secretariat to provide status reports. Two such status reports<sup>32</sup> were submitted by the Secretariat in 2010. Additional information is provided below.

#### *Follow-up actions taken*

- 7.9 In 2010, the Secretariat held bilateral meetings with representatives of States Parties that have submitted annual declarations more than 30 days late at least twice since the approval of EC-51/DEC.1, in order to stress the importance of timely submissions and to offer advice and assistance where needed. There were 16 States Parties that fell into this category, of which the Secretariat met with eight.

#### *Progress and status*

- 7.10 Following these bilateral meetings, one State Party, which had previously submitted four declarations more than 30 days late, submitted its ADAA for 2011 on time.<sup>33</sup> Several of the remaining eight States Parties in this category received advice and assistance on declaration issues during the reporting period and, although still late, reduced the delay in submissions for recent declarations. The Secretariat will continue to hold such bilateral meetings with States Parties, as required.

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<sup>32</sup> EC-59/DG.8, dated 29 January 2010, and EC-61/DG.11, dated 11 June 2010.

<sup>33</sup> Although outside the reporting period, this State Party also submitted its ADPA for 2010 in advance of the deadline of 31 March 2011.

- 7.11 Overall, 90 States Parties submitted ADPAs for 2009 during 2010. These included the following:
- (a) fifty-two (55 in the previous year) States Parties with declarable facilities or activities that met the deadline of 31 March 2010 for submitting at least part of their required declarations;
  - (b) thirty-four (25 in the previous year) States Parties that submitted their ADPAs for 2009 between 1 April and 31 December 2010; and
  - (c) four (five in the previous year) States Parties that had submitted ADPAs for 2009 with no declarable facilities and activities (nil declarations).
- 7.12 By the end of the review period, the Secretariat had received ADAAs for 2011 from 52 States Parties. These included the following:
- (a) thirty-six (36 in the previous year) States Parties that met the deadline for submitting at least part of their required ADAAs for 2011: 19 States Parties for Schedule 1 chemicals and facilities (2 October deadline) and 35 for Schedule 2 and 3 chemicals and facilities (1 November deadline);
  - (b) nine (eight in the previous year) States Parties that submitted their required ADAAs for 2011 after the deadline but before 31 December 2010; and
  - (c) seven (two in the previous year) States Parties that reported no declarable facilities or activities (nil declarations).
- 7.13 The Council, in its 2007 decision on timely declarations<sup>30</sup>, 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.
- 7.14 Previous Notes issued by the Secretariat<sup>34</sup> identified five reasons given by States Parties for missing the deadlines:
- (a) difficulties with drafting and/or obtaining approval for the required legislation or establishing implementation measures;
  - (b) difficulties with identifying declarable activities;
  - (c) difficulties with collecting data;
  - (d) difficulties with preparing declarations; and
  - (e) logistical difficulties in regard to the transmission of declarations to the Secretariat.

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<sup>34</sup>

The most recent Note on this topic is EC-63/DG.5, dated 18 January 2011.

- 7.15 Information on reasons for delays was provided by 13 States Parties regarding ADPAs for 2009 and six States Parties with regard to ADAAs for 2011. The most commonly cited reason in both cases was logistical difficulties (e), followed by difficulties collecting data (c).

#### Transfer discrepancies

- 7.16 Since entry into force of the Convention, discrepancies between the Schedule 2 and 3 transfer data provided by importing States Parties and by exporting States Parties in respect of the same transfer have been of such magnitude—approximately 75% of the transfers between States Parties have discrepancies—that data monitoring for non-proliferation purposes is very difficult.

#### *Follow-up actions taken*

- 7.17 One reason for transfer discrepancies has been the lack of a common understanding on the meaning of the terms “import” and “export” for declaration purposes. A 2002 Conference decision<sup>35</sup> contained guidelines for reporting AND, but it stopped short of providing such a definition. In 2008, the Conference adopted a decision setting out voluntary guidelines for the declaration of import and export data for Schedule 2 and 3 chemicals,<sup>36</sup> with the intention of reducing the number of transfer discrepancies. This decision, which focused on the physical movement of scheduled chemicals rather than on customs procedures, included a definition of the meaning of the terms “import” and “export” (albeit solely for the purposes of submitting declarations).
- 7.18 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.<sup>37</sup> In this regard, the Secretariat organised six regional and subregional workshops in 2010, 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-mentioned voluntary guidelines were an important element of the agenda at all regional meetings of National Authorities held in 2010.
- 7.19 During the reporting period, the Secretariat held bilateral meetings with States Parties that have had repeated transfer discrepancies in the last three years, but which did not submit AND declarations. The purpose of these meetings was to highlight the importance of making import/export declarations and to offer advice and assistance when required. During 2010, the Secretariat met with 12 of the 17 States Parties that had discrepancies in two or more of the last three years and which did not submit AND declarations.

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<sup>35</sup> C-7/DEC.14, dated 10 October 2002.

<sup>36</sup> C-13/DEC.4, dated 3 December 2008.

<sup>37</sup> Paragraph 9.45 of RC-2/4.

*Progress and status*

- 7.20 As was the 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 2009 transfers. However, a small improvement has been noted: approximately 74% of transfers between States Parties in 2010 had discrepancies, compared to 76% in 2008.
- 7.21 With regard to Schedule 2 chemicals, 589 AND declarations of imports and exports for the year 2009 were received during the reporting period, equivalent to 465 transfers between States Parties.<sup>38</sup> Of these, 177 were above the declaration thresholds established by the Conference at its Seventh Session, and of these, 84 (47%, compared to 56% in 2008) were declared by just one of the two States Parties involved.
- 7.22 A total of 1,679 Schedule 3 AND declarations of imports and exports covering the year 2009 were received during the reporting period, equivalent to 1,215 transfers between States Parties. Of these transfers, 529 were above the declaration thresholds established by the Conference<sup>39</sup> and 191 (36%, compared to 35% in the previous year) of these were declared by just one of the two States Parties involved.
- 7.23 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 the situation in the coming years.

Quality of declarations

- 7.24 The sections above focus on issues related to transfer discrepancies and outstanding or late declarations. Another matter of relevance to the implementation of the Convention concerns States Parties with declarable activities that either declare that they do not have such activities or under-declare.

*Progress and status*

- 7.25 Based on declared information alone, the Secretariat has limited means of determining the prevalence of such situations. However, there are a considerable number of States Parties with repeated transfer discrepancies that do not submit any AND declarations at all. Of the 84 States Parties that had transfer discrepancies in 2009, 21 (25%) did not submit any AND declarations for that year. Seventeen States Parties have had repeated (two or more) transfer discrepancies in the previous three years and did not submit AND declarations for those years.
- 7.26 Figure 3 below shows, for the previous three years, the number of States Parties with transfer discrepancies and the number of States Parties with discrepancies that made

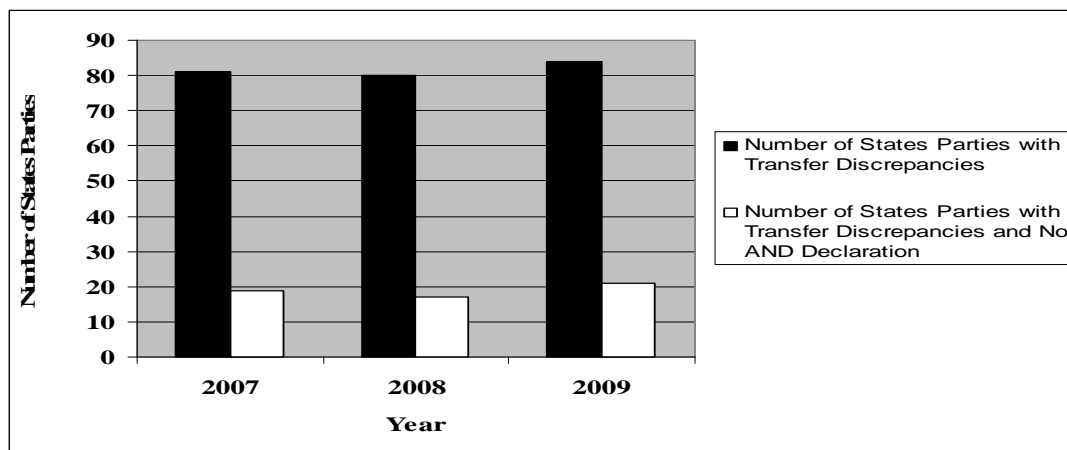
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<sup>38</sup> For reporting purposes, the Secretariat has taken “transfer between States Parties” to mean the sum of all imports and exports of a specific scheduled chemical between two States Parties in the year in question, including those declared by only one of the States Parties involved.

<sup>39</sup> C-7/DEC.14.

no AND declarations for the same years. As Figure 3 shows, the number of States Parties with discrepancies has slightly increased compared to the previous years (84 in 2009, compared to 80 in 2008 and 81 in 2007).

**FIGURE 3: NUMBER OF STATES PARTIES WITH CONSISTENT TRANSFER DISCREPANCIES IN THE LAST THREE YEARS**



- 7.27 A document<sup>40</sup> prepared by the Secretariat in 2010 as a reference tool for States Parties to consult when they are compiling their lists of OCPFs suggests that the number of OCPFs appears to correlate with factors such as the size of the chemical industry in a particular State Party, the gross domestic product (GDP) of the State Party, the amount of chemical exports, the size of the economically active population, the expenditure on research and development, and ISO 14001 certifications. While no detailed conclusions can be derived from such indicators, they could be used as a tool for identifying the possible existence of additional declarable facilities.

*Follow-up actions taken*

- 7.28 Actions taken by the Secretariat to address the issue of the quality of import/export declarations are largely the same as for transfer discrepancies. Particular emphasis is placed on those States Parties that have repeated transfer discrepancies but which do not submit AND declarations. As reported above, during 2010, the Secretariat met with 12 of the 17 States Parties that had discrepancies in two or more of the last three years and which did not submit AND declarations. In addition, customs officers from seven of these 17 States Parties received in-depth training on Convention-related transfer issues at regional or subregional customs workshops during 2010.
- 7.29 During 2010, the Secretariat followed up on a pilot project, started in late 2009, to analyse trends in AND declarations over the previous five years to identify potential undeclared activities involving Schedule 2 chemicals. For example, imports of large quantities of a Schedule 2 chemical over the previous five years, with no declared plant sites processing or consuming these chemicals and no declaration of re-export, could indicate either an undeclared Schedule 2 plant site or an error in AND declarations. Six States Parties were approached on this issue at the Thirteenth Session of the Conference in December 2009. In 2010, one of these States Parties

<sup>40</sup>

S/862/2010/Rev.1.



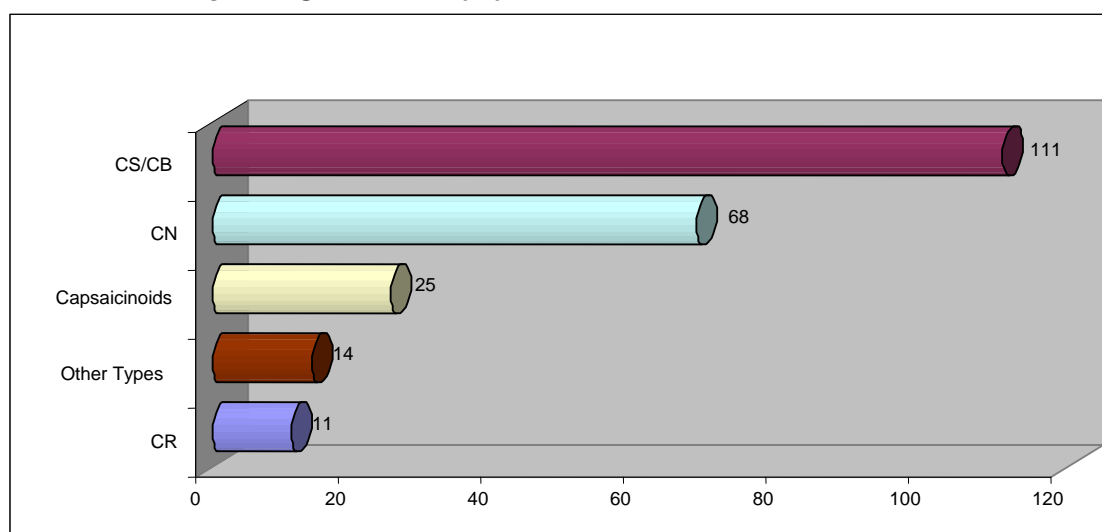
indicated that, as a result of investigations into the issues raised, and outreach to industry, eight new declarable plant sites had been identified.<sup>41</sup> Another of the States Parties approached indicated in 2010 that it had identified errors in its AND declarations and would investigate this matter further.

### Status of required declarations

#### Riot control agents (RCAs)

- 7.30 During the period under review, three States Parties (Barbados, the Dominican Republic, and Niue) submitted their initial RCA declarations, while six States Parties (Iraq, Kyrgyzstan, Norway, Portugal, Thailand, and Ukraine) provided updated information on RCAs.
- 7.31 As at 31 December 2010, of the 179 States Parties that had submitted initial declarations under Article III, 176 States Parties had submitted information on RCAs, while information on RCAs was missing from the declarations of three States Parties. Of the 176 States Parties that provided information on their RCAs, 130 declared possession of RCAs, while 46 States Parties declared that they did not possess RCAs.

**FIGURE 4: NUMBER OF STATES PARTIES HAVING DECLARED RIOT CONTROL AGENTS, BY TYPE OF AGENT, AS AT 31 DECEMBER 2010**



#### Other facilities primarily for the development of chemical weapons

- 7.32 As at 31 December 2010, 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 reporting period, four such facilities were being used as research centres or laboratories for defence and protective purposes, or for the destruction of OCWs.

<sup>41</sup> Although outside the reporting period, a second State Party indicated in early 2011 that it had identified an inspectable plant site as a result of investigations into the issues raised by the Secretariat.

## **Handling of declarations**

### Clarification of declarations

- 7.33 In a 2004 decision,<sup>42</sup> the Council urged States Parties to expedite their responses to RFCs, established a 90-day deadline for responding to such requests, and recommended that the Secretariat take follow-up action in cases where it cannot determine whether or not a facility is inspectable.
- 7.34 The Secretariat did not issue any RFCs addressing inspectability-related issues in 2010. A small number of inspectability-related issues were identified during the reporting period, but in each case, these issues were quickly resolved through discussions between the Secretariat and the States Parties concerned, without the need for RFCs to be issued. At the end of the reporting period, there were no outstanding inspectability-related issues.

### Other requests for clarification

- 7.35 During the reporting period, the Secretariat issued 84 RFCs with regard to transfer discrepancies, as well as 154 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 38 other Article VI-related RFCs and reminder letters and a smaller number of chemical weapons-related RFCs.

### Processing of declarations

- 7.36 In 2010, the Secretariat received 1,002 incoming documents, declarations, and other verification-related documents, comprising 14,853 pages, from States Parties. Six hundred and forty-four documents, or 64%, comprising 3,341 pages, were unclassified. However, as in previous years, the majority of the pages that were received were classified: 111 documents (6,196 pages) were classified as “OPCW Highly Protected”, 95 documents (3,425 pages) as “OPCW Protected”, and 152 documents (1,891 pages) as “OPCW Restricted”. In other words, 36% of the documents (40% in 2009) and 78% of the pages (83% in 2009) were classified. This constitutes only a small change from previous years in the classification profile of the declarations or other verification-related documents submitted by States Parties in 2010. The Secretariat continues to ensure that all documents are handled in strict compliance with the OPCW confidentiality regime.
- 7.37 In accordance with the Convention,<sup>43</sup> the Secretariat provided redacted information on ADPAs for 2009 and on ADAAs for 2010 to 33 States Parties. Almost 25,000 pages from declarations containing information classified up to and including “OPCW Highly Protected” were provided to these States Parties in 2010. For the first time, redacted information on ADPAs for 2009 was provided exclusively on CD-ROM unless hard copies were explicitly requested, which led to a significant reduction in reproduction costs.

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<sup>42</sup> EC-36/DEC.7, dated 26 March 2004.

<sup>43</sup> See subparagraph 2(b)(i) of the Confidentiality Annex.

### Electronic declarations

- 7.38 Thirty States Parties provided their original ADPAs for 2009 either solely or additionally in electronic format (compared with 21 States Parties in the preceding year). A total of 28 States Parties submitted their original ADAAs for 2011 in electronic format (seven the year before). The increasing number of electronic declarations in 2010 can be attributed to continued uptake of EDNA software by States Parties.
- 7.39 The Secretariat provided States Parties with significant support in connection with their submission of ADPAs for 2009 using EDNA version 2.0, and with their upgrade to EDNA version 2.1, which was released in 2010 and contained some technical improvements. The second user-group forum for EDNA was held in July 2010 and was attended by 26 representatives from 18 States Parties.<sup>44</sup> Furthermore, 68 representatives from 58 States Parties attended EDNA training during the Fifteenth Session of the Conference and at two regional workshops in 2010 (in Budapest, Hungary, and in Dar-es-Salaam, the United Republic of Tanzania).
- 7.40 There has been a growing interest in EDNA among States Parties, which is reflected by the interactive participation of the representatives in the user-group forum. Participants are keen to see further improvements that would facilitate the task of preparing declarations. In 2011, the Secretariat will strive to continue improving EDNA, building on the momentum created with the user community through the second user-group forum and the training events that took place in 2010.

## **8. TECHNICAL SUPPORT FOR VERIFICATION ACTIVITIES**

### **OPCW Laboratory accreditation**

- 8.1 Two internal audits, to cover the three accredited activities of the OPCW Laboratory, were conducted by the Office of Internal Oversight (OIO) in 2010. Minor problems were found and corrective actions were taken.
- 8.2 The full reassessment audit of the Dutch Accreditation Council, the *Raad voor Accreditatie* (RvA), was carried out successfully on 24 November 2010. Minor nonconformities were noted and corrective actions were taken.

### **Official OPCW proficiency tests**

- 8.3 In 2010, the Secretariat completed the Twenty-Sixth and Twenty-Seventh Official OPCW Proficiency Tests. It also began the Twenty-Eighth Test, which was completed in February 2011 (at the end of 2010, the evaluation of participant reports was being carried out by the evaluating laboratory). The particulars of these tests are provided in Table 10.

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<sup>44</sup>

S/882/2010, dated 1 November 2010, provides a detailed report of this event.

**TABLE 10: SUMMARY OF THE TWENTY-SIXTH, TWENTY-SEVENTH, AND TWENTY-EIGHTH OFFICIAL OPCW PROFICIENCY TESTS**

	<b>Twenty-Sixth Proficiency Test</b>	<b>Twenty-Seventh Proficiency Test</b>	<b>Twenty-Eighth Proficiency Test</b>
Sample Preparation	TNO, the Netherlands	VERIFIN, Finland	Dstl Porton Down, United Kingdom
Evaluation of Results	VERTOX, India	RICD, China	DSO, Singapore
Number of Nominations <sup>45</sup>	24	19	27
Results	14 As 1 B 0 Cs 1 D 3 failures (false positives) 3 failures (for procedural reason)	5 As 3 Bs 4 Cs 2 Ds 0 failure 3 trial tests	Test completed in 2011 <sup>46</sup>

8.4 Following the results of the Twenty-Seventh Proficiency Test, there are 18 OPCW-designated laboratories from 15 States Parties. Two of these are temporarily suspended. One previously designated laboratory (in the Republic of Korea) chose not to participate in testing in 2010 and was therefore removed from the list of designated laboratories. China, India, and the United States of America have two designated laboratories each (see attached list of designated OPCW laboratories). A number of States Parties that currently do not have any designated laboratories, including Brazil, Mexico, Morocco, and Viet Nam, have expressed interest in participating in future OPCW proficiency tests.

#### **OPCW Central Analytical Database (OCAD)**

8.5 The new version of OCAD (OCAD V.13\_2010) was certified by the OIO and released in December 2010, and was made available to all States Parties. OCAD database/extracted analytical data were issued 32 times for on-site inspections, ASSISTEX 3, and other training.

8.6 The Validation Group met twice in 2010 and technically approved 636 new analytical data, which were processed and forwarded to the Council for its approval. Three hundred and fifty-four new analytical data approved by the Council were incorporated into the new version of OCAD. Table 11 shows the status of analytical data that had been approved by the Council for inclusion in OCAD by the end of 2010. It should be noted that only the GC(RI)<sup>47</sup> and MS<sup>48</sup> data are currently used in on-site analysis.

<sup>45</sup> Including sample preparation/evaluation laboratories.

<sup>46</sup> The results of the Twenty-Eighth Proficiency Test were announced in S/911/2011, dated 15 March 2011, and Corr.I, dated 31 March 2011.

<sup>47</sup> GC(RI) = gas chromatography (retention index).

<sup>48</sup> MS = mass spectrometry.

**TABLE 11: CONTENTS OF THE OPCW CENTRAL ANALYTICAL DATABASE**

<b>Number of Analytical Data in the OCAD (Status at the End of Each Year)</b>									
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
MS	2138	2824	3372	3476	3571	3742	3940	4183	4382
IR <sup>49</sup>	670	713	811	859	903	921	925	936	936
NMR <sup>50</sup>	1305	1389	1389	1389	1389	1389	1391	1391	1391
GC(RI)	2598	3482	4244	4250	4356	4370	4616	4832	3649
<b>Number of Chemical Species in the OCAD<sup>51</sup> (Status at the End of Each Year)</b>									
MS						2846	3049	3214	3321
IR						671	687	698	698
NMR						298	298	298	298
GC(RI)						2655	2747	2894	3018

**OPCW Laboratory support for S&A for verification purposes**

- 8.7 The OPCW Laboratory continued to support inspection teams in S&A-related verification activities by providing extracts from OCAD in hard copy and electronic form 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 nine S&A missions in 2010. In each case, the instrumentation was fully certified by the OIO.
- 8.9 Assistance and support were provided to the inspectors who are analytical chemists, 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.

**Biomedical sample analysis**

- 8.10 The evaluation of the first confidence-building exercise for biomedical sample analysis was completed in 2010. The exercise report concluded that the exercise successfully demonstrated a broader capability to analyse urine samples for metabolites of chemical-warfare agents than had previously been shown. A workshop was held during the year to discuss the findings. The Secretariat will be organising a second confidence-building exercise for biomedical sample analysis in 2012.<sup>52</sup>

<sup>49</sup> IR = infrared.

<sup>50</sup> NMR = nuclear magnetic resonance spectrometry.

<sup>51</sup> Number of distinct chemicals represented in the OCAD.

<sup>52</sup> S/908/2011, dated 8 March 2011.

### **Other activities**

- 8.11 Laboratory staff continued to provide support to the work of the Scientific Advisory Board, including its temporary working group on S&A.

### **Approved equipment**

- 8.12 One new item of GC-MS equipment was purchased and received by the Laboratory in 2010. Old GC-MS equipment is retained at the OPCW Laboratory for the purpose of inspector training.

### **Training**

#### Training of inspectors

- 8.13 The OPCW Laboratory prepared samples for 10 certification exercises for new inspectors who are analytical chemists, and prepared samples and instruments for the training of such inspectors. As part of ASSISTEX 3, spiked samples that had been prepared by the OPCW Laboratory were delivered by OPCW staff to two designated laboratories (Edgewood in the United States of America and VERIFIN in Finland). The samples were subsequently returned to the OPCW Laboratory.

#### Training provided to States Parties

- 8.14 In 2010, the Laboratory hosted familiarisation visits by scientists from Brazil, the Netherlands, and the Republic of Korea.

**Attachment**

**LIST OF DESIGNATED OPCW LABORATORIES<sup>53</sup>**

	<b>State Party</b>	<b>Laboratory Name and Address</b>	<b>Laboratory Contact</b>	<b>Date of Designation</b>
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 <a href="mailto:Kris.geukens@mil.be">Kris.geukens@mil.be</a>	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 10 6976 0259 + 86 136 61288823 Fax: + 86 10 69765318 <a href="mailto:ricdlacl@public.bta.net.cn">ricdlacl@public.bta.net.cn</a>	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 10 68225893 86 13 621345667 Fax: + 86 10 68225893 <a href="mailto:Xiejw1964@yahoo.com.cn">Xiejw1964@yahoo.com.cn</a> <a href="mailto:AMMSLTA@gmail.com">AMMSLTA@gmail.com</a>	14 September 2007
4.	Finland	Finnish Institute for Verification of the Chemical Weapons Convention (VERIFIN) P.O. Box 55 A.I. Virtasen aukio 1 University of Helsinki FIN-00014	Mr Martin Söderström Tel: +358 9 191 50438 Fax: +358 9 191 50437 <a href="mailto:Martin.soderstrom@helsinki.fi">Martin.soderstrom@helsinki.fi</a>	17 November 1998
5.	France	DGA - Centre d'Etudes du Bouchet (CEB) 5 rue Lavoisier PO Box 3 F-91710 Vert le Petit	Ms Anne Bossée Tel: +33 1 69908421 Fax: +33 1 64935266 <a href="mailto:Anne.bossee@dga.defense.gouv.fr">Anne.bossee@dga.defense.gouv.fr</a>	29 June 1999
6.	Germany	Bundeswehr Research Institute for Protection Technologies NBC Protection (WIS-120) P.O. Box 1142 Humboldtstrasse 1 29633 Munster	Mr Damian Magiera Tel: +49 51 92 13 6402 Fax: +49 51 92 13 6355 <a href="mailto:Damianmagiera@bwb.org">Damianmagiera@bwb.org</a>	29 June 1999

<sup>53</sup>

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.

	<b>State Party</b>	<b>Laboratory Name and Address</b>	<b>Laboratory Contact</b>	<b>Date of Designation</b>
7.	India	Defence Research & Development Establishment VERTOX Laboratory Jhansi Road Gwalior 474002	Mr D.K. Dubey Tel: + 91 751 2233488 Fax: + 91 751 2341148 <a href="mailto:dkdubey@rediffmail.com">dkdubey@rediffmail.com</a>	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: +92 40 27193156 <a href="mailto:srini@iict.res.in">srini@iict.res.in</a> <a href="mailto:sragampeta@yahoo.co.in">sragampeta@yahoo.co.in</a>	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 152843831 Fax: +31 152843991 <a href="mailto:Marieke.vandeursen@tno.nl">Marieke.vandeursen@tno.nl</a> <a href="mailto:Helma.spruit@tno.nl">Helma.spruit@tno.nl</a>	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 <a href="mailto:m.stela@wishir.waw.pl">m.stela@wishir.waw.pl</a>	29 June 1999
11.	Russian Federation	The Laboratory for the Chemical and Analytical Control of the Military Research Centre Brigadirsky Pereulok, 13, 105005 Moscow	Mr I. Rybalchenko Tel: +7495 267-5107 Fax: +7495 693-3857 <a href="mailto:riv@lumex.ru">riv@lumex.ru</a> <a href="mailto:rivruss@mail.ru">rivrus@mail.ru</a>	4 August 2000
12.	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 <a href="mailto:smutian@dso.org.sg">smutian@dso.org.sg</a>	14 April 2003
13.	Spain	Laboratorio de Verificación de Armas Químicas Fábrica Nacional "La Marañososa" Carretera San Martín de la Vega. Km. 10.5 San Martín de la Vega Madrid 28330	Mr Juan Carlos Fernández Tel: +34 91 8098591 Fax: +34 91 8098571 <a href="mailto:jcfernandez@oc.mde.es">jcfernandez@oc.mde.es</a> <a href="mailto:aferlop@oc.mde.es">aferlop@oc.mde.es</a>	16 August 2004



	<b>State Party</b>	<b>Laboratory Name and Address</b>	<b>Laboratory Contact</b>	<b>Date of Designation</b>
14.	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 <a href="mailto:Martin.nygren@foi.se">Martin.nygren@foi.se</a>	17 November 1998
15.	Switzerland	Spiez Laboratory CH 3700 Spiez	Mr Peter Siegenthaler Tel: +41 33 228 1730 Fax: +41 33 228 1402 <a href="mailto:Peter.siegenthaler@babs.admin.ch">Peter.siegenthaler@babs.admin.ch</a>	17 November 1998
16.	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 <a href="mailto:Jriches@dstl.gov.uk">Jriches@dstl.gov.uk</a> <a href="mailto:rwread@dstl.gov.uk">rwread@dstl.gov.uk</a>	29 June 1999
17.	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 <a href="mailto:Lynn.hoffland@us.army.mil">Lynn.hoffland@us.army.mil</a> <a href="mailto:Stanley.ostazeski@us.army.mil">Stanley.ostazeski@us.army.mil</a>	29 June 1999
18.	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 <a href="mailto:alcarazl@llnl.gov">alcarazl@llnl.gov</a>	29 June 1999