OPCW

Technical Secretariat

Verification Division
S/1070/2013
14 February 2013
Original: ENGLISH

NOTE BY THE DIRECTOR–GENERAL

REPORT ON THE PERFORMANCE OF THE REVISED METHODOLOGY FOR THE SELECTION OF OTHER CHEMICAL PRODUCTION FACILITIES FOR INSPECTION

BACKGROUND

1. In 2011, the Director-General introduced—as an interim measure and on the basis of consultations within the Industry Cluster—a revised methodology to select other chemical production facilities (OCPFs) for inspection (S/962/2011, dated 8 September 2011).

2. Prior to using the revised methodology specified in S/962/2011, the Technical Secretariat (hereinafter "the Secretariat") used a modified methodology (S/641/2007, dated 25 May 2007 and Corr.1, dated 4 June 2007) to select OCPFs for inspections that were conducted from 2008 to 2011.

3. A detailed comparison between the S/962 methodology and the S/641 methodology is provided in the annex to S/962/2011.

4. At its Sixty-First Session, the Executive Council (hereinafter "the Council") appointed Ambassador Fauziah Mohamad Taib and Ambassador Pieter de Savornin Lohman as the co-facilitators for a consultation on the OCPF site-selection methodology. The co-facilitators reported on this consultation to the Council at its Sixty-Fifth Session (EC-65/WP.1, dated 10 June 2011). In their report, the co-facilitators recommended that the Director-General modify the interim OCPF site-selection methodology (paragraph 9 of EC-65/WP.1) to better target OCPF inspections, without the need for States Parties to provide additional information in declarations (paragraph 5 of EC-65/WP.1). The Council at the same session noted the report of the co-facilitators (paragraph 6.32 of EC-65/4, dated 15 July 2011) and the Council reaffirmed that the Secretariat will report annually to States Parties on the performance of the interim OCPF site-selection methodology, as indicated in the report by the co-facilitators (EC-65/WP.1).

5. The primary function of the S/962 methodology is to correlate the number of inspections received by each State Party with the number and the relevance of the OCPF plant sites within that State Party. The expected number of OCPF inspections in a particular State Party is a function of both the number of inspectable OCPF plant sites and the relevance of these plant sites as assessed by the A15 algorithm. Within the State Party, the probability that a site will be selected is correlated with its relevance as assessed by its A15 value.

6. This Note offers an overview of the performance of the S/962 methodology in its first year of implementation (for inspections conducted in 2012). The expected outcome of the selection using the S/962 methodology has been compared to the expected outcome of the selection using the S/641 methodology. In addition, the actual results achieved in 2012 have been compared to those achieved in previous years with the S/641 methodology.

7. For the purpose of making this comparison, it was noted that there had been modifications in relation to the algorithm (that is, in the A15 value vis-à-vis the A14 value). In addition, as described in the S/962 methodology, three selection pools were introduced to select OCPF plant sites not yet inspected, whereas in the S/641 methodology, there was provision for only one selection pool. Finally, there are differences in relation to the number of inspectable OCPF plant sites being submitted by the States Parties and there has been a change in the number of inspections being conducted annually.

FINDINGS

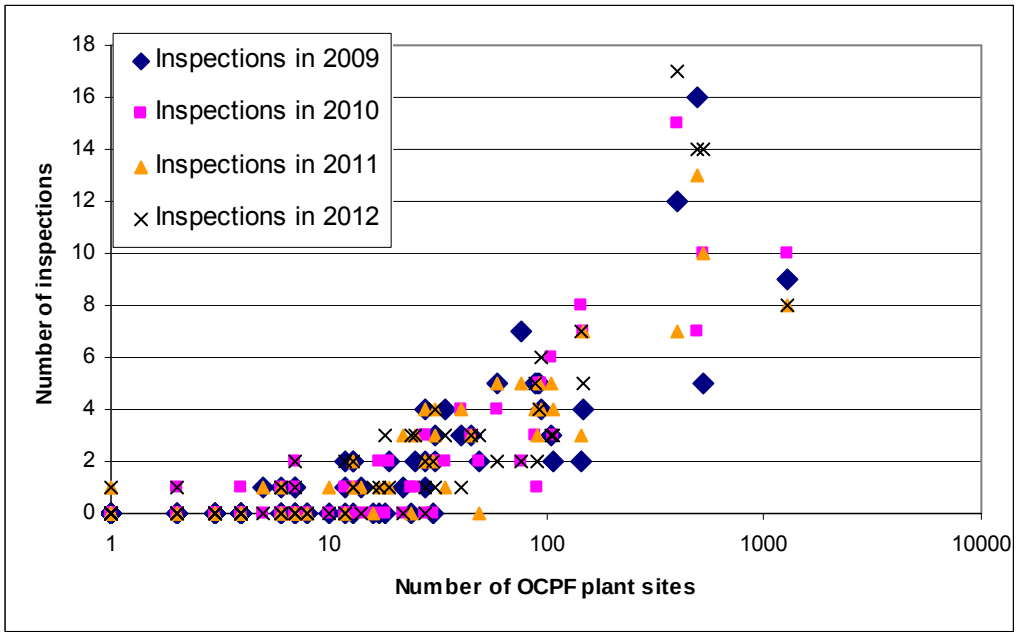
8. Using the S/962 methodology, the Secretariat selected 137 OCPF plant sites for inspection in 2012.

9. Overall, the S/962 methodology has achieved the expected objective in targeting OCPFs in accordance with their relevance.

Number of OCPF plant sites selected for each State Party

10. Figure 1 shows the number of OCPF inspections conducted in each State Party from 2009 to 2012. The data for the number of OCPF plant sites in each State Party was based on the information declared by States Parties as at 31 December 2012. In 2012, the Secretariat conducted 137 OCPF inspections, as compared with 125 in both 2009 and 2010, and 127 in 2011.

FIGURE 1: NUMBER OF OCPF INSPECTIONS PER STATE PARTY



11. The following observations can be made:

(a) Figure 1 shows that the application of both the S/641 and S/962 methodologies led to a result whereby the number of inspections conducted in each State Party was correlated to the declared number of plant sites in that State Party. The States Parties that declared a relatively large number of OCPFs received more inspections than those which had declared relatively fewer for each year.

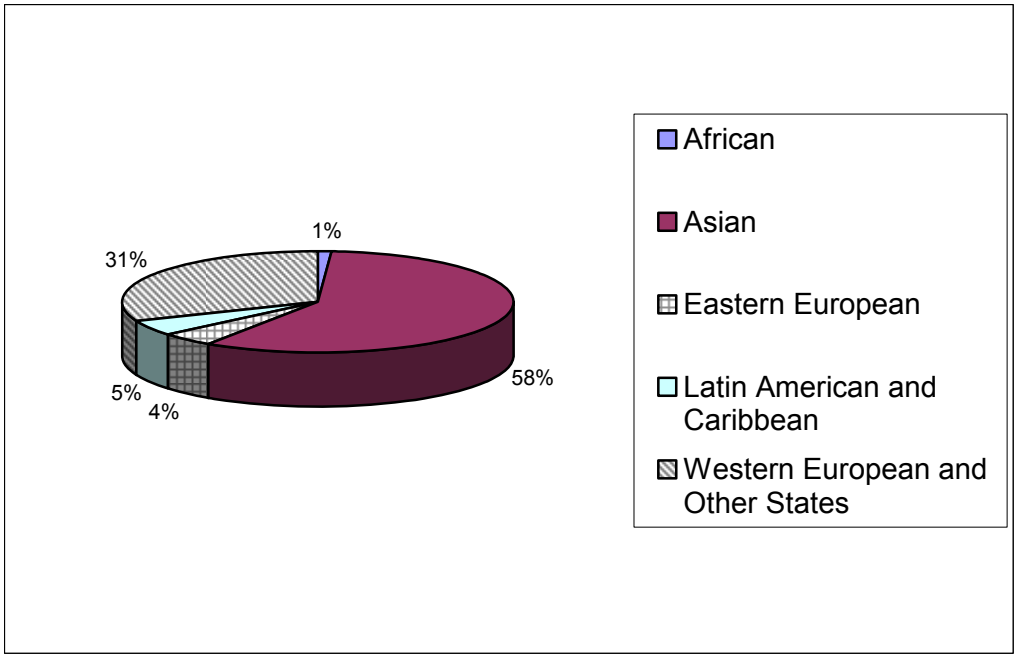
(b) The provision of paragraph 13 of Part IX of the Verification Annex to the Chemical Weapons Convention (hereinafter "the Verification Annex") limits the annual maximum combined number of inspections that can be received by a State Party under Parts VIII and IX of the Verification Annex. As a result of reallocating the excess inspections selected for States Parties, which went above that limit, those inspections were distributed to other States Parties by the same random selection process.

(c) Because of the random nature of the selection process, States Parties that had declared a particular number of inspectable plant sites received inspections within a certain range. For instance, a State Party that had declared approximately 100 plant sites received from one to eight inspections per year.

Geographical distribution

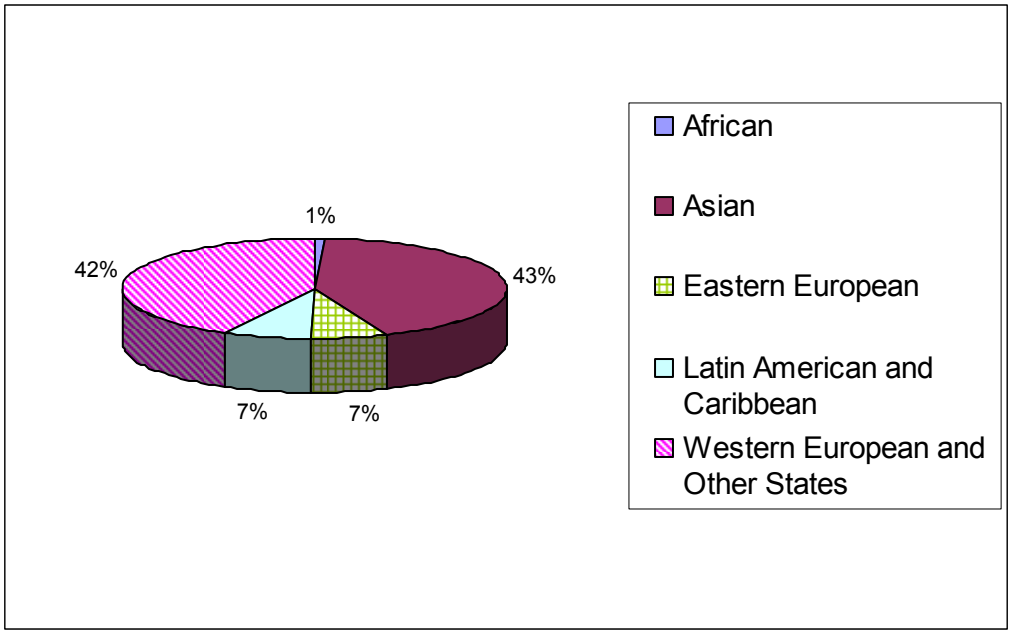
12. Figure 2 shows the percentage of inspectable plant sites in each regional group based on the information declared by States Parties as at 31 December 2012.

FIGURE 2: PERCENTAGE OF INSPECTABLE PLANT SITES IN EACH REGIONAL GROUP (DATA AS AT 31 DECEMBER 2012)



13. Figure 3 shows the percentage of inspections conducted in each regional group in 2012. The percentages have been calculated on the basis of 137 inspections taking place per year.

FIGURE 3: PERCENTAGE OF INSPECTIONS IN EACH REGIONAL GROUP IN 2012



14. Despite the fact that the S/962 methodology was not designed to address the issue of geographical distribution, the following observations can be made:

(a) Figures 2 and 3 show that the regional groups that had declared more inspectable OCPFs received more inspections.

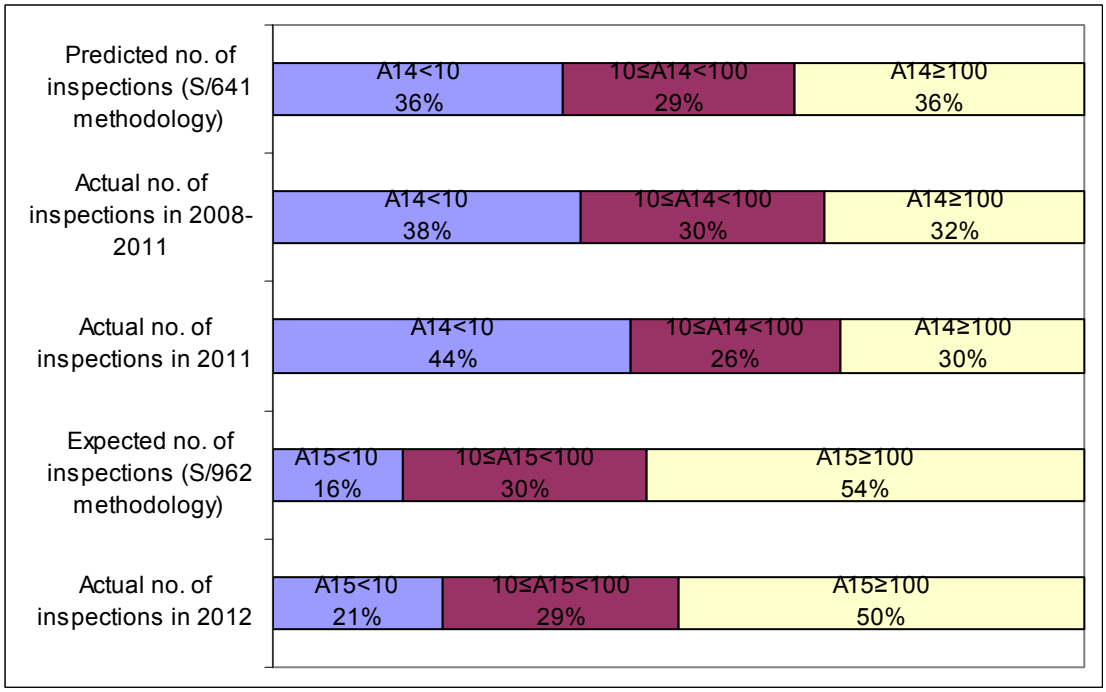
(b) States Parties belonging to the Asian Group and the Western Europe and Other States Group (WEOG) received more than 80% of the total OCPF inspections carried out in 2012. The main reason for this was that about 90% of the inspectable plant sites were declared by States Parties located in these two regional groups.

(c) The provision of paragraph 13 of Part IX of the Verification Annex limits the maximum number of inspections for a State Party. As a result of reallocating the exceeded number of inspections for some States Parties, other States Parties received more inspections by random selection than they would have received in the absence of the limitation. This factor cannot be addressed in the simulations.

Distribution as per the relevance of the plant sites

15. Figure 4 below shows the distribution of the plant sites that received inspections in 2011, in 2012, and the annual average of the distribution since 2008 until 2011 categorised by the value of A14 or A15 scores. The figure also shows the expected distribution of plant sites using both the S/641 and the S/962 methodologies, also categorised by the value of A14 or A15 scores.

FIGURE 4: DISTRIBUTION AS PER THE RELEVANCE OF THE PLANT SITES



16. The following observations can be made:

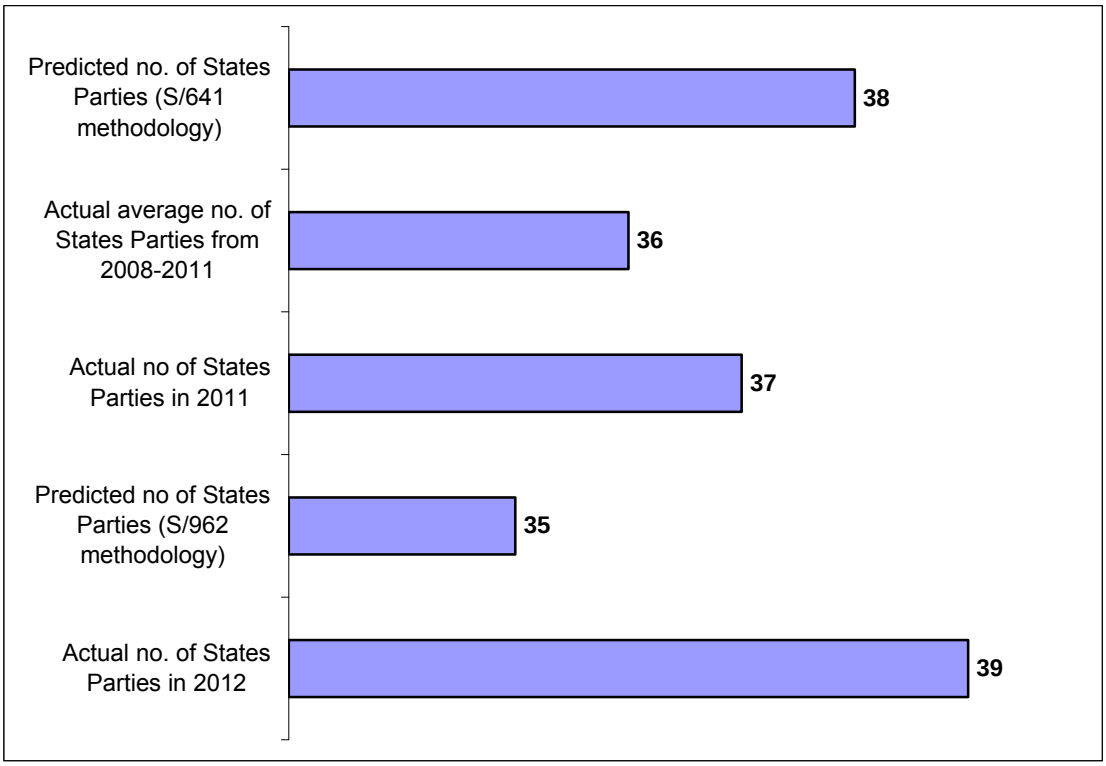
(a) Fewer OCPFs having relatively low A15 values were selected compared to the S/641 methodology, a development that had been anticipated in the report of the co-facilitators (EC-65/WP.1).

(b) A larger number of OCPFs having relatively high A15 values, that is, those of higher relevance, were selected compared to the S/641 methodology, as was anticipated in the report of the co-facilitators. This represents a significant improvement compared to the selections made by the previous selection methodology.

(c) Differences between the expected and the actual results are attributable to the inability of the simulation to incorporate the effect of the limitation on the number of inspections (as set out in the provision of paragraph 13 of Part IX of the Verification Annex) and to the fact that declarations have been updated after the simulations, providing a different set of data for the actual selection, compared to the simulation data set.

17. Figure 5 shows a comparison of the performance of the selection methodologies based on the number of States Parties that were selected to receive OCPF inspections in 2011, in 2012, and the average of the number of States Parties selected from 2008 to 2011. These values are compared with the anticipated results for both selection methodologies.

FIGURE 5: NUMBER OF STATES PARTIES THAT WERE SELECTED TO RECEIVE OCPF INSPECTIONS



18. The number of States Parties that received OCPF inspections in 2012 was 39. This number was higher than previous years (37 in 2011). The main reason for this increase was the three-pool approach of the revised S/962 methodology. Other contributing factors that might have also had an impact are:

(a) an increase in the number of declared OCPF plant sites by some States Parties;

(b) an increase in the number of budgeted annual OCPF inspections;

(c) an increase in the rate of subsequent (repeat) inspections for OCPF inspections from 5% in 2011 to 10% in 2012; and

(d) the inability of the simulation to model the effect of the limitation on the number of inspections as set out in the provision of paragraph 13 of Part IX of the Verification Annex, which has the effect of distributing some inspections to other States Parties.

CONCLUSIONS

19. In short, the use of the S/962 methodology to select OCPF plant sites for inspection that took into account both the number and the relevance of plant sites declared by States Parties achieved the following results in 2012, namely:

(a) the selection of more plant sites from among those States Parties that had declared relatively large numbers of inspectable plant sites, meaning that States Parties that have declared a relatively large number of OCPF plant sites

can expect more inspections than those that have declared fewer, within the limitations set by the Chemical Weapons Convention;

(b) the selection of a higher proportion of more relevant plant sites, meaning plant sites with high A15 values, as a result of the introduction of three selection pools; and

(c) the mitigation of the trend to select decreasing numbers of States Parties that receive inspections, mainly as a result of the three-pool approach.

20. In summary, the S/962 methodology has achieved the goal set out in the report of the co-facilitators (EC-65/WP.1) to better target the OCPF inspections, without requiring States Parties to submit additional information.

- - - o - - -