



Verification Division
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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 described in the Annex to Note 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 dependent on the relevance of the plant site as evaluated by the A15 value attributed to the site.



6. This Note provides an overview of the performance of the plant site selection (PSS) process using the S/962 methodology in its second year of implementation (for inspections conducted in 2013). For the purpose of making an assessment, the actual results achieved in 2013 have been compared with those of 2012 and with results from the previous period (2008-2011) using the S/641 methodology. In addition, attempts have been made to relate the expected outcomes of the selection using the S/962 methodology to the expected outcomes of the selection using the S/641 methodology.
7. The changes impacting the PSS process in recent years are summarised as follows: in the implementation of the S/962 methodology, which took place in 2011, there were modifications to the algorithm, with an A15 value replacing the A14 value, and the introduction of three selection pools for OCPF plant sites not yet inspected (as opposed to one single selection pool as provided in the S/641 methodology); the number of inspectable OCPF plant sites submitted by the States Parties has evolved considerably and there has been an increase in the total number of inspections conducted annually, with the addition of 10 inspections in 2012 and again in 2013; and there has been a change in the distribution of inspections among the pools as a result of subsequent increases to the re-inspection rate.

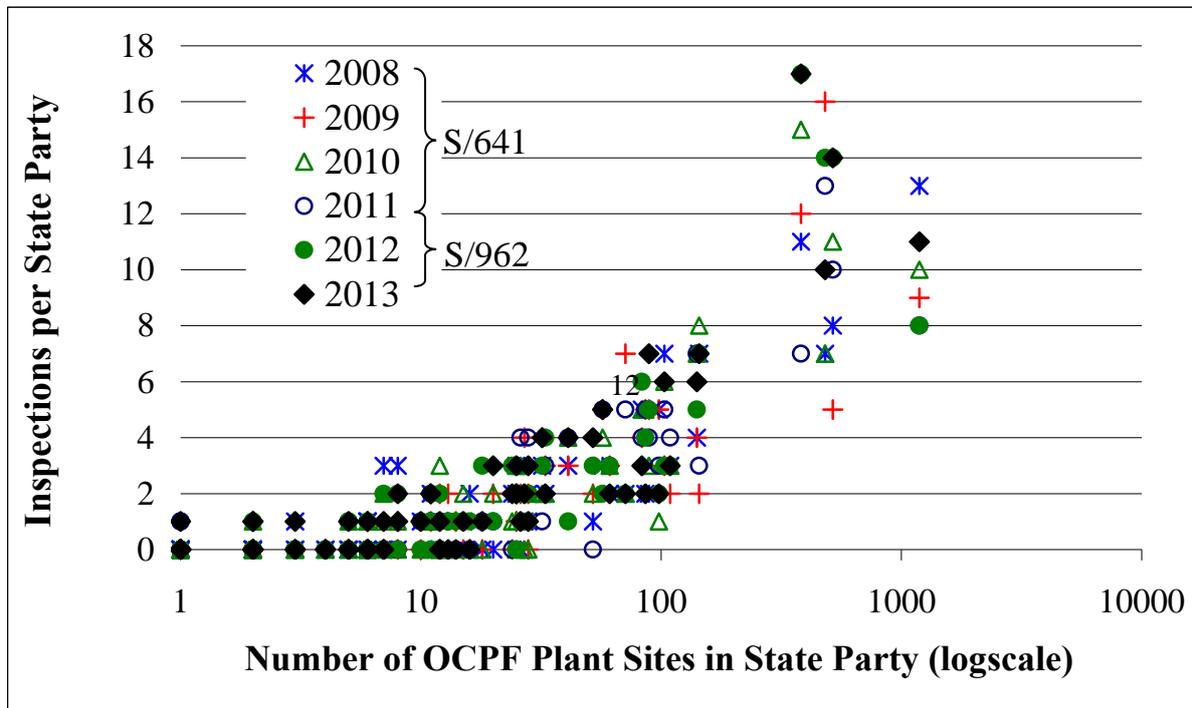
FINDINGS

8. Using the PSS process based on the S/962 methodology, the Secretariat selected 147 OCPF plant sites for inspection in 2013.
9. In general, the findings from the PSS results for 2013 once again show that the S/962 methodology achieves the combined objectives of maintaining a balanced geographical distribution, and the targeting of OCPFs according to their level of relevance, which confirms that the effect of the revision to the methodology is positive.

Number of OCPF inspections per State Party

10. The distribution of OCPF plant site inspections conducted in each State Party according to the number of plant sites in that State Party is plotted in Figure 1 for the period 2008 to 2013. The total number of OCPF plant sites in each State Party is based on the declared information from States Parties as at 31 December 2012 (shown in logarithmic scale), and the data on number of inspections per year can be separated into two periods: the period 2008-2011 when the Secretariat employed the former S/641 PSS methodology, and the years 2012 and 2013 when the S/962 PSS methodology was used. In 2013, the Secretariat conducted 147 OCPF inspections, which was 10 inspections more than the 137 carried out in 2012. This is an increase compared with the previous period, when inspections conducted by the Secretariat totalled 127 in 2011, 125 in both 2009 and 2010, and 118 in 2008.

FIGURE 1: NUMBER OF INSPECTIONS AGAINST TOTAL NUMBER OF OCPF PLANT SITES IN EACH STATE PARTY

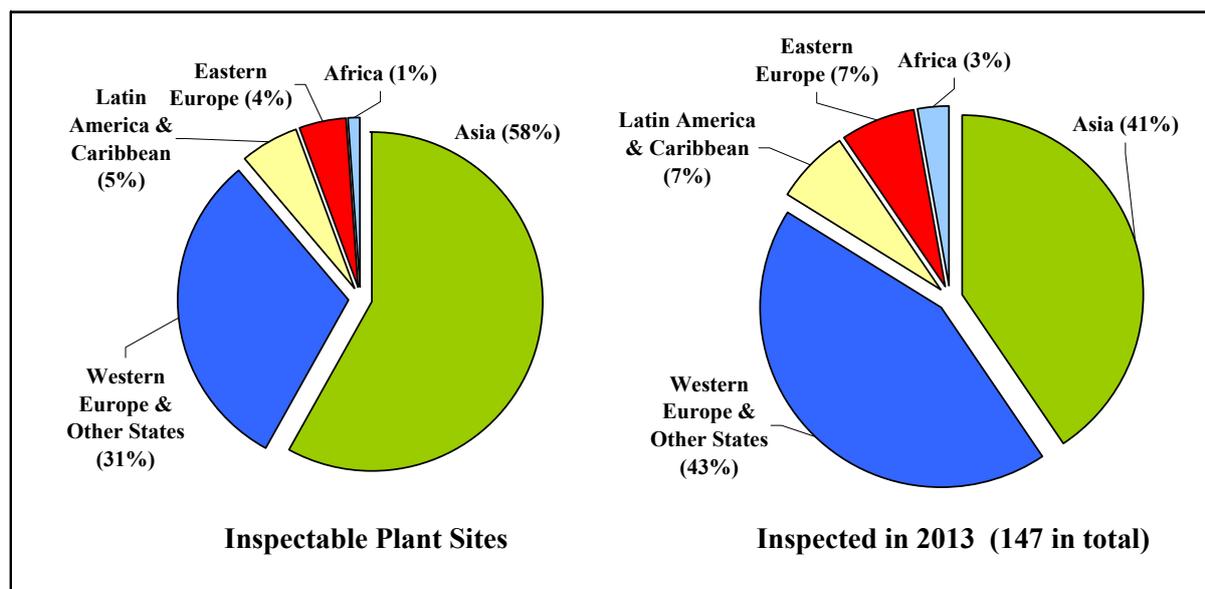


11. From the distribution of actual inspections conducted, several facts can be observed which are common to all six years in the period:
- the number of inspections conducted in each State Party is positively correlated with the number of declared OCPF plant sites in that State Party, which is a key result of both the S/962 and S/641 methodologies in the PSS process;
 - according to the provisions of paragraph 13 of Part IX of the Verification Annex to the Chemical Weapons Convention (hereinafter “the Verification Annex”), within a State Party there is an upper limit to the combined number of inspections per year received under both Parts VIII and IX of the Verification Annex. While the selection of plant sites under both Parts of the Verification Annex is determined by a random selection process, in certain States Parties the total number of inspections reached this limit in some years during the period, resulting in the reallocation of inspections to other States Parties according to the same random selection draw; and
 - the random selection process makes use of a probabilistic methodology that takes into account both the characteristics of the plant sites and the activities carried out there. Therefore, States Parties with a similar number of inspectable plant sites received a comparable number of inspections, but varying within a limited range. For instance, States Parties declaring between 55 and 150 plant sites received between two and seven inspections per year in the period.

Geographical distribution of OCPF plant sites and inspections in 2013

12. The geographical distribution of plant sites and inspections among regional groups is shown in Figure 2. The chart on the left shows the share of inspectable OCPF plant sites in each regional group in 2013, based on the declared information from States Parties as at 31 December 2012. The chart on the right shows the share of inspections in 2013 conducted in each regional group, out of a total of 147 inspections.

FIGURE 2: COMPARISON OF THE REGIONAL DISTRIBUTION OF PLANT SITES AND INSPECTIONS



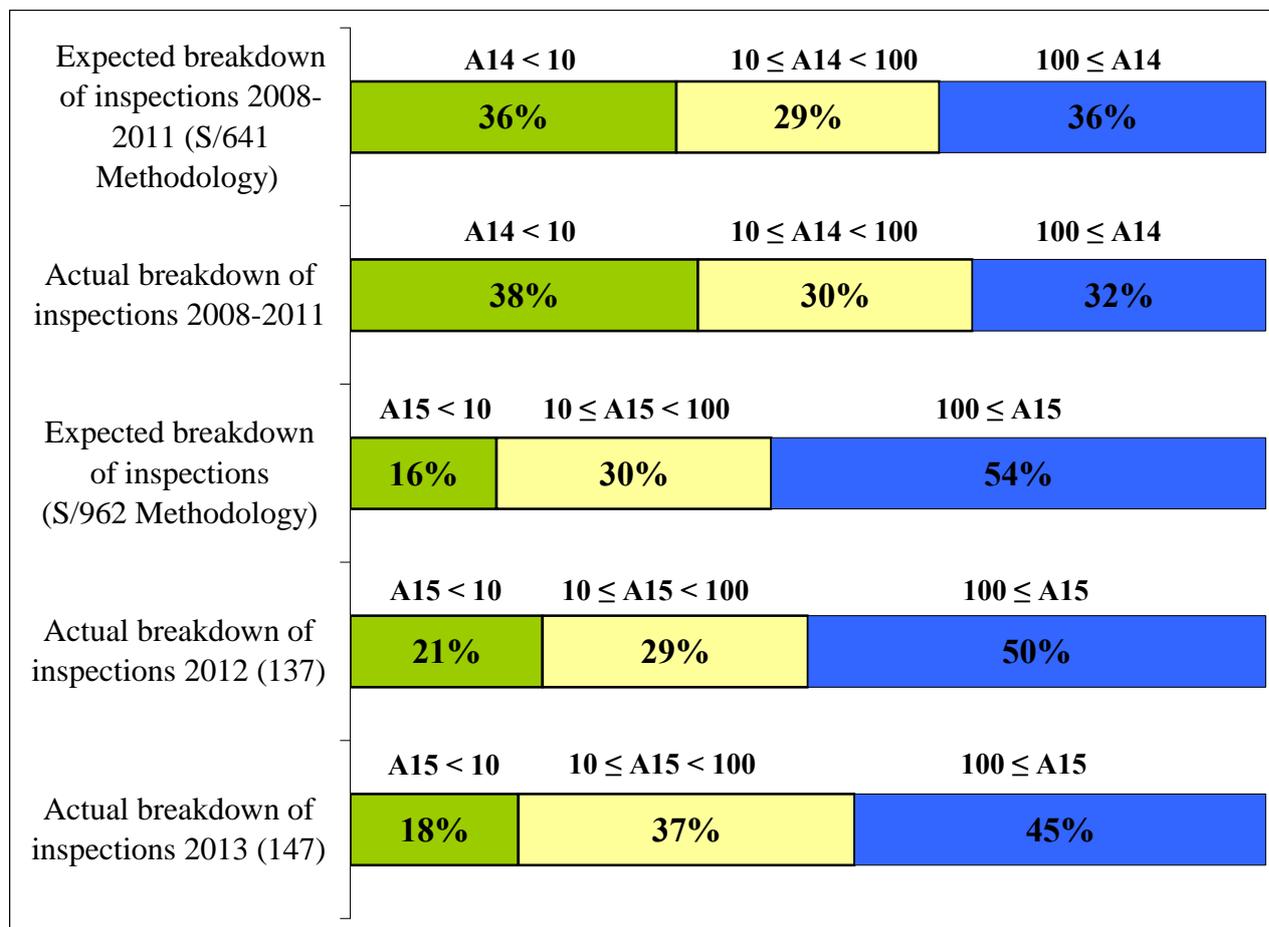
13. By contrasting the two distribution charts, the following facts are evident:
- even though the PSS methodology does not include any mechanism for achieving an adequate regional balance, those regions declaring a higher number of inspectable OCPF plant sites received a larger proportion of inspections in 2013;
 - the vast majority of inspectable plant sites (about 90%) were declared by States Parties belonging to the Asian group and the Western Europe and Other States Group (WEOG). Accordingly, States Parties located in these two regional groups received most of the total number of OCPF inspections carried out in 2013 (more than 80%); and
 - in compliance with the provisions of paragraph 13 of Part IX of the Verification Annex, when, in some States Parties, the total number of sites selected for inspection in 2013 reached the threshold, inspections were reallocated to other States Parties, according to the ordered probabilities of the selection process.

Distribution of OCPF inspections according to the relevance of plant sites

14. The distribution of plant sites according to relevance is compared in Figure 3, which shows the share of inspected OCPF plant sites in each of the low, medium and high

relevance groups, according to A15 (A14) scores in the period 2008-2013. The breakdown is shown according to the value of the A15 for 2012 and 2013, and the annual average A14 scores for the period from 2008 to 2011. The expected distribution according to the respective methodology is also shown for each period.

FIGURE 3: RELATIVE SHARE OF INSPECTIONS ACCORDING TO THE RELEVANCE SCORE OF OCPF PLANT SITES



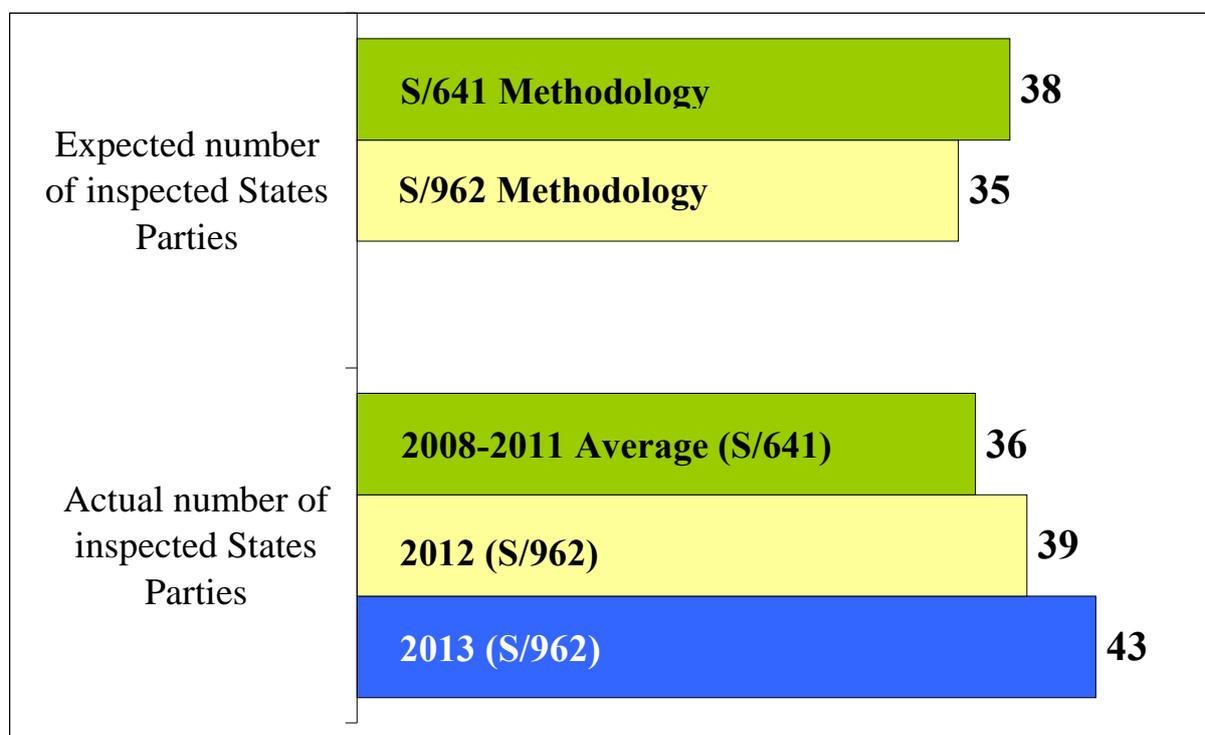
15. The evolution of the distribution over time leads to the following observations:
- the S/962 methodology continues to result in the selection of relatively fewer OCPFs with low A15 values, as compared with the S/641 methodology, a result which is shown clearly when comparing the expected breakdown of plant sites from each methodology;
 - the S/962 methodology continues to result in the selection of relatively more OCPFs with higher A15 values (i.e. higher relevance) than with the former S/641 methodology. This represents a significant improvement compared with selections using the previous selection methodology, as shown by the expected breakdown of plant sites; and
 - the differences between the expected and the actual results can be attributed to the randomness of the selection and the effect of the provisions of paragraph

13 of Part IX of the Verification Annex, which limits the total number of inspections in any one State Party. The impact of this limitation is a consequent reallocation of inspections to plant sites with lower A15 scores: slightly more plant sites in the medium relevance group were inspected than would be the case in absence of these provisions.

Coverage of States Parties selected to receive inspections

16. The coverage of States Parties selected for inspection can be compared over time, and also with respect to the expected coverage according to the PSS methodology used. In Figure 4, the total number of States Parties actually inspected is shown for 2013 and 2012, and the average for 2008-2011, against the expected coverage according to the respective PSS methodology.

FIGURE 4: COVERAGE OF STATES PARTIES SELECTED TO RECEIVE OCPF INSPECTIONS



17. The total number of States Parties that received OCPF inspections in 2013 was 43; this was a slight increase from 2012 (39 inspections) and from the average of 36 inspected States Parties per year during the period from 2008 to 2011. This improvement in coverage is partly due to the limitation on the number of inspections, as set out in the provisions to paragraph 13 of Part IX of the Verification Annex, which has the effect of distributing some inspections to other States Parties. Other contributing factors that might also have an impact are:

- (a) the three-pool approach of the one-step S/962 methodology: while the number of States Parties that declared at least one OCPF plant site has remained

relatively stable in recent years (at around 80), the approach has the effect of increasing the coverage of States Parties in the selection of plant sites;

- (b) an increase in the number of budgeted annual OCPF inspections, in which 10 additional inspections have been conducted in each year since 2011; and
- (c) an increase in the rate of subsequent (repeat) OCPF inspections from 5% in 2011 to 10% in 2012, and to 15% in 2013.

CONCLUSIONS

18. The analysis of the results from the PSS process to select OCPF plant sites for inspection in 2013 confirms that the use of the S/962 methodology takes into account both the number and the relevance of plant sites declared by States Parties. The key aspects of the selection results for 2013 are:
 - (a) the number of inspections conducted in each State Party is positively correlated with the number of declared OCPF plant sites in that State Party. States Parties that declare a higher number of OCPF plant sites can expect more inspections than those that declare fewer, within the limitations set by the Chemical Weapons Convention;
 - (b) the PSS process using the S/962 methodology continues to result in relatively fewer OCPFs being selected with low A15 values and a higher proportion of more relevant plant sites with high A15 values when compared to the S/641 methodology. This is a key result of the introduction of three selection pools; and
 - (c) the improvement in coverage with an increasing number of States Parties receiving inspections, reflecting the impact of the limitation on the number of inspections according to paragraph 13 of Part IX of the Verification Annex, but also the effect of the three-pool approach in the selection methodology, the increase in the rate of subsequent inspections, and an increasing number of inspections carried out in the past few years.
19. In conclusion, the PSS process using the S/962 methodology continues to achieve the goal set forth in the report of the co-facilitators (EC-65/WP.1), namely, better targeting of OCPF inspections without the need for States Parties to provide additional information in declarations.