



S/1582/2018
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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. In line with the recommendation of the co-facilitators for the consultation on the site selection methodology for OCPFs, contained in their report to the Executive Council (hereinafter “the Council”) at its Sixty-Fifth Session (EC-65/WP.1, dated 10 June 2011) and with the reaffirmation by the Council in its report of that same session (paragraph 6.32 of EC-65/4, dated 15 July 2011), the Technical Secretariat (hereinafter “the Secretariat”) reports annually to States Parties on the performance of the interim OCPF site selection methodology.
3. The previous reports on this topic are contained in Notes by the Secretariat S/1070/2013, dated 14 February 2013; S/1157/2014, dated 10 February 2014; S/1240/2015, dated 6 February 2015; S/1348/2016, dated 4 February 2016; and S/1461/2017, dated 6 February 2017.
4. This Note provides an overview of the performance of the methodology specified in S/962 in its sixth year of implementation (for inspections conducted in 2017). For the purpose of making an assessment, the actual results achieved in 2017 have been compared to those of 2016 and 2015.

FINDINGS

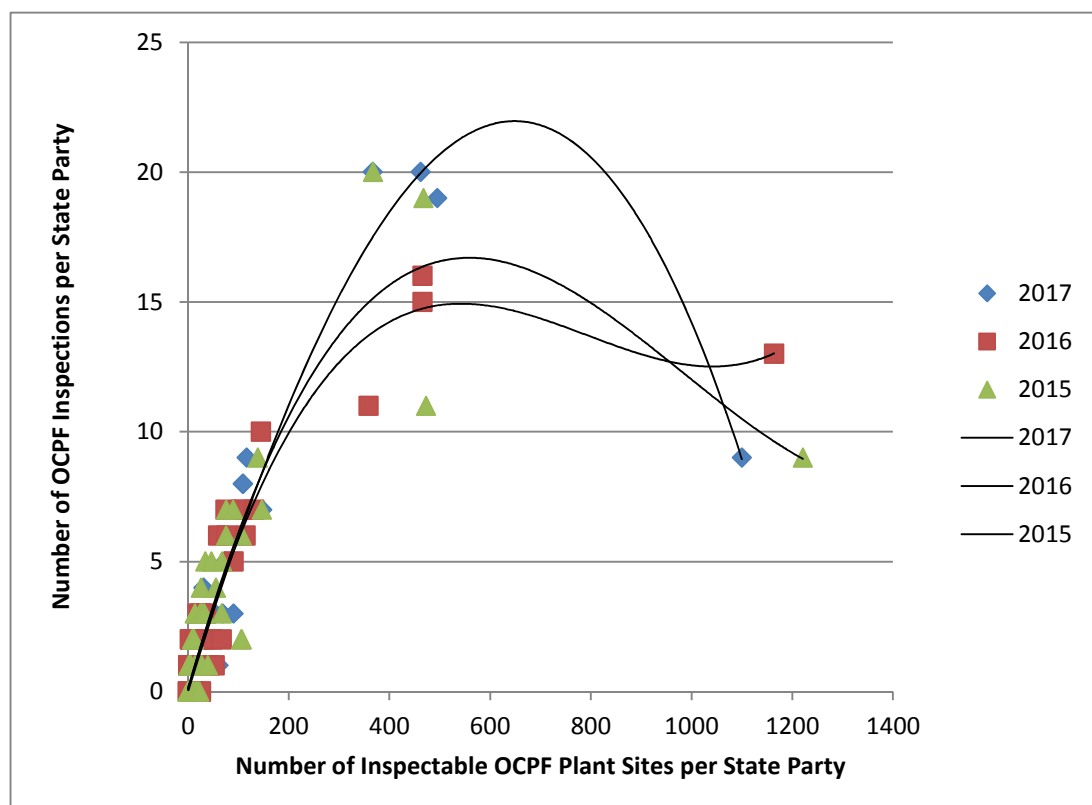
5. Using the plant site selection (PSS) process based on the S/962 methodology, the Secretariat selected 169 OCPF plant sites which were budgeted for inspection in 2017.
6. In general, the findings from the PSS results for 2017 show that the S/962 methodology achieves the combined objectives of maintaining a balanced geographical distribution and targeting 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

7. The distribution of plant site inspections conducted in each State Party against the number of inspectable OCPF plant sites in that State Party is plotted in Figure 1 below for the period 2015 to 2017. The data on the number of OCPF plant sites in each State Party is based on the information declared by States Parties. In 2017, as in 2016 and 2015, the Secretariat conducted 169 OCPF inspections.

FIGURE 1: NUMBER OF OCPF INSPECTIONS PER STATE PARTY AGAINST THE TOTAL NUMBER OF INSPECTABLE OCPF PLANT SITES (2015 TO 2017)



8. In order to provide more clarity with respect to the methodology currently used, only the analysis for the last three years is included in Figure 1 above. The number of inspectable OCPF plant sites is presented on a linear scale, and a trend-line analysis is added to depict the correlation between the number of inspectable plant sites and the number of inspections received for the same three-year period.
9. From this analysis, several facts can be observed, which are common to all three years:
 - (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;
 - (b) in accordance with 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

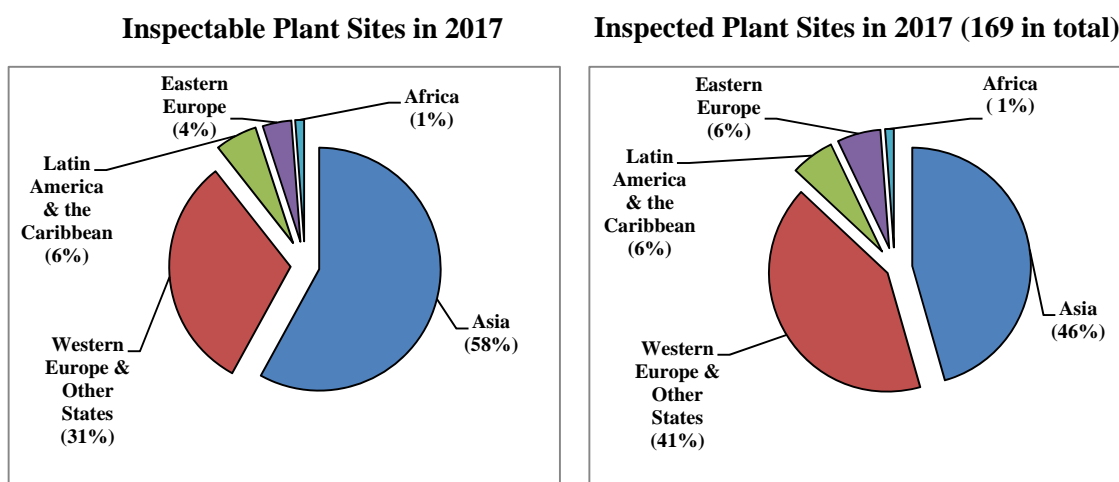
combined number of inspections per year received under both Parts VIII (Schedule 3) and IX (OCPF) of the Verification Annex. While the selection of plant sites under both Parts of the Verification Annex is determined by a random selection process, in some States Parties the total number of inspections reached the limit, causing the reallocation of inspections to other States Parties and subsequently distorting the positive correlation for the higher end of the graph; and

- (c) 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 100 and 150 plant sites received between seven and nine inspections in 2017.

Geographical distribution of OCPF plant sites and inspections in 2017

10. The geographical distribution of plant sites and inspections among regional groups is shown in Figure 2 below. The chart on the left shows the share of inspectable plant sites in each regional group in 2017, based on the information declared by States Parties as at 9 November 2016. The chart on the right shows the share of inspections in 2017 conducted in each regional group, out of a total of 169 inspections.

FIGURE 2: COMPARISON OF THE REGIONAL DISTRIBUTION OF PLANT SITES AND INSPECTIONS (BASED ON THE INFORMATION DECLARED BY STATES PARTIES AS AT 9 NOVEMBER 2016)



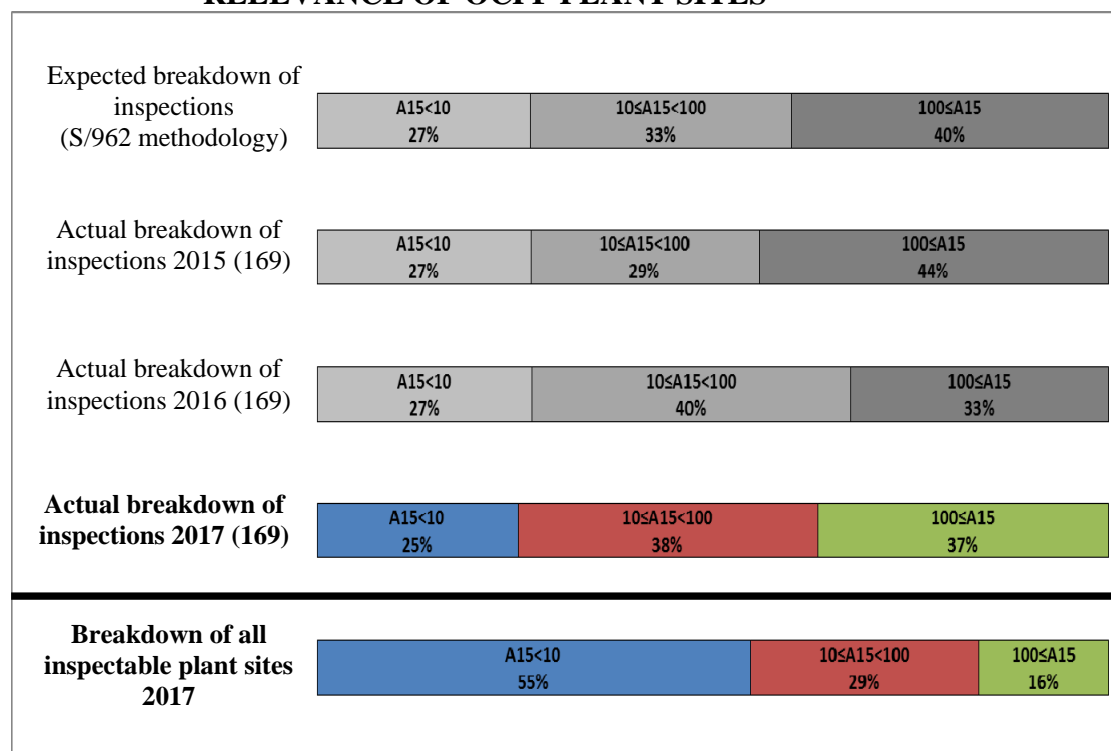
11. By comparing the two distribution charts, the following conclusions can be drawn:
- (a) even though the PSS methodology does not include any mechanism for achieving an adequate regional balance, regions declaring a higher number of inspectable OCPF plant sites received a larger proportion of inspections in 2017;

- (b) the vast majority of inspectable plant sites (about 90%) were declared by States Parties belonging to the Asian Group and to the Western Europe and Other States Group (WEOG). Accordingly, States Parties located in these two regional groups received most of the total OCPF inspections carried out in 2017 (about 85%); and
- (c) in accordance 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 2017 reached the threshold, inspections were reallocated to other States Parties according to the order of the selection process.

Distribution of OCPF inspections according to the relevance of plant sites

12. The distribution of plant sites according to relevance is compared in Figure 3 below, which describes the share of inspected OCPF plant sites each year from 2015 to 2017 in each of the low-, medium- and high-relevance groups according to the A15¹ values for those years, as well as the breakdown of all inspectable sites in the pool for 2017 inspections according to the same criteria. The breakdown is shown according to the value of the A15, both in terms of the expected distribution² according to the respective methodology and the actual selection of sites for inspection in each period.

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



¹ A15 (formerly A14) is an algorithm that determines the relevance of an OCPF site for inspection, as defined in the current S/962 selection methodology.

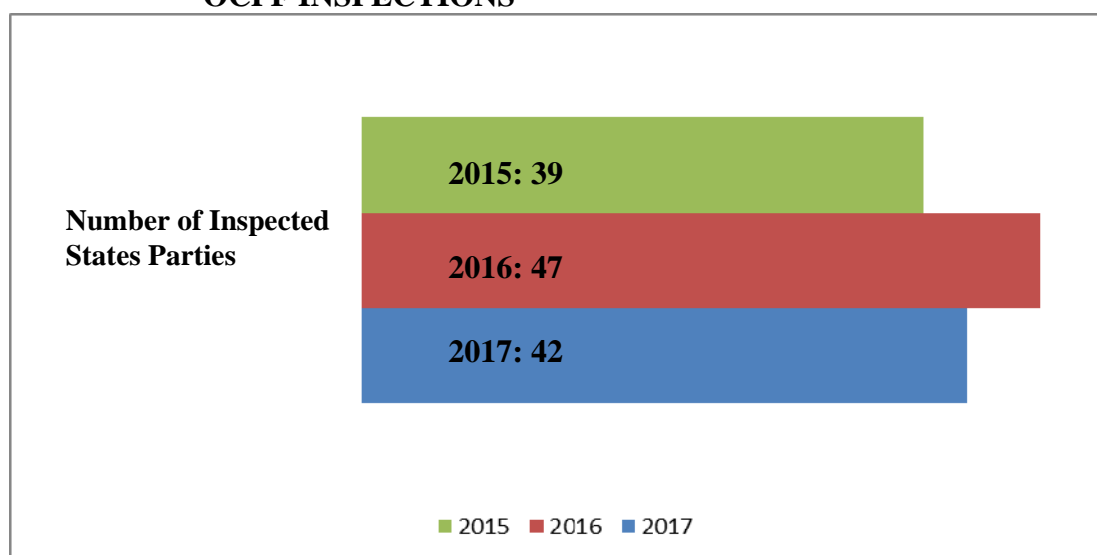
² The expected distribution is generated based on the results of the simulation runs of the algorithm utilising 2016 declaration data.

13. The evolution of the distribution over time and the characteristics of the pool of inspectable sites lead to the following observations:
 - (a) the S/962 methodology continues to result in the selection of relatively fewer OCPFs with low A15 values (i.e. lower relevance);
 - (b) the S/962 methodology continues to result in the selection of relatively more OCPFs with higher A15 values (i.e. higher relevance);
 - (c) concerning the distribution of all inspectable plant sites for 2017 inspections, the S/962 methodology targets the higher-relevance sites; even though such sites constitute only 16% of all inspectable plant sites, 37% of the inspections were conducted at the higher-relevance sites; and
 - (d) the difference in the distribution of inspections between 2015 and 2017 could be attributed to the changes in the characteristics of the selection pools; since a greater percentage of inspections are conducted in high-relevance sites within a given year, the number of non-inspected high-relevance sites is reducing each year.

Coverage of States Parties selected to receive inspections

14. The coverage of States Parties selected for OCPF inspection can be compared over time. Figure 4 below shows the total number of States Parties inspected each year from 2015 to 2017.

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



CONCLUSIONS

15. The analysis of the results from the PSS process to select OCPF plant sites for inspection in 2017 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 2017 are as follows:

- (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 more inspections in highly relevant sites: relatively fewer OCPFs with low A15 values are being selected, and a higher proportion of more relevant plant sites with high A15 values are being selected; and
 - (c) in the early stages of implementation of the selection algorithm, a trend towards a decreasing number of States Parties receiving inspections was observed. When the S/962 methodology was adopted in order to address this trend, the expected number of States Parties receiving inspections was 32. Since its adoption, the number of States Parties receiving inspections remains above the expected number, reflecting the effect of the three-pool approach in the selection methodology, the increase in the rate of subsequent inspections, and the impact of the limitation on the number of inspections in accordance with paragraph 13 of Part IX of the Verification Annex.
16. In conclusion, the PSS process using the S/962 methodology continues to achieve the goals set forth in the report of the co-facilitators (EC-65/WP.1), namely, to better target OCPF inspections without the need for States Parties to provide additional information in declarations.

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