



# **Data Analytics and the CWC: An Introduction to OCPF Site Selection Methodology**

**Science for Diplomats**

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# Background



# Activities not Prohibited in the CWC

## ■ CWC Article VI, paragraph 2

- Each State Party ..... shall subject .....to verification measures as provided in the Verification Annex.

## ■ Verification Annex

- Part VI. (Schedule 1 chemicals and facilities)
- Part VII. (Schedule 2 chemicals and facilities)
- Part VIII. (Schedule 3 chemicals and facilities)
- **Part IX. (Other Chemical Production facilities)**

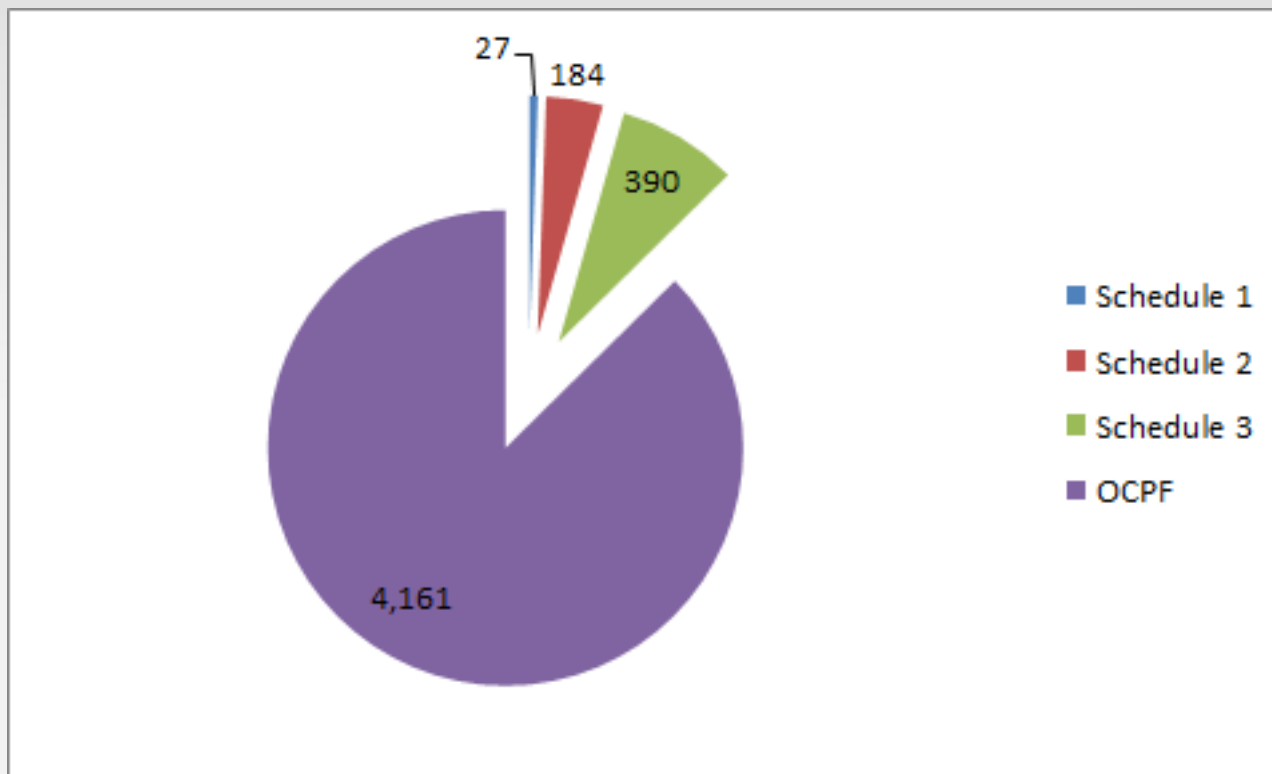


## Summary of Article VI Inspection Process

- Submission of declarations by the States Parties as per relevant part of the Verification Annex
- Selection of facilities for inspection (those above the verification threshold)
- Annual budget approved by the CSP with number of Article VI inspections
- Planning of the actual inspections for the selected sites
- Conduct of the budgeted number of inspections



## Inspectable Facilities/Plant Sites (as at 30 September 2015)





## Annual Budget

- Annual budget approved by CSP specifies:
  - Overall number of Article VI inspections
  - Breakdown (for 2015)

SCHEDULE 1	11
SCHEDULE 2	42
SCHEDULE 3	19
OCPF	169
<b>TOTAL</b>	<b>241</b>



# **Policy guidelines on Number of Article VI inspections**

## **(EC-66/Dec.10, 7 October 2011)**

- Inspectable scheduled and unscheduled Article VI facilities which have not received yet inspections, should be given priority.
- Length of time between two Article VI inspections in any SP should not exceed approximately 8 years.
- At least 50%, and if possible 60%, of SPs that have declared inspectable Article VI facilities should receive at least one Article VI inspection each in any one year.



# Mixed plant sites selection

- Objective is to reduce probability of re-inspection at Schedule 3 and OCPF mixed plant sites already inspected under another Article VI regime
- A Schedule 3 or OCPF mixed plant site already inspected under another Article VI regime but not yet inspected under Part VIII or IX of VA will be considered as inspected for the purpose of the random selection
- All OCPF and Schedule 3 plant sites with activities above verification threshold continue to be eligible to receive inspections





# **OCPF Site Selection Methodology**

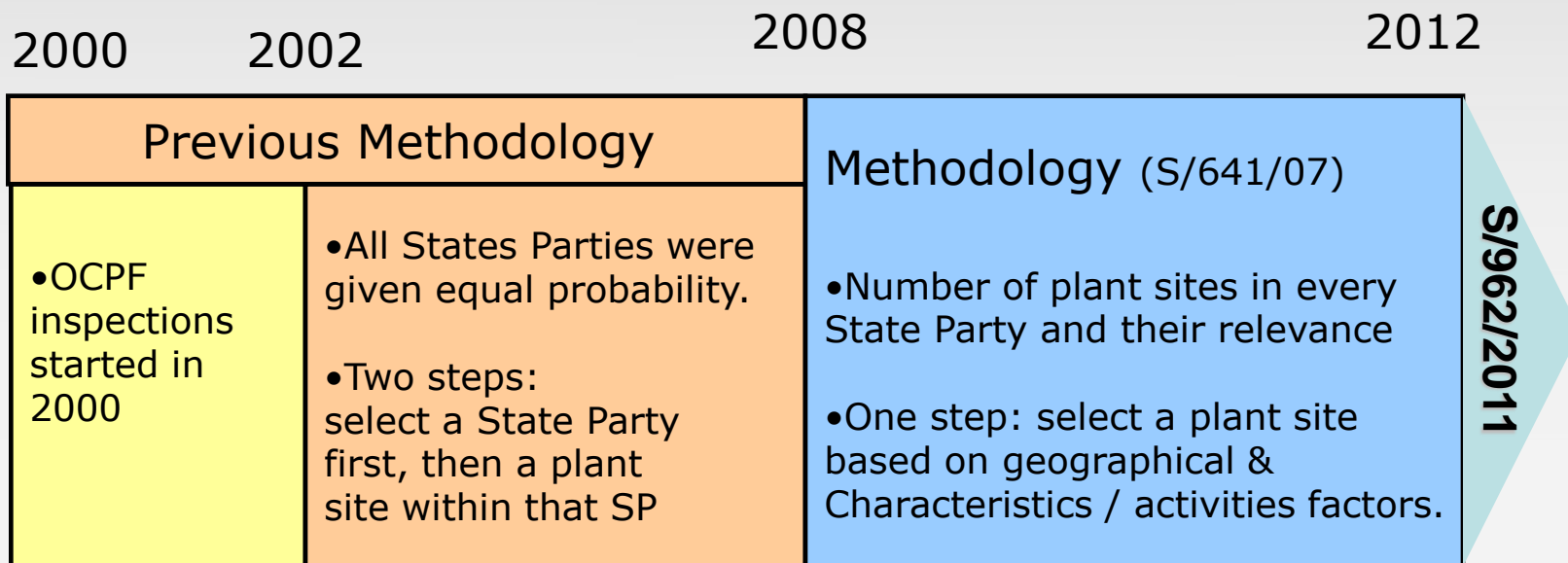


# Current Selection Methodology

- Selection of OCPF plant sites for inspection
  - S/641 methodology between 2008-2011
  - S/962 methodology from 2012 onwards
- Objective of improvements to the interim site-selection methodology (S/962) to achieve better “targeting” of OCPF inspections
- Secretariat to report annually on the performance of the interim site-selection methodology
  - Latest report: S/1240/2015, dated 6 February 2015



## Evolution of the Selection Methodology





## Current Selection Methodology

- Combined contributions from equitable geographical distribution and information available to the TS.
- Use of multiple selection pools:
  - three pools for never inspected plant sites for each State Party (Pool A, B & C)
  - the respective pools for each State Party combined into three overall pools (Pool A, B & C)
  - one additional pool for previously inspected plant sites (Pool D)
- Random selection of 20% of the total number of budgeted OCPF inspections for subsequent inspections in 2015.
- Of the remaining OCPF inspections, random selection of 85% OCPF plant sites from pool A, 10% from pool B and 5% from pool C.



## Current Selection Methodology

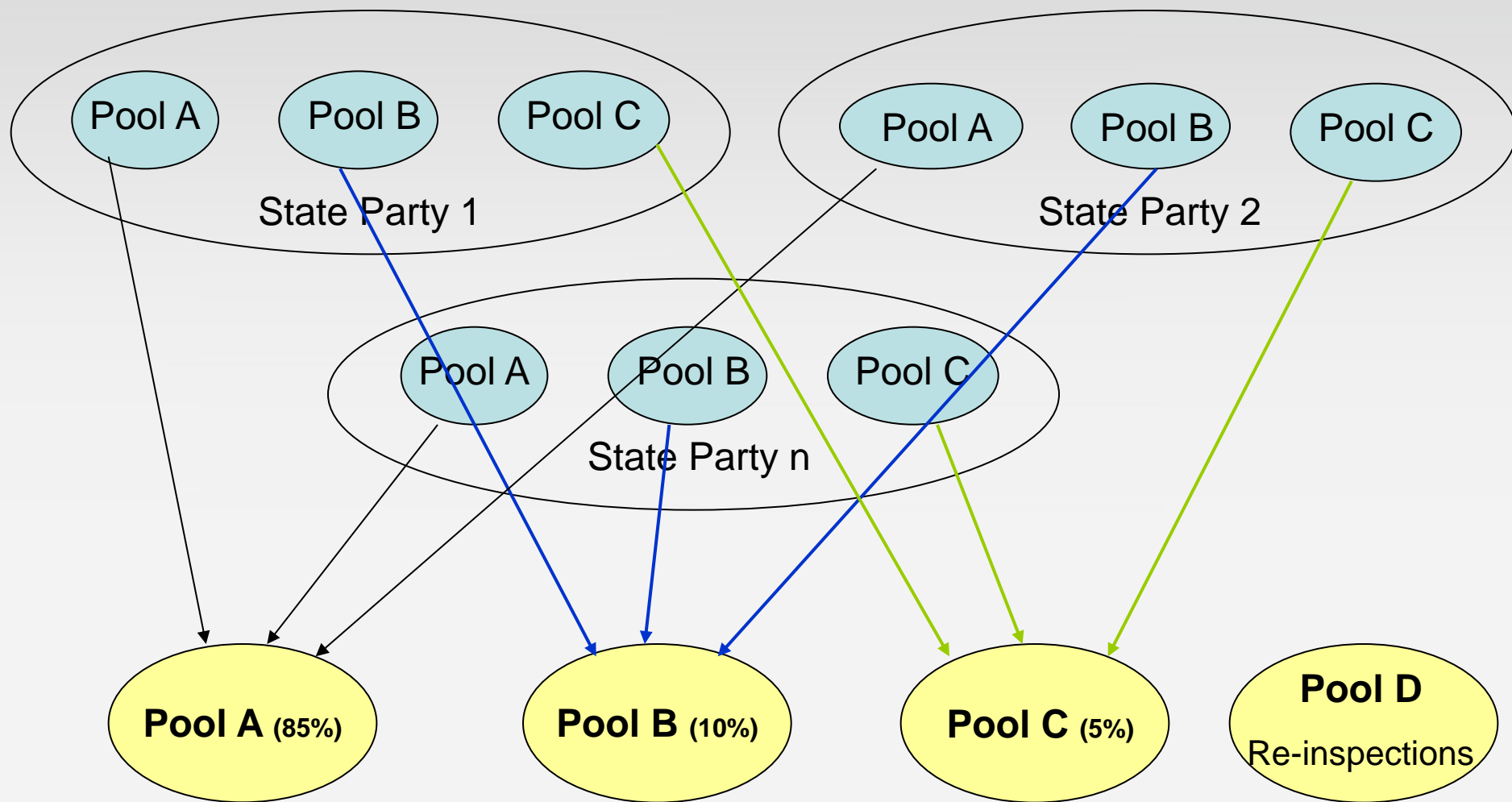
### ■ The A15 Algorithm

$$A15 = N^{1.5} \times M \times G \times P \times A$$

- N: number of DOC plants (including PSF plants)
- M: production range
- G: Main activities (product group codes)
- P: PSF plant or not
- A: Occurrence of the previous inspection



## Current Selection Methodology





# Selection Process



# Data Quality

- Routine data quality checks
- Quality of declaration data
  - Complete, accurate, timely declarations
  - Updates of information (e.g. amendments) regarding OCPFs
  - Follow-ups and clarification regarding declared data
- Quality of inspection data
  - Update of inspection data in the Verification Information System (VIS)
  - Analysis for mixed plant sites





# Simulations and Official Selection

- Several rounds of simulations for the selection
- Analysis of the results
  - Pool distribution
  - Geographical distribution
- Further clarifications with the respective VER units
- Correction of data, if necessary
- Freeze of data and updates to the system
- Execution of the computer program which implements the current selection methodology by the DG
- Hand over of the official selection report to the Industry Verification Branch



# Results

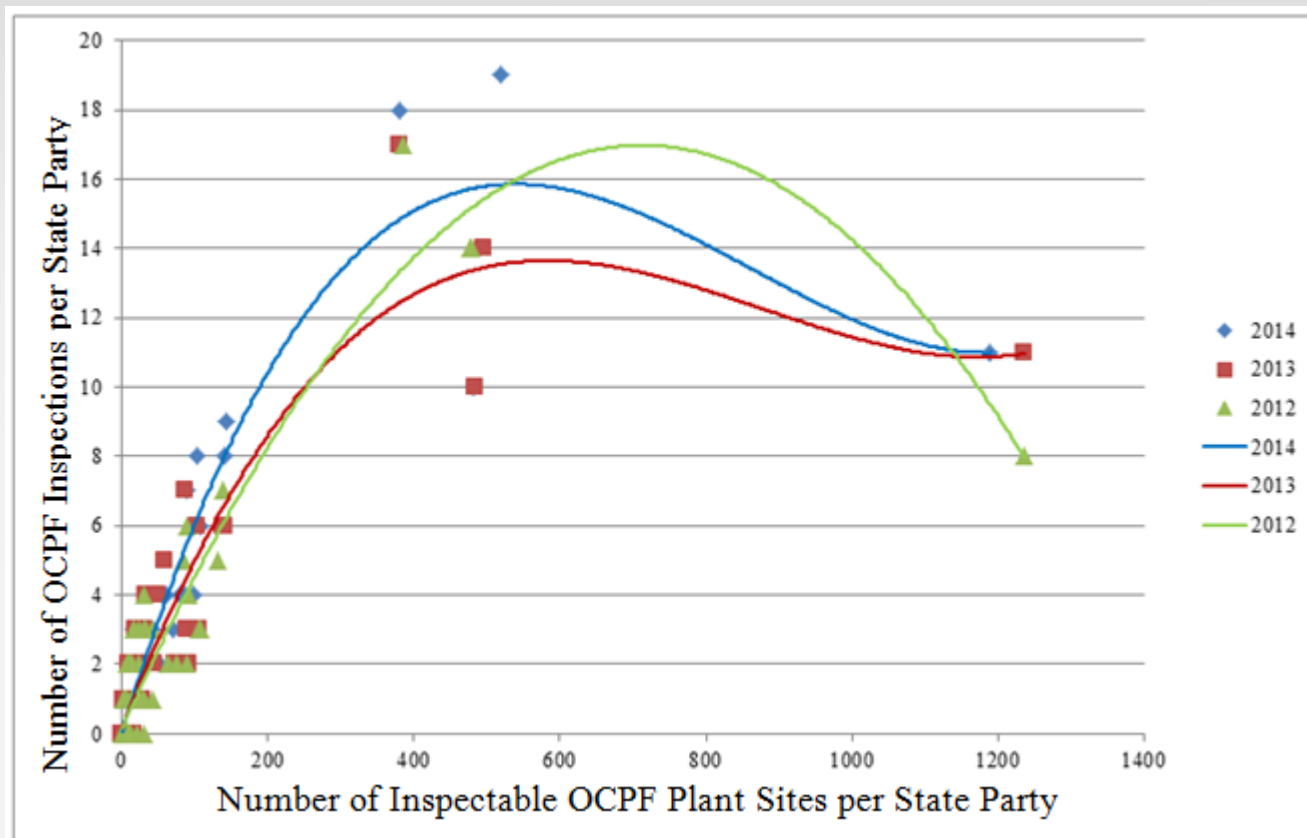


## Selection of OCPF Sites for 2015 inspections

- Number of inspectable sites: **4278**
- Approved number of inspections for 2015: **169**
  - 135 Initial Inspections
  - 34 subsequent inspections @ **20 %**

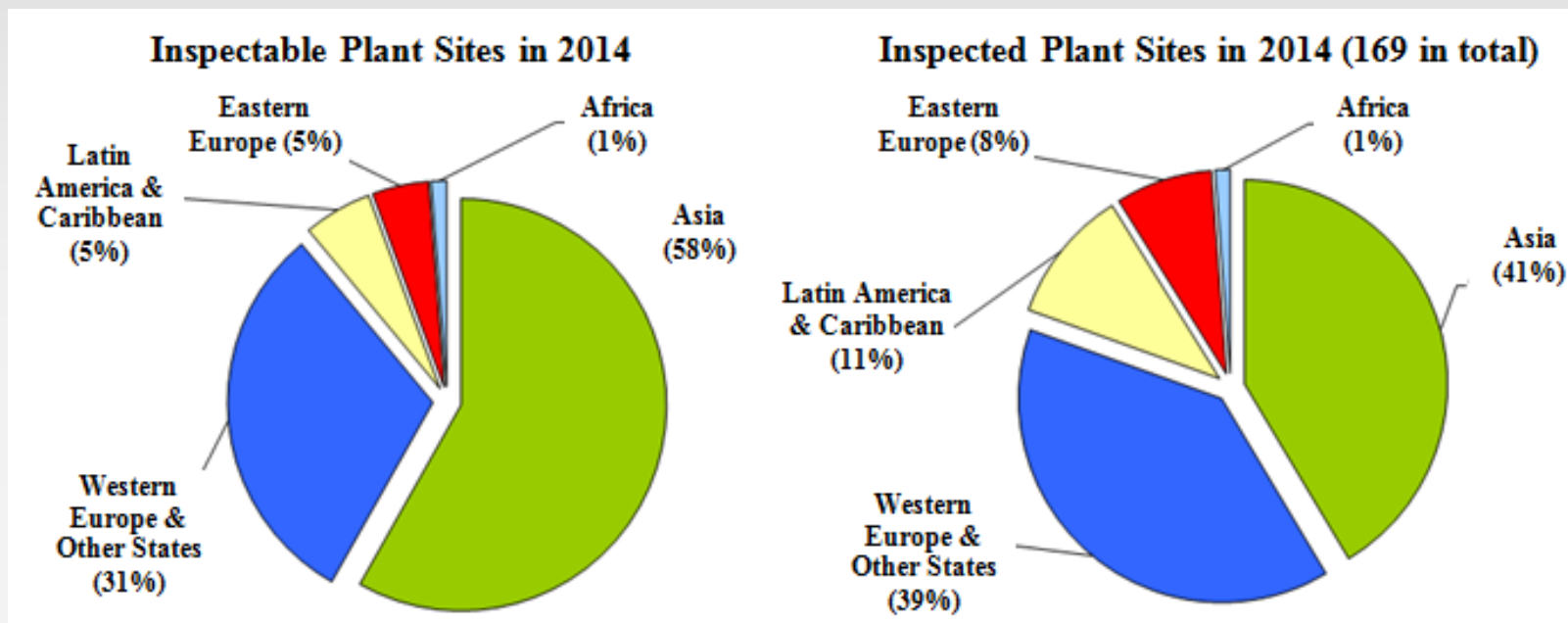


- Number of OCPF inspections per State Party against the total number of inspectable OCPF plant sites (2012 - 2014)



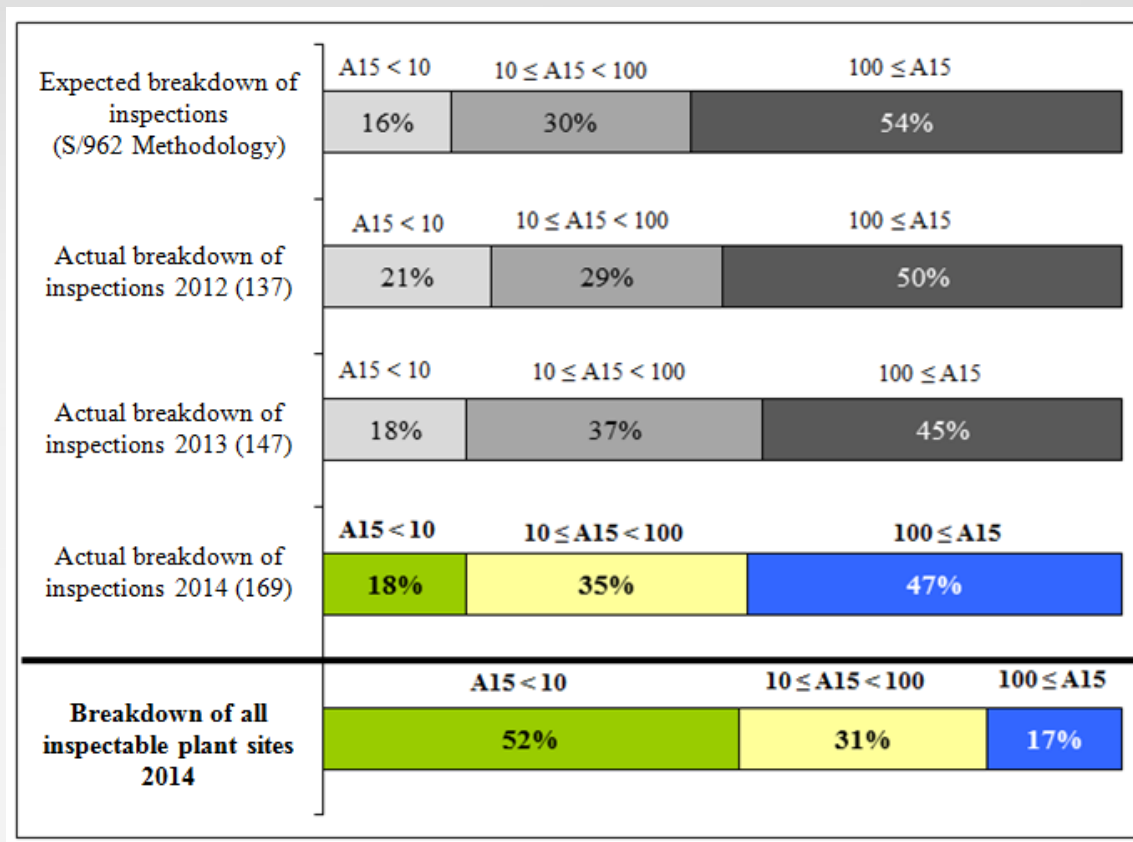


- **Comparison of the regional distribution of plant sites and inspections (as at 6 November 2014)**



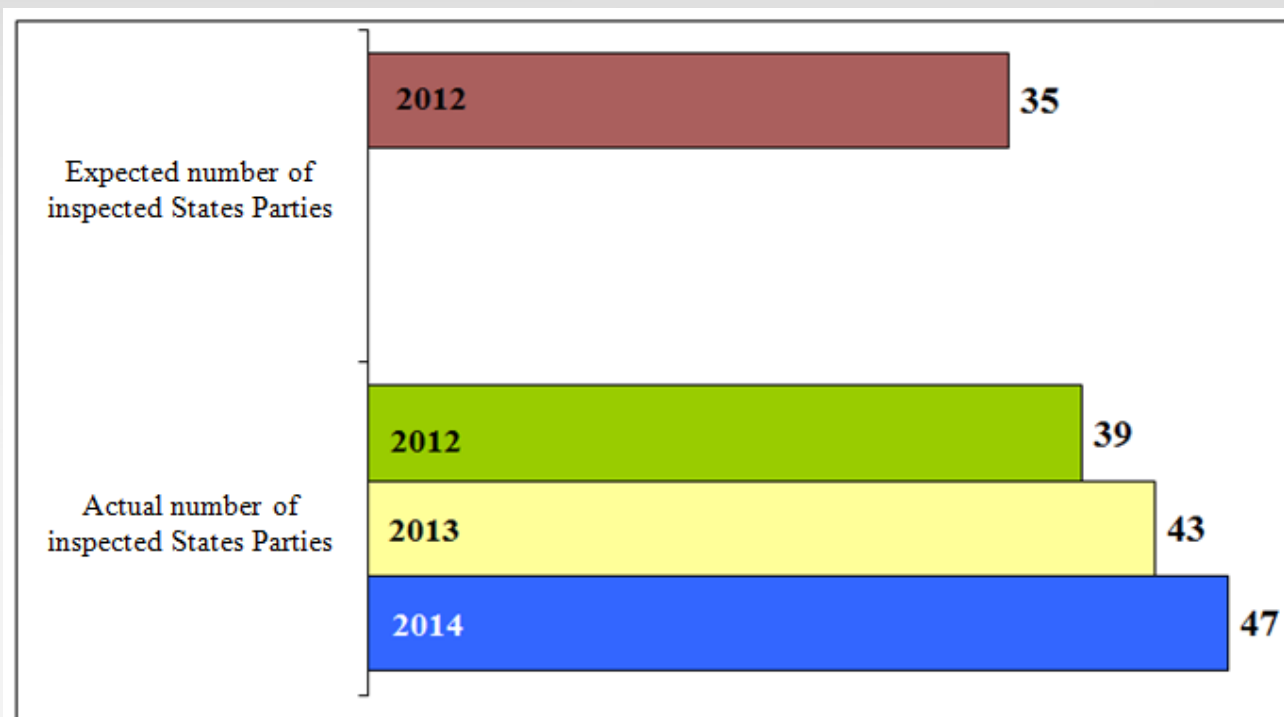


## ■ Relative share of inspections according to the relevance of OCPF plant sites





- Coverage of the States Parties selected to receive OCPF inspections





## Key Results

- The methodology takes into account both the number and the relevance of plant sites declared
- The number of inspections conducted in each SP is positively correlated with the number of declared OCPF plant sites in that SP
- The methodology continues to result in more inspections in highly relevant sites
- There is a continued increase in the number of State Parties receiving inspections
- **Conclusion:** The selection process using the S/962 methodology continues to achieve the goals set forth to better target OCPF inspections





# Reference Documents



# Reference Documents

- Initiative by the DG on a methodology for the OCPF for inspection (S/962/2011, dated 8 September 2011)
- Initiative by the DG on a Methodology for the OCPF for Inspection (S/641/2007, dated 25 May 2007 and Corr.1, dated 4 June 2007)
- Report on the performance of the revised methodology for the selection of OCPF for inspection (S/1240/2015, dated 6 February 2015)
- Alternative approach to verification at mixed plant sites (S/1202/2014, 23 July 2014)
- Report of the co-facilitators for the consultation on the site-selection methodology for OCPF (EC-65/WP.1 , dated 10 June 2011)
- Report on the results of the implementation of policy guidelines for determining the number of Article VI inspections (EC-79/DG.4, dated 7 April 2015)



**Thank you for your attention.  
Questions ?**