U N I T E D N A T I O N S E N V I R O N M E N T P R O G R A M M E

Stockholm Convention on Persistent Organic Pollutants

اتفاقية استكهولم بشأن الملوثات العضوية الثابت • 关于持久性有机污染物的斯德哥尔摩公约 • Convention de Stockholm sur les polluants organiques persistants
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UNEP

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Workshop to facilitate drafting of the regional monitoring reports under the first phase of the global monitoring plan for persistent organic pollutants

Geneva, Switzerland, 19-23 May 2008

Report of the Workshop to Facilitate Drafting of the Regional Monitoring Reports for the First Phase of the Global Monitoring Plan of POPs under the Stockholm Convention

Introduction

1. At its third meeting in May 2007, the Conference of the Parties of the Stockholm Convention, by decision SC-3/19 on effectiveness evaluation, provisionally adopted the amended **global monitoring plan for persistent organic pollutants** (UNEP/POPS/COP.3/22/Rev.1, annex II) adopted the amended **implementation plan for the global monitoring plan** (UNEP/POPS/COP.3/23/Rev.1) and agreed that the amended preliminary version of the **guidance on the global monitoring plan for persistent organic pollutants** (UNEP/POPS/COP.3/INF/14/Rev.1) provides an appropriate basis for the Parties to implement the global monitoring plan. Decision SC-3/19 also established a regional organization group for each of the five United Nations Regions to facilitate regional implementation of the global monitoring plan, and invited Parties to nominate members to those groups with expertise in monitoring and data evaluation and decided that each regional organization group should be comprised of six members. The main objectives of the regional organization group were to define and implement the regional strategy for information gathering, including capacity building, and to prepare the regional monitoring report for the first effectiveness evaluation to be performed by the Conference of the Parties in May 2009. The mandate and terms of reference of the regional organization groups are set out in annex III to the implementation plan. Through this decision the Conference established also a coordination group composed of three members from each of the regional organization groups with mandate and terms of reference set out in annex III to the implementation plan.

2. The workshop to facilitate drafting of the regional monitoring reports was held at International Environment House in Geneva Switzerland from 19-23 May, 2008. The meeting was hosted by the Secretariat of the Stockholm Convention.

I. Opening of the Meeting

3. The meeting was declared open at 1:00 p.m. on Monday 19 May by Ms. Fatoumata Keita Ouane, Senior Scientific Affairs Officer, Technical Team Leader, Secretariat to the Stockholm Convention on POPs. Ms. Ouane opened the meeting by welcoming participants to Geneva and by introducing Mr. Donald Cooper, Executive Secretary, Secretariat of the Stockholm Convention on POPs. Mr. Cooper welcomed participants and provided introductory remarks on the Stockholm Convention and the importance of the process outlined in the Convention for developing the reports for the initial phase of the global monitoring plan. The process of regional groups coordinating and writing regional reports which will be integrated to a global report and submitted together with the

report of the global coordination group to the Conference of Parties in May 2009 is important, and will affect how the Parties will respond to the issues and also provide an important basis for the future of sustainable monitoring of POPs and evaluating the effectiveness of the Convention.

4. Ms. Katarina Magulova, Programme Officer, Stockholm Convention Secretariat welcomed participants and acted as the facilitator of the remainder of the meeting.

II. Organizational Matters

A. Organization of work

5. Ms. Magulova outlined the objectives of the drafting workshop and reviewed the relevant sections of the Convention that provide the basis for the workshop. The meeting will consist of plenary sessions which will include all participants and drafting sections, in which participants will work in their regional organizational groups to draft the regional reports.

6. The aim of the workshop is to provide a forum for participants to draft the regional monitoring reports that will be integrated to the global monitoring report for submission to the fourth meeting of the Conference of the Parties in May 2009. At the same time the workshop provides opportunity for cross-regional communication, exchange of views and harmonization of approaches, as well as for providing of consistent guidance to all regions.

7. Outputs from the meeting will come from the plenary sessions and from the regional group drafting sessions. Outputs from the plenary sessions will include:

- Recommendations to facilitate the global monitoring report
- Draft agenda for the coordination group meeting in November 2008
- Conclusions and recommendations

Outputs from the regional groups will include:

- Initial drafts of the regional monitoring reports
- Work plan and timetables for regional report finalization
- Agenda for the regional drafting meetings

8. Ms. Magulova also presented a list of concerns that will be discussed during the meeting and emphasized that participants should provide input to resolving the issues during the meeting. Inter-regional ad-hoc expert groups comprising experts from a particular field were created to discuss and agree on common understanding and approach in relation to specific issues of concern. Outcomes of these groups are outlined in annex 3. Final conclusions and recommendations were adopted by all participants during the final plenary session. Such ad-hoc expert groups were established to discuss the following issues:

- Common understanding and interpretation of the human data (milk and blood)
- Issues related to comparability of air monitoring data
- Evaluation of data quality by the ROGs

9. The workshop agenda was adopted as follows:

- Opening
- Introductory information by the Secretariat
- Progress information by international monitoring programs
- Progress information by regional organization groups
- Drafting Sessions (three one day session)

- Drafting of particular sections by regional teams
- Plenary discussions/guidance/harmonization of approach

- Conclusions, work plans and timetables to finalize drafting of the regional monitoring reports

10. The workshop agreed to work in plenary and as drafting teams during break out sessions.

B. Attendance

11. The meeting was attended by drafting teams from the five UN Regions:

Mr. Vincent Madadi (Kenya) and Ms. Halimatou Traore (Mali) of the Africa regional organizational group and members of the drafting team Ms. Fatoumata Ndoye (Ethiopia) and Mr. Komla Sanda (Togo).

Mr. Minghui Zheng (China), Mr. Waisea Votadroka (Fiji), Mr. Yasuyuki Shibata (Japan) and Ms. Chhandra Chowdhury (for Gopal Krishna Pandey) (India) of the Asia-Pacific regional organizational group and members of the drafting team Mr. Zongwei Cai (China), Ms. Hiroko Arataki (Japan) and Mr. Noriyasu Nagai (Japan)

Mr. Ivan Holoubek (Czech Republic) of the Central and Eastern Europe (CEE) regional organization group and members of the drafting team Mr. Alexey Dudarev (Russian Federation) and Mr. Anton Kocan (Slovak Republic).

Ms. Ana Patricia Martinez Bolivar (Mexico), Mr. Lorenzo Caballero (Chile) and Mr. Malverne Spencer (Antigua and Barbuda) of the Latin America and Caribbean States (GRULAC) regional organization group and a member of the drafting team Mr. Ricardo Barra (Chile).

Ms. Britta Hedlund (Sweden), Mr. Tom Harner (Canada) and Mr. Ramon Guardans (Spain) of the Western Europe and Other States (WEOG) regional organization group and members of the drafting team Mr. David Stone (Canada) and Mr. Per Ola Darnerud (Sweden).

12. The meeting was also attended by representatives of the World Health Organization (WHO): Mr. Seongsoo Park (Department of Food Safety, Geneva, Switzerland) and Mr. Reiner Malisch (WHO Reference Laboratory, Freiburg, Germany).

III. Progress information by International Monitoring Programmes

13. Mr. Seongsoo Park reported on the WHO Human Milk Survey for POPs that will provide data on background levels of POPs in breast milk to the ROGs. Data from the 3rd (2001/2002) and 4th (2005/2008) rounds of the survey are available for some countries now.

14. Ms. Fatemeh Mollet reported on the UNEP-WHO human milk survey which will provide supplementary data to the global monitoring plan for POPs in regions where data gaps have been identified. The survey has contacted 55 countries to request their participation in the survey; 25 countries have expressed firm interest in participating in the process, 6 have provided no response and 4 have indicated that they do not want to be involved in the process. Participating countries are present in each of the regions and should provide valuable data for the regional reports. The deadline for countries to participate is the end of May 2008. In general, the program received a high number of responses and good support, including spontaneous countries that have requested to be involved.

15. David Stone provided information from the Arctic Monitoring and Assessment Program (AMAP) on the testing of POPs in human tissues, primarily maternal blood but also some milk samples. The program was established in the early 1990s and reports from 1998 and 2003/04 are available and should provide data to WEOG and CEE groups. The next report is due in 2009 which will be too late for inclusion in the first global monitoring report. An Executive Summary has been prepared by AMAP and has been provided to the relevant ROGs.

16. Mr. Ivan Holoubek reported on the air monitoring network in Europe, Asia, Africa and Fiji. The program uses PUF passive air samplers which are run over a four week period to measure the levels of POPs in air. The program builds on a successful program of 50 sites in the Czech Republic (MONET_CZ). Data will be available from a program (supported by the Swedish government) of air sampling at several sites in Africa (MONET_AFRICA), and data should be available in 2008 for the Africa regional report. The first phase of a study in 2006 and 2007 on air sampling in Central and Eastern Europe will provide data to the CEE ROG. A similar program (MONET_FIJI) is providing data from Fiji. The program reports good agreement with GAPS that also provides atmospheric data. Issues have been raised regarding the comparability of data from the two programs: the difficulty is due to the different units used in reporting (ng compound/filter while other programs report on a concentration basis (e.g., ug/m^3) but also due to different periods of sampling and sampling equipment design. However, both will be able to show temporal trends as reported. A question from the floor asked the number of samples that are required to determine the ambient air concentrations for a particular country. Mr. Holoubek responded that only 1 or 2 samples are required for any country and that the concentrations of POPs can be characterized by about 10 – 12 stations on a continent. Guidance on this issue is provided in the guidance on the global monitoring plan in chapter 4.1.

17. Mr. Tom Harner reported on the GAPS (Global Atmospheric Passive Sampling) network of atmospheric samplers. The programs used active sampling XAD hi-volume samplers for a full year and PUF passive samplers that sample for 3 months. The program was initiated in 2004-2006 (Pilot Study) and started on a large scale in 2006-2009. In total there are 50 international sites, with some of the individual sites being re-located to better locations. Executive summaries for all 5 regions were submitted to the Secretariat in May 2008 with 2005 data from passive samplers and 2005+2006 data for XAD samplers. The program is including additional sites in the GRULAC region during 2008 to increase spatial coverage.

18. Mr. Tom Harner also reported on the air POPs data from the AMAP and EMEP programs conducted by Rolland Kallenborn, Norwegian Institute for Air Research and Halley Hung, Environment Canada. POPs data are available for a number of high latitude sites. The longest data set is from Alert in northern Canada which has records of a large number of POPs from 1992 to 2005. Other sites have generally shorter time frames or report fewer POPs (e.g., only DDT, PCBs and HCB). Using advanced statistical procedures, trends of individual compounds are evident, including increases in HCB and PCB from 2003 to the present on Spitsbergen, probably due to changes in ice cover related to climate change. These data will be particularly relevant to the WEOG ROG.

IV. Progress Information by all Regional Organization Groups.

19. Mr. Vincent Odongo Madadi provided a summary of the status of the report from the Africa ROG. The ROG has conducted regional workshops in Nairobi (October 2007) and Lome, Togo (February 2008). Two consultants have been identified to help draft the report. Programs that can provide data for the regional report are the GAPS program of passive air sampling (5 sites in Africa) and the WHO milk survey which had submissions from Egypt in the Third round and from the Sudan in the Fourth round. Further programs have been identified in national monitoring and research activities; however most of the data from those programs did not meet criteria for data quality. A structure is in place to receive data from individual countries in the region. Air sampling has been conducted since January 2008 in cooperation with RECETOX and 22 countries have expressed interest in participating with the WHO breast milk survey. Several improvements were suggested to improve the capacity of Group 2 laboratories to contribute to the program. The first draft of the report has been completed.

20. Mr. Minghui Zheng reported on the status of the Asia-Pacific ROG which had an inception Workshop in Beijing on 17-19 September 2007 and a follow-up teleconference on 28 March 2008. The Japanese government is supporting a consultant to compile data while consultants from China and Fiji are compiling data from China and the Pacific sub-region, respectively. A regional drafting workshop will be held in Qatar in June 2008. Air and breast milk data are available for several Asia-Pacific countries. Air samples by Hi-Vol samplers are available from 11 background locations in

China. They were analysed for 12 POPs, but not toxaphene. Breast milk samples from a total of 17 provinces representing 600 million people have been analysed in national laboratories.

21. Data from Southeast Asia were also presented by Mr. Yasuyuki Shibata a member of the Asia and Pacific ROG. Mr. Shibata reported on the air sampling in East Asia which was based on a series of programs from 2002 to Nov 2007. The program will provide background concentrations of POPs in air at 13 sites. Funding for the study was supplied by Japan.

22. Mr. Ivan Holoubek reported on the status of Central and Eastern Europe (CEE) ROG. The first meeting of the ROG was held on 15-17 October 2007 in Prague. Information was collected until January 2008; however there was little response from contact points in many countries. A first draft of the regional report was sent to ROG members and a second meeting held in Brno in April 2008. A second draft of the report will be completed by June 15, 2008 with distribution to countries by July 15, 2008 and a final draft by September 2008. Air data are available from the EMEP Network, some sites of which have long term trend data. The MONETs networks in Central and Eastern Europe, Africa, and Fiji are providing capacity building in all regions, as well as education and training. There are long-term monitoring programs of human milk in the Czech Republic and long-term projects in Slovakia, Slovenia, Croatia, Poland and Ukraine.

23. Ms Ana Patricia Martinez Bolivar reported on the status of the Latin America and Caribbean States (GRULAC) ROG. The presentation began with a description of the population density of the GRULAC countries and the signatories to the Convention within the GRULAC. A consultant was contracted in May 2008 to help draft the regional report. Information on the background levels of POPs in the region have been taken from literature reviews, questionnaires to countries and regional reports. Concerns were noted about the reliability of data and the need to use reliable data. Data were presented on DDT and p,p'-DDE in human blood but there is still a shortage of current data (2003-2008) to act as a background level for temporal trend monitoring. Other difficulties include data that were published in the 1990s (outside the time window for the Convention baseline), and few data with which to construct time trends.

24. Mr. David Stone reported on the progress of the Western European and Other States (WEOG) ROG**.** The ROG has met through teleconferences and corresponded by e-mail. The ROG decided that after applying the criteria from the "implementation plan", information from existing national and international programmes provided sufficient data sets to establish background levels of POPs and no new monitoring programs were needed for the first evaluation reports. The ROG noted that data were not available for Australia and New Zealand because programs did not provide long-term data, but because data from this area is very important then information from single programs will be included where possible (i.e., "snapshot" category). The initial regional report will concentrate on core media (air and human milk/blood) for reporting purposes but summaries of other programs will be included in the report. The ROG will deal with an abundance of data by providing a short summary, a synthesis of programs and more detailed information on each of the contributing programs. Sections of the report will be prepared by individual ROG members. First drafts of many of the sections are available, while others are in progress. Final draft of the document will be prepared by 30 June 2008. Several issues were raised by the ROG that will be resolved by discussions with the Secretariat and with other ROGs in plenary at the drafting workshop.

V. Drafting Sessions - Introduction

25. The template for the format of the regional report which was distributed by the Secretariat was reviewed by Mr. Colin Macdonald and Ms. Katarina Magulova of the Secretariat. The template for the regional report has been designed to include relevant information for long-term monitoring of temporal trends and allowing ROGs to specify issues within their regions. Members of the ROGs were reminded of the importance of the executive summary because it will be included in the global monitoring report that will be submitted to the Conference of the Parties. Major findings, descriptions of capacity building projects and strategy for the future may be outlined in the executive summary. The Secretariat outlined the structure of the global monitoring report which will be submitted to the Conference and will be a maximum of 21 pages. The report will consist of one page of introduction, three pages of overall executive summary and the executive summaries from each of

the regional reports. Hence the executive summaries of the regional reports must be around 3-3.5 pages.

26. Mrs. Magulova pointed out that besides the global monitoring report, which is an integration of the regional monitoring reports; also a report from the coordination group will be submitted for consideration of the Conference of the Parties. In this report the coordination group is mandated to evaluate the first phase of the global monitoring plan and develop recommendations for future evaluations.

27. Discussion with Mr. Reiner Malisch (WHO) took place about the UNEP/WHO milk survey that will be submitting data to some ROGs. Mr. Malisch demonstrated the strength of the WHO program by showing data on declining trends in 4 POPs in breast milk in Germany from 1983-2006. The importance of expressing the concentration data on lipid weight basis and the use of pooled samples for the WHO program was explained. WHO program on human milk surveys for POPs began with the first round in 1987-1988 in 12 countries, the second round in 1992-1993 in 19 countries, the third round in 2001-2002 in 26 countries and the fourth round which is currently ongoing (2004-2008). The importance of several levels of quality control was emphasized, particularly for long-term trend studies. Some data were presented from the third round showing large variation between countries for some compounds like DDT and dioxins. Temporal trends (i.e., declines) are evident when concentrations are compared between the rounds.

28. Each of the ROGs discussed the information that will be included in the executive summary for the respective regional reports. It was recommended that the descriptive portion of the executive summaries be kept to a minimum, to leave more room for other material since the summary will only be maximum 3.5 pages. ROGs were encouraged to provide in the executive summary suggestions for cost effective programs to overcome gaps and to provide sustainable data for effectiveness evaluations in the future.

29. A preparatory meeting of the coordination group was held at 10:30–14:30 on May 21, 2008. It was agreed to hold a meeting of the coordination group on November 10-12, 2008 in Geneva, Switzerland. The draft agenda for the meeting and additional information that was discussed during the preparatory meeting is presented in annex 1.

30. Each of the ROGs discussed their approach to evaluate quality of data to be included into their regional reports, in accordance with guidance provided in annex I to the implementation plan for the global monitoring plan and in the guidance on the global monitoring plan.

31. The ROGs further presented and discussed their work plans and time tables for completion of their regional monitoring report. Final date of submission of the report to the Secretariat is October 15, 2008 for inclusion of the executive summaries in the global monitoring report. Some ROGs will be finalizing their reports in a regional drafting workshop, while others will correspond by e-mail and teleconference. Timetables to finalize the regional reports are in annex 2.

VI. Conclusions and Recommendations

The workshop participants agreed on the following conclusions and recommendations:

32. **Structure and content of the regional monitoring reports:**

- All regional reports will follow the general structure and content of the revised regional report template (the revised title of chapter 6 is “Conclusions and Recommendations”) with regional modifications of the sub-structure as appropriate;
- The regional report executive summaries are limited to 3 to 3.5 pages and will become part of the global monitoring report. All regions presented draft outlines of their executive summaries and mutually agreed on the proposed approach;
- The main elements to be reflected in all executive summaries are: description of contributing programs and collaborative programs; key messages from the data; description of data gaps and capacity building needs; conclusions and recommendations including proposal for an (cost) effective monitoring strategy for future evaluations.

33. **Information needed from international programs or other ROGs:**

- Information from the WHO 3rd and 4th round survey was provided to the regional organization groups together with information about the monitoring program itself;
- Relevant information from other monitoring programmes such as GAPS, RECETOX, AMAP and EMEP has been already provided to the concerned regions;
- No further needs related to existing information have been identified.

34. Evaluation of data quality by the ROGs (how will the ROGs decide whether the available data are suitable as baseline data for further effectiveness evaluation and should be included in the reports):

- When evaluating quality of available monitoring data, the ROGs took note of two concepts outlined in Article 16 of the Convention. It is stated that Parties shall make arrangements to obtain **comparable** monitoring data. The data quality criteria for evaluation of monitoring programmes are outlined in annex I to the implementation plan for the global monitoring plan. Further guidance is provided in the guidance on the global monitoring plan. Article 16 further states that the arrangements to gather data should be implemented using existing programmes and mechanisms to the extent possible;
- The ROGs reviewed information on existing programs and selected those to provide the basis for the first monitoring report by applying the above noted criteria. ROGs examined the sampling, analytical, and data quality arrangements of each of the programmes and decided accordingly whether the data from these programmes are suitable to be used by the Conference of the Parties to evaluate changes in POPs levels over time;
- Each of the established programmes has procedures to ensure data comparability within the programme, considering also constraints on the use of different analytical laboratories. However, it would be very difficult to achieve comparability between various programmes due to many sources of variability, the use of different laboratories in particular. Therefore the focus is placed on ensuring internal comparability within the particular programmes over time.
- In regions where major data gaps have been identified some monitoring activities have been initiated on pilot basis. These activities are fulfilling the major criteria for data comparability and are expected to provide the ROGs with the necessary information to propose more sustainable monitoring for the future;
- All ROGs presented a detailed region-specific approach for data quality evaluation which was based on the above principles.

35. **Progress in supplementary data production activities, how to facilitate timely receipt of the data and how to handle data which come in after October 2008:**

- The 2006 data from GAPS will be available by July-August upon request expressed by the ROGs. The ROGs of Africa, GRULAC, CEE and Asia-Pacific expressed their interest in receiving these data; supplementary GAPS measurements from four- 2008 GRULAC sites will be available by September-October 2008;
- Data from the ongoing RECETOX study from CEE 2007 will be available by June 2008, CEE 2008 by December 2008, and Africa by first part of July 2008 and end of October 2008 depending on timely delivery of samples;
- It is expected that data from the UNEP/WHO milk survey will become available in three sets (5-10 samples) depending on the timing when the particular countries started with implementation of the survey. The WHO laboratory will need firm commitment by when the particular samples will be received in order to organize its capacity and work-load effectively. It is expected that the first results will be available by the end of September 2008 (samples to be submitted in July), the second set of results will be available in November 2008 (samples to be submitted by September 2008) and the third set of results will be available by February 2009 (samples to be submitted in December 2008). The Secretariat will facilitate this process in

cooperation with the regional organization groups and the relevant Stockholm Convention Focal Points;

- Regional organization groups will be aware about the information which is expected to become available for the first evaluation in the period of October 2008.

36. **Common understanding and interpretation of the human data (milk and blood):**

- Important information has been specified that should be made available from the monitoring programmes and research studies to ensure data comparability, as well as orientation concerning what congeners and metabolites can be expected in human milk and human blood. This information is outlined in annex 3; However, it is not expected that existing human tissue programs will be required to modify their reporting methods.

37. **Comparability of data from various monitoring programs (in particular from passive air sampling);**

- For interpreting trends in POPs air concentrations, data should be comparable on a program basis. Ideally, and to reduce uncertainties, this will involve one analytical laboratory and the same type of air sampler across sites. It is not a requirement that data be comparable across (between different) programs, given the numerous sources of uncertainty that would come into play;

- However, in some cases it may be desirable to compare data across programs (e.g. for modeling exercises or semi-quantitative spatial comparisons of POPs across regions / program boundaries). Several scenarios, such as comparisons among programs that employ either active samplers or passive samplers, and comparisons within programs that use both, are possible. Comparability among programs (i.e. reduction of these uncertainties) can be assessed and resolved through intercomparison exercises. However, the group re-affirmed that this level of comparability is not required for trends analysis within a given program (see annex 3 for more details);

38. **How to handle data from other than core matrices:**

- The ROGs recognize that valuable data may be available in many programs that may be used to establish temporal trends but do not include the core matrices. Several examples of programs that monitor POPs for several years were noted by ROGs. In general, these studies will be cited in the text of the regional report and the data may be included in appendices. The data from these programs must meet the requirements for acceptance as defined in Annex I to the implementation plan and in the Guidance for the global monitoring plan and will provide support for data in core media.

39. **How to deal with the long-range environmental transport in the regional reports and in the global report:**

- The ROGs noted that the Conference of the Parties has not clarified its expectations on the nature of the chapter elements concerning long-range transport. However, the Conference has adopted the amended implementation plan which lists four types of information treatment that could be used in the context of effectiveness evaluation. The ROGs considered that these four approaches are complementary to one another and are not duplicative. In regions where sufficient data is available, the ROGs decided to explore each of these approaches in their reports to enable the Conference to review their characteristics and possibly to further clarify its future needs (see annex 1 for more details).

40. **Addressing data gaps identified in the regions:**

- Gaps in the draft reports due to late submission of supplementary monitoring data: placeholders should be established for these data so that they can be included into the reports upon becoming available (deadline by 20th of March 2009),

- Gaps in the data for establishing the baseline levels in a particular region: it should be concluded in the regional monitoring reports whether the monitoring data available in the

region (including data from the supplementary activities) are sufficient to provide the baseline for future evaluations;

- Gaps in the availability of sustainable monitoring programmes which would provide comparable monitoring data for evaluation of changes in POPs levels over time: the regional monitoring reports should contain conclusions and recommendations on this aspect. Proposals for capacity strengthening in support of sustainable monitoring in all UN Regions for the future evaluations should be provided also in the report of the coordination group;

41. **Process for regional report review:**

- Review by the regional organization group (draft regional monitoring report);
- Review by all countries in the region and the Secretariat (translation to French to be considered in Africa and to Spanish in GRULAC);
- Revision of the first draft as necessary and appropriate (revised draft of the regional monitoring report to be submitted to the Secretariat by 15 October 2008;
- Submission of minor revisions of the executive summaries is possible until 20 January 2009;
- Submission of revised regional monitoring reports (including data which became available after 15 October 2008) is possible until 20th of March 2009;

42. **Cross-regional issues (e.g. strategy to improve cross-regional cooperation):**

- It was noted that many cross-regional issues such as the long-range transport of POPs, exchange of information and harmonization of approaches were already addressed and that in general many examples of effective cross-regional/sub-regional cooperation related to implementation of the global monitoring plan can be identified;
- Central Asian Countries (members of the former Soviet Union) are considered in the Central and Eastern Europe Region. They should be encouraged at the next meeting of the COP to formally express their interest in which of the regional groupings they wish to be included;
- Explore possibilities to facilitate cross-regional cooperation with respect to POPs issues. For example, the Mediterranean, which involves four ROGs, and Antarctica, which involves three ROGs.

43. **The following assistance needed from the Secretariat was identified:**

The Secretariat will:

- Send communication to the Central Asian countries (former Soviet Union members) about the possibility of reporting their data through the Central and Eastern European Region or through the Asia &Pacific Region;
- Invitation letters to the regional drafting workshops (upon request);
- Send to all ROGs the updated list of Stockholm Convention focal points and official contact points;
- Establish five links on the SC web page for uploading of the draft regional monitoring reports to facilitate the process of their regional review;
- Explore possibilities to prepare a template for the cover page of the regional monitoring reports. This template would have a common lay out however, leave space for regional variation.

VII. Closure of the Meeting

44. Following the customary exchange of courtesies, the plenary session was closed on Thursday, May 22, 2008 at 18.00 p.m. Regional drafting groups continued their work until Friday, May 23 18.00 p.m.

ANNEX 1

PREPARATORY MEETING OF THE COORDINATION GROUP

This meeting was attended only by the ROG members and the Secretariat. Its objective was to discuss and propose a draft agenda for the coordination group meeting in November 2008 considering the mandate and terms of reference of the coordination group outlined in annex to Decision SC-3/19. According to these the main outputs to be produced by the coordination group are:

- Facilitating preparation of the global monitoring report
- Evaluate the first phase of the global monitoring plan and develop recommendations for the Conference of the Parties

Besides its mandate and terms of reference the coordination group has to consider the following guidance/ decisions provided by the Conference of the Parties:

The Conference decided (SC-2/13 para. 1) to complete the first effectiveness evaluation at its fourth meeting in 2009 and requested the Secretariat (SC-2/13 para. 6) to compile the elements for the first effectiveness evaluation, **including the global monitoring report**. The Conference did not provide any specific guidance to the Secretariat as how to compile the global monitoring report. However, it established a (global) coordination group (SC-3/19 para. 5) mandate of which includes (para. a) **facilitating preparation of the global monitoring report, which is an integration of regional monitoring reports**. The first monitoring report will provide the **baselines for further evaluations** (UNEP/POPS/COP.3/23/REV.1, para 5) a).

The Conference also decided (SC-2/19 para.7) to **review the arrangements**, including the global monitoring plan, used for providing the Conference with the information for effectiveness evaluation as implemented for the first report and to **decide on future arrangements**, including **the intervals** of subsequent effectiveness evaluations. At the same time the Conference mandated the coordination group (para. e) **Evaluating the first phase of the global monitoring plan and developing recommendations** for consideration by the Conference at its fourth meeting.

Summary of the discussions during the preparatory meeting:

Two co-chairs of the coordination group will be elected at the November meeting. According to the past practice under the Stockholm Convention one of the co-chairs should be from a developed country while the other from a developing country. At least one of the co-chairs should participate in the next meeting of the Conference of the Parties. (Mr. Holoubek, Mr. Harner, and Mr. Guardans indicated that they are planning to participate).

The ROG members suggested having the meeting of the coordination group during Nov 10-12, 2008 at the International Environment House in Geneva.

Draft agenda proposed for the coordination group meeting:

1. Organization of the coordination group work
    a. Selection of a chair/co-chairs -
2. Facilitating preparation of the global monitoring report
    a. Evaluation of the status of the regional monitoring reports
    b. Outline, structure and contents of the global monitoring report, in particular the global executive summary
    c. Timelines and responsibilities to finalize the report
3. Evaluation of the first phase of the global monitoring plan
    a. Coordination and oversight for subsequent evaluations
        a. Long-range transport
        b. Other media
        c. New POPs
        d. Comparability issues
        e. Specimen banking
        f. Interval for effectiveness evaluation
    b. Guidance on the GMP
    c. Further capacity enhancement for Parties on a regional basis, including interregional cooperation (addressing coverage in core media)
    d. Role, membership and activities of the coordination group in support of subsequent evaluations (TORs for ROG and CG)
    e. Regional capacity-building needs and how to address them

Expected outputs

1. Outline, structure and content of the global monitoring report; timelines and responsibilities for its finalization
2. Report to the Conference of the Parties

Issues related to how to address **long range transport of POPs** have been discussed. Tom Harner described how an understanding of the long-range transport of POPs will help to evaluate the effectiveness of the Convention. The physical properties of each chemical define how it is transported over long distances ("flyers" versus "swimmers"). Overall persistence defines how long a compound will remain in the environment. Compounds with long transport characteristics and long persistence will be expected to last a long time in remote areas and make it difficult to determine the effectiveness of the Convention. More advanced methods of back trajectory

analysis and modelling of long range transport help to determine the fate of compounds. Environmental data, such as the air data collected for the first effectiveness evaluation of the Convention, can be combined with advanced transport models.

Katarina Magulova reported on a meeting of the Joint International Conference of the UNEP Global Partnership on Atmospheric Mercury Transport and Fate Research and the Task Force on Hemispheric Transport of Air Pollution (HTAP) of the UNECE LRTAP Convention. The meeting shows a useful approach to understanding long-range transport of contaminants which may be useful for evaluating the effectiveness of the Stockholm Convention

The effectiveness evaluation of the Stockholm Convention requires knowledge on the long-range transport of POPs to understand temporal trends. In April 2008 a joint meeting of the UNEP Global Partnership on Atmospheric mercury Transport and Fate Research and the Task Force on Hemispheric Transport of Air Pollution (HTAP) was held in Rome, Italy. The meeting was a joint meeting of groups to understand fate and transport of contaminants. The meeting was attended by representatives of the modelling/release inventory and monitoring communities. Representatives from the UNECE regions and also Japan, China and Africa were present. The next HTAP assessment report will be available in 2010 and contain a section on POPs. It is expected that results from the GMP monitoring activities, as well as the inventory activities and reporting under the Stockholm Convention will feed into this section and lead to improved quality of assessment of global and intercontinental transport and fate.

ANNEX 2
WORK-PLANS AND TIMETABLES TO FINALIZE THE REGIONAL MONITORING REPORTS

Work-plan and Timetable for the Africa ROG for Finalization of the Regional Report

No.	Activity	*Time line*
1)	Facilitation of the implementation of UNEP/WHO milk project	*15th June 2008*
2)	Incorporation of the first set of air supplementary data	*15th June-10th July 2008*
3)	Africa ROG drafting workshop	*14th -16th July 2008*
4)	Revised regional report with place holders ready	*31st July 2008*
5)	Revised regional report crosschecked by ROG members and submitted for translation	*7th August 2008*
6)	Regional review of the first draft (and translated version) by parties and secretariat of Stockholm convention	*28th August 2008*
7)	Reminding to parties to finalize review of regional drafts	*11th September 2008*
8)	Revision of the first draft with place holders by ROG members and consultants	*18th September 2008*
9)	Reviewed regional report with place holders ready	*30th September 2008*
10)	Submission of the executive summary and final report with place holders SC Secretariat	*15th October, 2008*
11)	Submission of revised the revised executive summary to the secretariat	*15th January 2009*
12)	*Submission of revised the revised the final version of the regional report*	*20th March 2009*

Work-plan and Timetables for the Asia-Pacific ROG for Finalization of the Regional Report

Number	Activity	Time
1	Agenda for the regional ROG meeting in Doha	May 20
2	A initial draft regional report	Before May 23
3	Submission of the initial draft report from sub-regions	Before June 15
4	Participation of the WHO/UNEP human milk survey	June 15
5	Submission of supplementary data	Before June 21
6	ROG meeting in Doha, Qatar	June 23-25
7	First draft of the regional report	End of July
8	Sending the report the all parties in the region for review and comments	1 August
9	Revision of the first regional report by ROG members and consultants	August 31
10	Communication on comments and responses (set deadlines)	September
11	Addition of late data (e.g., WHO human milk)	??
	Report review meeting (Hong Kong- subject to availability of funds)	Oct 5-6
12	Submission of regional report	October 15

Work-plan and Timetables for the CEE ROG for Finalization of the Regional Report.

1.	Establishment of the CEECs ROG	October 2007
2.	Collection of available data and information and their first compilation, establishment of the drafting team	February 2008
3.	Preparation of the first draft	April 2008
4.	Drafting meeting of the CEECs ROG, Brno, CR	18 – 19, April 2008
5.	Drafting workshop for all regions takes place in Geneva	19-23 May 2008
6.	The 2nd Draft of the Regional report	15 July, 2008
7.	Review of the 2nd Draft by ROG members	31 July, 2008
8.	Regional review of the 2nd Draft	31 August, 2008
9.	Revision of the reviewed 2nd Draft by the ROG members and drafters	30, September 2008
10.	**Final Regional monitoring report will be submitted to the Secretariat**	**15 October, 2008**

Work-plan and Timetables for the GRULAC ROG for Finalization of the Regional Report.

Tasks	July	August	September	October
Finalization of GRULAC draft Report (consultant)	Up to 7			
Send ROG draft Report to the ROG GRULAC members(consultant)	7			
Regional Drafting Meeting (Costa Rica, ROG members+ consultant)	14-18			
Translation into Spanish version and English version review (Consultant and M Spencer)	21	4		
Sending of Draft final version (English and Spanish versions) to Focal Points and the Secretariat (ROG coordinator)		4		
Focal Point comments and observations (via e-mail) to ROG coordinator		5-25		
Reminder to focal point (ROG coordinator) respective ROG members to follow up assigned countries from which no response has been received		25	1	
ROG coordinator to send comments and observations received to ROG members and Consultant		25	4	
Adjustment for the final version (Consultant via e-mail)			17	
Send the final version to ROG members (consultant)			25	
Submit final GRULAC monitoring report to the secretariat (ROG coordinator)				15/10
Final editing and Printing				Up to March 2009

Work-plan and Timetables for the WEOG ROG for Finalization of the Regional Report (May-October 2008).

- ROG members revise and complete present draft of the ROG report 25 May 2008-30 June 2008
- The target for the ROG is to have the final draft available for distribution to Stockholm Convention focal points by 30 June 2008
- Comments by 15 September 2008
- Revised report to Secretariat by 31 October 2008

ANNEX 3
OUTCOMES OF THE AD-HOC EXPERT GROUPS

Expert group on issues related to common understanding and interpretation of the human data (milk and blood)

1. Useful summary information about study providing information

Study-specific information

Country:			
Activity (e.g,. monitoring, research):			
Matrix (e.g. milk, blood):			
Sampling site(s):			
Sampling year(s):			
No. of donors:			
Donors' age (yrs):	Average:	Min:	Max:
For blood: proportion of female donors (%)			
Literature source:			
Analytical method:	☐ HRGC/HRMS	☐ Isotope dilution	Which POPs:
	☐ HRGC/MS-MS	☐ Isotope dilution	Which POPs:
	☐ HRGC/MS	☐ Isotope dilution	Which POPs:
	☐ HRGC/ECD	Which POPs:	
Analytical method for lipid determination (e.g. gravimetric, enzymatic):			
QA/QC:	☐ Applied	☐ PT participation*	☐ Laboratory accredited
	Information on the quality of POPs laboratories can be found on http://www.chem.unep.ch/databank/Search/Result.aspx		
Notes (e.g. if the WHO protocol for human milk collection was applied):			

* Participation in proficiency testing schemes.

2. Compilation of raw data (relevant analytes) and calculation of sum parameters

Report of average (arithmetic mean), median (or geometric mean), minimum, and maximum values

Chlordane

Congener	Levels (ng/g, lipid adjusted)			
	Average	Median	Min	Max
cis-chlordane (alpha-chlordane)				
trans-chlordane (gamma-chlordane)				
oxychlordane				
cis-nonachlor				
trans-nonachlor				
Chlordane (group)*				

* Sum of all detected analytes
As an orientation: Only oxychlordane and *trans*-nonachlor are to be expected in human samples

DDT

Congener	Levels (ng/g, lipid adjusted)			
	Average	Median	Min	Max
o,p'-DDT				
p,p'-DDT				
o,p'-DDD				
p,p'-DDD				
o,p'-DDE				
p,p'-DDE				
DDT (group) *				

* Sum of all detected analytes
As an orientation: p,p'-DDE is to be expected to contribute > 90 % to DDT group in human samples
Recent exposure might be detected from the ratio of p,p'-DDE/p,p'-DDT

Endrin

Congener	Levels (ng/g, lipid adjusted)			
	Average	Median	Min	Max
Endrin				
Endrin ketone				
Endrin (group) *				

* Sum of all detected analytes

Heptachlor

Congener	Levels (ng/g, lipid adjusted)			
	Average	Median	Min	Max
Heptachlor				
cis-heptachlor epoxide				
trans-heptachlor epoxide				
Heptachlor (group) *				

* Sum of all detected analytes
As an orientation: Only *cis*-heptachlor epoxide is considered to be bioaccumulated

Toxaphene

Congener	Levels (ng/g, lipid adjusted)			
	Average	Median	Min	Max
Parlar 26				
Parlar 50				
Parlar 62				
Toxaphene *				

* Sum of the three congeners

PCBs (marker polychlorinated biphenyls)

Congener	Levels (ng/g, lipid adjusted)			
	Average	Median	Min	Max
PCB 28				
PCB 52				
PCB 101				
PCB 138				
PCB 153				
PCB 180				
PCB 118				
Sum PCB_6 (28,52,101,138,153,180)				
Sum PCB_7 (28,52,101, 118,138,153,180)				

As an orientation: Out of these congeners, 138, 153 and 180 will generally contribute to >90 % of the sum the 6 marker PCB congeners (valid for human samples)

dl-PCBs (dioxin-like polychlorinated biphenyls)

Congener	Levels (pg/g, lipid adjusted)							
	Average			Median			Min	Max
	lower	middle	upper	lower	middle	upper		
PCB 77								
PCB 81								
PCB 126								
PCB 169								
non-*ortho* PCBs (WHO_{1997} TEQ)								
PCB 105								
PCB 114								
PCB 118								
PCB 123								
PCB 156								
PCB 157								
PCB 167								
PCB 189								

mono-*ortho* PCBs (WHO_{1997} TEQ)

dl-PCBs (WHO_{1997} TEQ)

- Lower bound: concentration of not detected analyte = 0;
- Middle bound: concentration of not detected analyte = ½ LOQ;
- Upper bound: concentration of not detected analyte = LOQ
- For TEQ values: < 20 % difference between lower and upper bound values at ranges > 1 pg TEQ/g lipid is preferable

PCDDs (polychlorinated dibenzo-*p*-dioxins, dioxins)**, PCDFs** (polychlorinated dibenzofurans, furans)

Congener	Levels (pg/g, lipid adjusted)							
	Average			Median			Min	Max
	lower	middle	upper	lower	middle	upper		
2,3,7,8-Cl4DD								
1,2,3,7,8-Cl5DD								
1,2,3,4,7,8-Cl6DD								
1,2,3,6,7,8-Cl6DD								
1,2,3,7,8,9-Cl6DD								
1,2,3,4,6,7,8-Cl7DD								
Cl8DD								
PCDDs (WHO_{1997} TEQ)								
2,3,7,8-Cl4DF								
1,2,3,7,8-Cl5DF								
2,3,4,7,8-Cl5DF								
1,2,3,4,7,8-Cl6DF								
1,2,3,6,7,8-Cl6DF								
1,2,3,7,8,9-Cl6DF								
2,3,4,6,7,8-Cl6DF								
1,2,3,4,6,7,8-Cl7DF								
1,2,3,4,7,8,9-Cl7DF								
Cl8DF								
PCDFs (WHO_{1997} TEQ)								

PCDDs+PCDFs (WHO_{1997} TEQ)

- Lower bound: concentration of not detected analyte = 0;
- Middle bound: concentration of not detected analyte = ½ LOQ;
- Upper bound: concentration of not detected analyte = LOQ
- For TEQ values: < 20 % difference between lower and upper bound values at ranges > 1 pg TEQ/g lipid is preferable

3. Summary table of reported POPs levels

Report of average (arithmetic mean), median or geometric mean, minimum, and maximum values; As to dl-PCBs and PCDDs+PCDFs, middle bound values (if available) are reported.

		Average	Median	Min	Max
Aldrin	ng/g lw				
Chlordane (group)	ng/g lw				
DDT (group)	ng/g lw				
Dieldrin	ng/g lw				
Endrin (group)	ng/g lw				
Heptachlor (group)	ng/g lw				
HCB	ng/g lw				
Mirex	ng/g lw				
Toxaphene	ng/g lw				
PCBs	ng/g lw				
dl-PCBs	pg WHO_{1997} TEQ/g lw				
PCDDs+PCDFs	pg WHO_{1997} TEQ/g lw				

Recommendation for harmonization of data for dioxins, furans and dioxin-like PCBs for use for effectiveness evaluation of Stockholm Convention

Dioxins, furans and dioxin-like PCBs are reported on basis of a summary parameter "TEQ" (toxic equivalents). There is need to harmonize two important details for calculation of this TEQ parameters:

1) kind of TEF factors (toxic equivalency factors) used to calculate the TEQ;
2) kind of inclusion of non-detected dioxins, furans and dioxin-like PCBs.

4. Recommendations for harmonization of data on PCDD/PCDF

TEF factors (toxic equivalency factors) used to calculate the TEQ

With the example of WHO-coordinated exposure studies one can see the development of different TEF concepts in the past:

1) Results of the first round (1997/1988) included only dioxins and furans and were reported as Nordic TEQs and US-EPA-TEQs.
2) Results of the second round (1992/1993) comprised dioxins, furans and dioxin-like PCBs (and indicator PCBs). Dioxins and furans were calculated with "international toxic equivalency factors" (I-TEFs) to give international toxic equivalents (I-TEQ) which however do not cover dioxin-like PCBs. Therefore, dioxin-like PCBs were calculated with WHO-TEF derived in 1993 to give WHO-TEQs (with factors of 1993).
3) Results of the third round (2000 - 2003) and fourth round (started in 2005) were calculated with WHO-TEFs derived in 1997 (and published in 1998). These WHO-TEFs cover dioxins, furans and dioxin-like PCBs and form the basis also of EU legislation for maximum and action levels in food and feed.

4) The newly revised WHO-TEFs (revision in 2005, published in 2006) can be used as additional information.

As a conclusion, it is recommended NOT to use I-TEQ as basis for reports, because inclusion of dioxin-like PCBs would not be possible, but to use TEQ values based on WHO-TEFs of 1997 for the available data. Were possible, a re-calculation on basis of the new WHO-TEFs of 2005 can be made to check the differences and for comparison with results obtained in the future when these factors might be more frequently used.

Inclusion of non-detected dioxins, furans and dioxin-like PCBs

The problem was explained and a harmonized recommendation was derived in a paper presented by a group of international experts in the field of dioxin analysis at the opportunity of Dioxin 2001 in Gyeongyu (Korea) and published in Organohalogen Compounds (2001) 50: 53 - 58:, see the following extract:

Harmonised quality criteria for chemical and bioassays Analyses of PCDDs/PCDFs in feed and food[1]
Part 1: General considerations, gc/MS methods

Upper-bound concentrations, lower bound concentrations

For comparison of analytical results to regulatory limits and in general to results from other laboratories, the limit of detection (lowest limit for qualitative identification) and/or limit of determination (lowest limit for quantification) have to be taken into account. For PCDDs/PCDFs analysis, all 17 congeners with 2,3,7,8-substitution have to be determined. For calculation of the TEQ value, the results of each of these congeners is multiplied by the specific TEF factor and then added up. In most cases, a few of the 17 congeners are below the limit of detection and/or limit of determination. This can become critical if many congeners are not determinable or if the toxicologically relevant congeners are not found.

There are different imputation approaches to handle non-detects (Hoogerbrugge, R. and Liem, A.K.D. (2000) Organohalogen Compounds 45:13 - 16):

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[1] Rainer Malisch [1], Bert Baumann [2], Peter A. Behnisch [3], Richard Canady [4], Daniel Fraisse [5], Peter Fürst [6], Douglas Hayward [4], Ronald Hoogenboom [7], Ronald Hoogerbrugge [2], Djien Liem [2], Olaf Päpke [8], Wim Traag [7], Thomas Wiesmüller [9]

[1] Chemisches und Veterinäruntersuchungsamt, Bissierstr. 5, D-79114 Freiburg, Germany
[2] National Institute of Public Health and the Environment (RIVM), P.O. Box 1, Bilthoven, 3720 BA Netherlands
[3] Life Science Research Laboratories, Kaneka Corporation, 1-8 Miyamae-Machi, Takasago, Hyogo 676-8688, Japan
[4] US Food and Drug Administration, Center for Food Safety and Applied Nutrition, 200 C St SW, Washington DC, USA
[5] CARSO, 321 Avenue Jean Jaures, Lyon Cedex 07, 69362 France
[6] Chemisches Landes- und Staatliches Veterinäruntersuchungsamt, Postfach 1980, D-48007 Münster, Germany
[7] State Institute for Quality Control of Agricultural Products (RIKILT), PO Box230, Wageningen, 6700AE Netherlands
[8] ERGO Forschungsgesellschaft, Geierstr. 1, D-22305, Hamburg, Germany
[9] Staatliches Veterinär- und Lebensmitteluntersuchungsamt, Pappelallee20, D-14469 Potsdam, Germany

1) calculate the contribution of each non-detected congener to the TEQ as zero (lower bound concentrations)
2) calculate the contribution of each non-detected congener to the TEQ as the limit of detection / limit of determination (upper bound concentrations)
3) calculate the contribution of each non-detected congener to the TEQ as half of the limit of detection / limit of determination
4) replacement of a non-detect in a data set by the minimum of usual contribution to the TEQ and LOD
5) multiple imputation with censoring of data

If the contribution of non-detected congeners to the TEQ is calculated as "0", low dioxin contents can be the result of really low levels of the sample or of insufficient detection/determination limits, without considering these detection/ determination limits in the final TEQ calculation. To make sure that low dioxin levels are really the result of low levels in the sample, the concept of tolerances "as upperbound concentrations" was developed. This concept demands the inclusion of the full limit of detection or determination instead of "zero" for not detectable substances: Upperbound concentrations are calculated assuming that all values of the different congeners less than the limit of detection/determination are equal to the limit of detection/determination.

When the limits of determination are high for the decisive congeners and the concept of "upperbound limit of determination" is applied, it results in high numbers of TEQ. This has to be considered for the definition of background contamination, control of tolerances or intake estimates. Especially the use of low resolution mass spectrometers in food analyses or a low weight-in quantity of a sample (for a quick and easy analyses) can cause relatively high values of dioxin contents as upper bound limits of determination. This cannot be seen from a reported TEQ level without knowledge about the results of the individual congeners. For methods with insufficient sensitivity the factor for differences between lower bound and upper bound concentrations can be in the range of 10 to 100, in extreme cases even higher. Thus, for definition of a background contamination or evaluation of exposure, published data must be reviewed critically to avoid that relatively high values are included which are only the result of insufficient detection limits.

For setting and control of tolerances on TEQ basis, the proximity of the level of determination to the appropriate tolerance must be evaluated as part of the decision to accept or reject a food or feedingstuff. High levels of determination relative to the tolerance (see section 3) should lead to the rejection of a sample analysis result on the basis of poor quality assurance and consequent poor reliability of the estimate of TEQ. As an alternative, some governments may choose to apply upperbound estimates of TEQ, with a preference of the upperbound limit of determination rather than upperbound limit of detection, as a screening approach to remove questionable samples from the marketplace. In the absence of these steps, there is a risk that foods exceeding a maximum level would reach consumers due to insufficient sensitivity. It is the responsibility of laboratories to achieve the required sensitivity to avoid unnecessary rejection of analysis results of foods.

For risk assessment, the application of the upperbound concentrations may lead to an overestimation of the intake, the application of the lowerbound concentrations to an underestimation of the intake. For these purposes, the imputation of half the detection limit

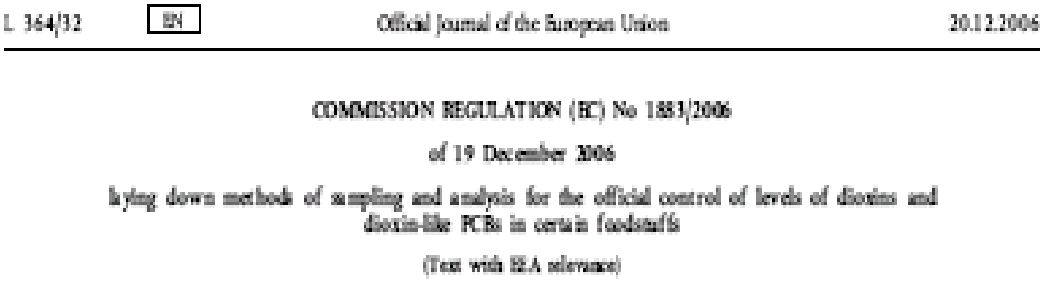
yields an acceptable estimate of both the TEQ and its associated standard deviation of uncertainty.

As a result, it is recommendable for the future that labs report their results as lower bound, upper bound and half detection limit. Then, every information is available to interpret the results according to specific requirements. As minimum requirement, it must be clear from a report which concept was applied.

…..for reliable determination in the range of the usual background contamination, the following requirements should be met:

- The difference between upperbound limit of determination and lower bound limit of determination should not exceed the range of 10 to 20 % for food of animal origin with a dioxin contamination of about 1 pg WHO-TEQ/g fat (only PCDD/PCDF included). This requirement should be met for products as butter, beef, cheese or not defatted milk products, whereas for products as skinned fish fillets with a low fat content similar requirements on fresh weight basis can be derived.

These conclusions and recommendations for dioxin analysis became the decisive foundation of EU legislation and were fixed in the criteria approach. The actual version is:



L 364/32 EN Official Journal of the European Union 20.12.2006

COMMISSION REGULATION (EC) No 1883/2006

of 19 December 2006

laying down methods of sampling and analysis for the official control of levels of dioxins and dioxin-like PCBs in certain foodstuffs

(Text with EEA relevance)

It specifies the acceptable differences between upperbound and lower bound levels as follows:

— The difference between upperbound level and lower bound level shall not exceed 20 % for foodstuffs with a dioxin contamination of about 1 pg WHO-TEQ/g fat (based on the sum of PCDD/PCDF and dioxin-like PCBs). For foodstuffs with a low fat content, the same requirements for contamination levels of about 1 pg WHO-TEQ/g product have to be applied. For lower contamination levels, for example 0,50 pg WHO-TEQ/g product, the difference between upperbound and lowerbound level may be in the range of 25 % to 40 %.

For the purpose of effectiveness evaluation of the Stockholm Convention, it is highly recommendable not to disregard the consequences of the kind of inclusion of not detectable dioxins, furans and dioxin-like PCBs. It will not help if high differences between lower bound and upper bound results are neglected (or unknown) and analytical variation or changes in analytical techniques will have a higher influence on “time trends” than “real” changes in the samples. **Therefore, it is recommended not to accept TEQ-based data (regardless whether reported as lower bound, middle bound or upper bound values) for the “core” evaluation of time trends if the differences between lower bound and upper bound values exceed**

20 %. Higher differences would increase the unreliability of the data base: the higher, the more. Data with unknown or higher than 20 % difference might be used as additional indicative information, however, should not form the data basis for evaluation of time trends.

Expert group on issues related to comparability of air monitoring data

A small group of ROG members and experts (Mr. Shibata, Mr. Madadi, Mr. Holoubek, Mr. Votadoroka, Ms. Traore and Mr. Harner) discussed the issue of data comparability with respect to data provided by air sampling programs.

The following points were agreed to by this group.

1. For interpreting trends in POPs air concentrations, data should be comparable on a program basis. Ideally, and to reduce uncertainties, this will involve one analytical laboratory and the same type of air sampler across sites. It is not a requirement that data be comparable across programs, given the numerous sources of uncertainty that would come into play.

2. However, in some cases it may be desirable to compare data across programs (e.g. for modeling exercises or semi-quantitative spatial comparisons of POPs across regions / program boundaries). Possible scenarios, related sources of uncertainty, and possible solutions are outlined below.

i.) comparisons among programs that employ active samplers
– uncertainties related to different analytical practices (labs) between programs
- uncertainties related to different sampler types. For instance the particle cut-off size of the inlet (e.g. TSP vs PM_{10} vs $PM_{2.5}$) – although this source of uncertainty would apply to particle-bound POPs.

ii.) comparisons among programs that employ passive samplers
- uncertainties related to different analytical labs.
- uncertainties related to different sampler types.
- differences in how passive sampling data are reported. For instance, the reporting format for PUF disk samplers under GAPS, is on a concentration basis (i.e. pg/m^3). This is possible because of the use depuration compounds (labeled compounds added to the PUF disk prior to deployment) that allow for the assessment of site-specific sampling rates and hence sample volumes for a given sampling period. For other samplers (e.g. XAD-type) and other sampling programs using PUF disks that do not use depuration compounds, results are often reported on an amount per sampler basis (i.e. ng/sampler for a given time period) and in some cases on a concentration basis (pg/m^3) by using a default sampling rate determined through previous calibration work.

[note: programs employing PUF disk samplers (GAPS, RECETOX and Lancaster University) have already tested and demonstrated good comparability between programs. A paper has been published on this topic (Chakra et al., in press). The PUF-disk and XAD sampler are currently being compared and evaluated under the GAPS Network and related projects between Environment Canada and Prof. Wania, University of Toronto].

iii.) comparisons that include both active and passive air samplers
The group recognized that data provided by passive samplers is less quantitative compared to active samplers due to some uncertainty regarding the true sample volume. However, passive samplers integrate completely (100% coverage) over a deployment period and are thus able to minimize uncertainty related to varying air concentration over a given averaging period. For this type of uncertainty, data obtained using active samplers will vary and depend on the proportion of time the sampler was collecting air. Air sampling programs are operated under a variety of 'sample coverage' scenarios, ranging from <10% (e.g. sampling 1 day in 10) to complete (100%) coverage of the averaging period.

Comparability among programs (i.e. reduction of these uncertainties) can be assessed and resolved through intercomparison exercises. However, the group re-affirmed that this level of comparability is not required for trends analysis within a given program, as presented under point 1.) above.

Expert group on issues related to evaluation of data quality by the ROGs

Group included Mr. Holoubek (CEE ROG), Mr. Kocan (CEE ROG), Mr. Barra (GRULAC), Mr. Stone (WEOG), Mr. Shibata (Asia Pacific ROG), Mr. Macdonald (Secretariat)

When inititiating and conducting its activities to obtain monitoring information, the ROGs took careful note of two concepts outlined in Article 16 of the Convention. First, it is stated that Parties shall make arrangements to obtain comparable monitoring data. The operational procedure to achieve comparability is the application of the criteria for programme selection outlined in the Implementation Plan for the first evaluation and the measures listed in the "Guidance Document". Second, Article 16 further states that the arrangements to gather data should be implemented using existing programmes and mechanisms to the extent possible.

At its first and second meetings, the ROG reviewed information on existing programmes based upon survey responses obtained by the Secretariat, and selected candidate programmes to provide the basis for the first evaluation report. The selection was performed by application of the above noted criteria which resulted in the identification of more than 15 established international and national programmes (see tables 4.1 and 4.2 below) to be the main information sources for the first evaluation. At least one member of the ROG (according to the expertise of that individual) carefully examined the sampling, analytical, and data quality arrangements of each of the programmes. This enabled the ROG to satisfy itself that such arrangements will enable the data from the identified programmes to be used by the COP now and in the future to look for changes in POPs levels over time within those programmes.

Although the ROG believed that it is practical and realistic to expect such internal comparability, it noted that each of the established programmes has its own procedures for conducting its work, usually including constraints on the use of different analytical laboratories within each programme. However very few different programmes share the same analytical laboratory. Since the use of different analytical laboratories is a major source of variance, the ROG concluded that it would be very difficult to achieve comparability between programmes. Therefore in general the focus was placed on efforts to promote internal comparability within programmes over time for both the present and the future. While this conclusion generally means that there will be very limited direct comparability between regions, significant exceptions are evident, such as when a programme operating in several regions has maintained a centralized analytical facility servicing all regions, such as with the WHO coordinated human milk programme.

At its first and second meetings, the ROG considered how best to provide the COP with all of the information requested in a concise fashion. It was decided to address these needs by providing the COP with four tiers of information. 1) The short simple summary to inform the COP of the essential elements; 2) The concise synthesis of information derived from the contributing existing monitoring programmes (Chapter 5 of this report); 3) More detailed information on the nature of operation and data used from each of the contributing programmes. These are termed "programme summaries" and are appended to the report. They were chiefly prepared by experts working in the existing contributing programmes; 4) Ensuring that full details on any aspect of an existing programme can be accessed, usually through direct contact with the management or secretariats of each contributing programme. Therefore if an individual would like to obtain more information on the analytical methodologies, quality assurance and control, data handling, and data availability practices of a contributing programme, that individual has a choice of the degree of detail that it wishes to access.