

SUMMARY OF THE FOURTH MEETING OF THE PERSISTENT ORGANIC POLLUTANTS REVIEW COMMITTEE OF THE STOCKHOLM CONVENTION: 13-17 OCTOBER 2008

The fourth meeting of the Persistent Organic Pollutants Review Committee (POPRC-4) of the Stockholm Convention on Persistent Organic Pollutants (POPs) took place from 13-17 October 2008, in Geneva, Switzerland. Over 140 participants attended the meeting, including 28 of 31 Committee members, 57 government and party observers, and 43 representatives from non-governmental organizations. POPRC-4 considered several operational issues, including conflict-of-interest procedures, toxic interactions between POPs, and activities undertaken for effective participation of parties in its work.

The Committee approved the risk management evaluation for four chemicals, and recommended that COP-4 consider listing under Annexes A, B, or C: commercial octabromodiphenyl ether (c-octaBDE), pentachlorobenzene (PeCB), and alpha- and beta-hexachlorocyclohexane (alphaHCH and betaHCH). A draft risk profile for short-chained chlorinated paraffins (SCCPs) was discussed throughout the week and the Committee agreed to forward it to POPRC-5. POPRC-4 also evaluated a proposal to list endosulfan under the Convention and agreed, by vote, that it met the Annex D criteria for listing and that a draft risk profile should be prepared for consideration by POPRC-5. POPRC-4 also began an exchange of views on a proposal to list hexabromocyclododecane (HBCD) under the Convention.

Despite facing unusually contentious deliberations during the week, many participants expressed satisfaction with the Committee's accomplishments and noted that they were looking forward to taking part in intersessional working groups on the draft risk profile for endosulfan, toxic interactions, effective participation in the POPRC, and substitutes and alternatives.

A BRIEF HISTORY OF THE STOCKHOLM CONVENTION

During the 1960s and 1970s, the use of chemicals and pesticides in industry and agriculture increased dramatically. In particular, a category of chemicals known as Persistent Organic

Pollutants (POPs) attracted international attention due to a growing body of scientific evidence indicating that exposure to very low doses of POPs can lead to cancer, damage to the central and peripheral nervous systems, diseases of the immune system, reproductive disorders and interference with normal infant and child development. POPs are chemical substances that persist in the environment, bioaccumulate in living organisms, and can cause adverse effects to human health and the environment. With further evidence of the long-range transport of these substances to regions where they have never been used or produced, and the consequent threats they pose to the global environment, the international community called for urgent global action to reduce and eliminate their release into the environment.

In March 1995, the United Nations Environment Programme's Governing Council (UNEP GC) adopted Decision 18/32 inviting the Inter-Organization Programme on the Sound Management of Chemicals, the Intergovernmental Forum on

IN THIS ISSUE

A Brief History of the Stockholm Convention	1
POPRC-4 Report	3
Operational Issues	3
Consideration of Draft Risk Management Evaluations	6
Consideration of Draft Risk Profiles	8
Issues Relating to Risk Profiles	9
Consideration of Chemicals Newly Proposed for Inclusion in Annexes A, B or C of the Convention	10
Consideration of Recommendations to the Conference of the Parties	14
Other Matters	15
Dates & Venue of the 5th Meeting of the Committee	15
Closure of the Meeting	15
A Brief Analysis of POPRC-4	15
Upcoming Meetings	17
Glossary	17

This issue of the *Earth Negotiations Bulletin* © <enb@iisd.org> is written and edited by Pia Kohler, Ph.D., Anne Roemer-Mahler and Jessica Templeton. The Editor is Pamela S. Chasek, Ph.D. <pam@iisd.org> and the Director of IISD Reporting Services is Langston James "Kimo" Goree VI <kimo@iisd.org>. The Sustaining Donors of the *Bulletin* are the United Kingdom (through the Department for International Development - DFID), the Government of the United States of America (through the Department of State Bureau of Oceans and International Environmental and Scientific Affairs), the Government of Canada (through CIDA), the Danish Ministry of Foreign Affairs, the German Federal Ministry for Economic Cooperation and Development (BMZ), the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the Netherlands Ministry of Foreign Affairs, the European Commission (DG-ENV) and the Italian Ministry for the Environment, Land and Sea. General Support for the *Bulletin* during 2008 is provided by the Norwegian Ministry of Foreign Affairs, the Government of Australia, the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, the Ministry of Environment of Sweden, the New Zealand Ministry of Foreign Affairs and Trade, SWAN International, Swiss Federal Office for the Environment (FOEN), the Finnish Ministry for Foreign Affairs, the Japanese Ministry of Environment (through the Institute for Global Environmental Strategies - IGES), the Japanese Ministry of Economy, Trade and Industry (through the Global Industrial and Social Progress Research Institute - GISPRI) and the United Nations Environment Programme (UNEP). Funding for translation of the *Bulletin* into French has been provided by the International Organization of the Francophonie (IOF). Funding for the translation of the *Bulletin* into Spanish has been provided by the Ministry of Environment of Spain. The opinions expressed in the *Bulletin* are those of the authors and do not necessarily reflect the views of IISD or other donors. Excerpts from the *Bulletin* may be used in non-commercial publications with appropriate academic citation. For information on the *Bulletin*, including requests to provide reporting services, contact the Director of IISD Reporting Services at <kimo@iisd.org>, +1-646-536-7556 or 300 East 56th St., 11A, New York, NY 10022, USA.

Chemical Safety (IFCS) and the International Programme on Chemical Safety to initiate an assessment process regarding a list of 12 POPs. The IFCS *Ad Hoc* Working Group on POPs concluded that sufficient information existed to demonstrate the need for international action to minimize risks from the 12 POPs, including a global legally-binding instrument. The meeting forwarded a recommendation to the UNEP GC and the World Health Assembly (WHA) that immediate international action be taken on these substances.

In February 1997, the UNEP GC adopted Decision 19/13C endorsing the conclusions and recommendations of the IFCS. The GC requested that UNEP, together with relevant international organizations, convene an intergovernmental negotiating committee with a mandate to develop, by the end of 2000, an international legally binding instrument for implementing international action, beginning with the list of 12 POPs. In May 1997, the WHA endorsed the recommendations of the IFCS and requested that the World Health Organization participate actively in the negotiations.

NEGOTIATION OF THE CONVENTION: The Intergovernmental Negotiating Committee (INC) met five times between June 1998 and December 2000 to elaborate the convention. The Conference of the Plenipotentiaries convened from 22-23 May 2001, in Stockholm, Sweden, where delegates adopted: the Stockholm Convention; resolutions adopted by INC-4 and INC-5 addressing interim financial arrangements and issues related to the Basel Convention on the Control of Transboundary Movement of Hazardous Waste and their Disposal; resolutions forwarded by the Preparatory Meeting; and the Final Act.

The Stockholm Convention calls for international action on 12 POPs grouped into three categories: 1) pesticides: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex and toxaphene; 2) industrial chemicals: hexachlorobenzene (HCB) and polychlorinated biphenyls (PCBs); and 3) unintentionally produced POPs: dioxins and furans. Governments are to promote best available techniques (BAT) and best environmental practices (BEP) for replacing existing POPs while preventing the development of new POPs. Provision was also made for a procedure to identify additional POPs and the criteria to be considered in doing so.

Key elements of the treaty include: the requirement that developed countries provide new and additional financial resources; measures to eliminate production and use of intentionally produced POPs, eliminate unintentionally produced POPs, where feasible, and manage and dispose of POPs wastes in an environmentally sound manner; and substitution involving the use of safer chemicals and processes to prevent unintentionally produced POPs. Precaution is exercised throughout the Stockholm Convention, with specific references in the preamble, the objective and the provision on identifying new POPs.

The Stockholm Convention entered into force on 17 May 2004, and currently has 159 parties, including the European Community.

COP-1: The first Conference of the Parties (COP-1) to the Stockholm Convention was held from 2-6 May 2005, in Punta del Este, Uruguay. To set the Convention's implementation in motion, delegates adopted a broad range of decisions, which had been elaborated during two meetings of the INC in June 2002 and July 2003. These decisions related to: providing for the evaluation of the continued need for DDT use for disease vector control; establishing a review process for entries in the register of specific exemptions; adopting guidance for the financial mechanism; establishing a schedule for reporting; establishing arrangements for monitoring data on POPs; adopting rules of procedure and financial rules; adopting the budget for the Secretariat; and establishing the membership of the POPRC.

The POPRC was established to regularly consider additional candidates for the annexes to the Convention. The Committee's membership comprises 31 experts nominated by parties from the five regional groups. It reviews chemicals nominated by parties in three stages. The Committee first determines whether the substance fulfills POP screening criteria, as defined by the Convention in terms of its persistence, bioaccumulation, potential of long-range environmental transport (LRET), and toxicity. If a substance is deemed to fulfill these requirements, the Committee then drafts a risk profile to evaluate whether the substance is likely, as a result of its LRET, to lead to significant adverse human health and/or environmental effects and global action is therefore warranted. Finally, if the POPRC finds that global action is warranted, it develops a risk management evaluation reflecting socioeconomic considerations associated with possible control measures and, based on this, the POPRC decides to recommend that the COP list the substance under one of the annexes to the Convention.

POPRC-1: The first meeting of the POPRC (POPRC-1) was held in Geneva, Switzerland, from 7-11 November 2005. The Committee considered five chemicals proposed for inclusion in the Convention and agreed that intersessional working groups would develop risk profiles on these chemicals, to be assessed by the Committee at its second meeting. POPRC-1 also reviewed its role and mandate, and took decisions on several operational issues, including developing procedures for handling confidential information, work plans for intersessional activities, and criteria and procedures for inviting additional experts.

COP-2: COP-2 took place from 1-5 May 2006, in Geneva, Switzerland. COP-2 considered several reports on activities within the Convention's mandate, and adopted 18 decisions on, *inter alia*: DDT, exemptions, financial resources and mechanisms, information exchange, BAT/BEP, identification and quantification of releases, measures to reduce or eliminate releases from wastes, implementation plans, listing chemicals in Annexes A, B and/or C of the Convention, reporting, technical assistance, synergies, effectiveness evaluation, and non-compliance.

POPRC-2: POPRC-2 was held in Geneva, Switzerland, from 6-10 November 2006. The Committee adopted the risk profiles for pentabromodiphenyl ether (pentaBDE), chlordecone, hexabromobiphenyl (HBB), lindane, and perfluorooctane

sulfonate (PFOS) and agreed that intersessional working groups would develop draft risk management evaluations for these chemicals to be assessed by POPRC-3. The Committee also agreed to consider five newly proposed chemicals for inclusion in the Convention: alpha hexachlorocyclohexane (alphaHCH), beta hexachlorocyclohexane (betaHCH), pentachlorobenzene (PeCB), octabromodiphenyl ether (octaBDE) and short-chained chlorinated paraffins (SCCPs), and agreed that intersessional working groups would develop risk profiles on these chemicals to be assessed by the Committee at its third meeting.

COP-3: Stockholm Convention COP-3 was held from 30 April - 4 May 2007, in Dakar, Senegal. COP-3 considered several reports on activities within the Convention's mandate and adopted 22 decisions on, *inter alia*: a revised process for the review of entries in the register of specific exemptions; DDT; measures to reduce or eliminate releases from wastes; guidelines on the standardized toolkit for identification and quantification of releases; guidelines on BAT and draft guidance on BEP; regional centers; listing chemicals in Annexes A, B or C of the Convention; reporting; effectiveness evaluation; national implementation plans; budget; financial resources; technical assistance; synergies; and non-compliance.

POPRC-3: POPRC-3 took place from 19-23 November 2007, in Geneva, Switzerland. The Committee approved the risk management evaluation for five chemicals, and recommended that COP-4 consider listing under Annexes A, B, or C: lindane; chlordecone; HBB; pentabromodiphenyl ether; and perfluorooctane sulfonate, its salts and PFOS fluoride. Risk profiles were approved for four chemicals, and POPRC-3 adopted a draft work programme to prepare draft risk management evaluations for those chemicals, namely on: c-octaBDE, PeCB, and alphaHCH and betaHCH, and agreed that intersessional working groups would develop risk profiles on these chemicals to be assessed by the Committee at its fourth meeting. The Committee decided that a proposal by the European Community and its member states to consider endosulfan for inclusion in Annex A, B, or C would be considered by POPRC-4.

POPRC-4 REPORT

On Monday, 13 October 2008, Donald Cooper, Executive Secretary of the Stockholm Convention, welcomed participants to the fourth meeting of the POPs Review Committee. Cooper expressed optimism about the coming week, saying that the POPRC is the "right Committee" with the "right Chair" at the "right time." Cooper highlighted the importance of maintaining a distinction between technical evaluations, which are the responsibility of POPRC, and the political issues that will be considered by the COP, and noted that the POPRC is a model for decision making that may be emulated within other multilateral environmental agreements.

POPRC Chair Reiner Arndt (Germany) welcomed the 12 new members of the Committee, as well as the two members whose terms had been extended. Arndt noted that Jacqueline Alvarez's term as POPRC Vice-Chair had ended in May, and that Alfredo Cueva (Ecuador) had served as Vice-Chair in the interim.

Highlighting the Convention's requirement of gender balance, the Committee approved Arndt's nomination of Kyunghye Choi (Republic of Korea) as the new Vice-Chair.

Participants adopted the provisional agenda for the meeting (UNEP/POPS/POPRC.4/1 and Add.1) and the proposed organization of work (UNEP/POPS/POPRC.4/INF/2). Chair Arndt explained the decision-making process and the roles of Committee members and observers. Chair Arndt also noted that all decisions to date have been made by consensus and expressed hope that future decisions would be made in the same way.

The Committee met in plenary throughout the week, and contact groups, open to observers, and drafting groups, limited to POPRC members, convened on a variety of topics. This summary of the meeting is organized according to the order of the agenda.

The current members of POPRC are Armenia, Australia, Brazil, Bulgaria, Burkina Faso, Cambodia, Canada, Chad, Chile, China, Czech Republic, Ecuador, France, Germany, Ghana, Honduras, India, Japan, Jordan, Mauritius, Mexico, Morocco, Portugal, Republic of Korea, Sierra Leone, South Africa, Sweden, Switzerland, Syria, Thailand and Togo. Members from Bulgaria, Portugal and Togo were unable to attend.

OPERATIONAL ISSUES

CONFLICT-OF-INTEREST PROCEDURES: On Monday, the Secretariat presented a note on preventing and dealing with conflict of interest (UNEP/POPS/POPRC.4/3) and introduced a draft revised form on which POPRC members declare if they have a conflict of interest.

Emphasizing the absence of conflicts of interest in the Committee so far, Chair Arndt proposed a procedure to address them in case they occur. He suggested that members meet in a closed session before the start of each meeting and, if a conflict of interest is identified, the member concerned be given the choice of either not participating or voting on the agenda issue concerned, or of participating in the discussion and abstaining from voting.

Sweden, Switzerland, Japan and Ecuador supported the proposal, with Japan expressing a preference for the second option to allow the member to participate in discussion. Sweden and Switzerland requested that this procedural decision be documented. An observer from the US called for the pre-meeting sessions to be open and for written reports of their outcomes to be produced.

On Thursday, the Secretariat introduced a draft decision on the Committee's conflict-of-interest procedures providing for closed sessions for Committee members before the start of each meeting to deal with conflict-of-interest issues, and including, in an annex, a revised conflict-of-interest declaration form for members.

Sweden asked that the possible procedures for dealing with a conflict of interest be summarized in the meeting report, and Chair Arndt stated that the Committee's discussions on the issue would be reflected in a report by the Secretariat compiling the Committee's procedural guidelines.

The International POPs Elimination Network (IPEN), speaking on behalf of public interest NGOs at POPRC, called attention to the conflict of interest they said was occurring in plain sight of the Committee with the apparent goal of derailing consideration of a chemical of critical concern to communities worldwide; she also called for declarations of interest to be publicly available so as to safeguard the Committee's reputation and suggested the form include examples to better illustrate the difference between real, apparent and perceived conflicts of interest. Ecuador noted that conflict-of-interest declarations should not be confidential and asked the Committee to consider IPEN's proposal. The Committee decided it would continue consideration of the issue after Ecuador had prepared specific suggestions for amendments to the draft declaration.

On Friday afternoon, Ecuador submitted a proposal on conflicts of interest requesting the COP to make amendments to the conflict-of-interest rules of procedure set out in Decision I/8. The proposal suggests adding examples to the paragraph that explain the meaning of conflicts of interest including, *inter alia*: financial interests, receiving research grants from industry; co-authoring research papers; and participating in industry advisory committees. Sierra Leone, supported by India, questioned whether the proposal would add value to the text. India, supported by the World Chlorine Council, suggested including members' activities related to NGOs. The Secretariat explained that examples of conflicts of interest are already contained in the introductory paragraphs of the rules of procedure. IPEN stated that many civil society organizations did not focus only on financial aspects of conflicts of interest and that by including non-financial dimensions the Committee would win their confidence. She suggested including the proposal in the meeting report and taking it up at a later time. Chair Arndt asked if Ecuador could agree with this suggestion, and Ecuador consented.

The Committee then adopted the draft decision on conflicts of interest without amendments.

Final Decision: In its decision on conflicts of interest (UNEP/POPS/POPRC.4/CRP.2), the POPRC:

- takes note of the information provided in the Secretariat note on preventing and dealing with conflicts of interest;
- decides to meet in closed session before the start of each meeting of the Committee to discuss any issues related to conflicts of interest;
- agrees to the draft revised form for the declaration of conflicts of interest set out in the annex to the decision; and
- requests the Secretariat to provide to COP-4 information on its analysis of the declaration of conflict-of-interest form submitted by members to enable the COP to assess the effectiveness of the conflict-of-interest rules of procedure.

TOXIC INTERACTIONS BETWEEN POPS: On Monday morning, Marco Vighi, University of Milano-Bicocca, gave a presentation on toxic interactions between POPS. Vighi identified four types of interactions that could occur when mixing chemicals: additive response, less than additive response, synergism and antagonism. He explained there are two schemes

available to evaluate the additive impact of chemical mixtures: concentration addition (CA) for chemicals that have the same mode of action, and independent action (IA) for chemicals with different modes of action and that focuses instead on the addition of the chemicals' effects.

Vighi noted that if the combination of chemicals of interest includes some substances that are independent and some that share a mode of action, it is possible to apply a two-stage approach that combines the application of the CA and IA models. He underscored that these models assume that there is no synergistic or antagonist effect among the chemicals in the mixture, and noted that current capabilities for predicting such interaction among chemicals is very low. Vighi explained that potential synergies among POPS must be studied on a case-by-case basis.

Vighi outlined three possible approaches to predicting the risk arising from chemical mixtures: the first would select CA, IA or a two-stage approach on a case-by-case basis as a function of existing knowledge on chemicals' mode of action; the second would rely on IA as a default, which would tend to underestimate combined effects; and the third would rely on CA as a default, which in general would overestimate toxicity. Vighi concluded that the third approach would provide a reasonable estimation of a worst-case effect for decision making.

Responding to questions, Vighi underscored that none of the three options accounted for a potential synergistic effect among POPS, noting that due to the lack of knowledge it is not possible to predict the likelihood of synergistic effects, and explaining that the CA and IA models reflect the more likely scenarios. In response to the concern of an observer from the US that using CA as a default regardless of mode of action is not a scientific approach and would almost always lead to over predicting potential effects, Vighi stressed that in most cases CA is an acceptable overestimation. Chair Arndt emphasized the need to focus on the chemical mixtures likely to occur in cold remote environments and in particular organisms in those environments.

At a lunch side-event on toxic interactions on Monday, Rolf Altenburger, Helmholtz Centre for Environmental Research, Leipzig, Germany, presented information on concepts, models and terminology for mixture toxicity analysis, noting that additive combined effects are predictable, and explaining that synergism is not predictable quantitatively. He underscored that there are examples of risk assessments accounting for mixtures, and warned against poorly defined terminology.

On Monday afternoon, delegates agreed to take this information into account, as necessary, when considering draft risk profiles.

On Friday, South Africa introduced a submission on behalf of many members calling on the Committee to undertake further work on toxic interactions to develop guidance on how to consider toxicant interactions in the risk profiles at the next meeting of the POPRC. India stressed the need to develop terms of reference for any working group conducting this work. Chair Arndt proposed, and the Committee agreed, to use the concept note on toxicological interactions included in UNEP/POPS/

POPRC.4/INF/3 to guide this work. The Committee agreed that Henk Bouwman (South Africa) and Ivan Holoubek (Czech Republic) would co-chair the intersessional *ad hoc* working group on the issue.

EFFECTIVE PARTICIPATION OF PARTIES IN THE POPRC: On Tuesday, Mario Yarto (Mexico) reported on the outcomes of activities undertaken for the effective participation of parties in the work of the POPRC (UNEP/POPS/POPRC.4/4, INF/4, INF/5 and INF/21). Yarto said the intersessional working group on this issue had developed a handbook that describes, *inter alia*: the role of POPRC in the Stockholm Convention, the chemical review process, lessons learned, and links to other international processes. Yarto and Bo Wahlström (Sweden) also coordinated three regional workshops, held in Uruguay, Thailand and Burundi, which were designed to enhance participation in the POPRC. The Secretariat reported on the outcomes of other activities, including assistance to provide internet access to countries that lack it, and sought guidance from the Committee on further activities.

Many POPRC members thanked the Secretariat, Yarto, Wahlström, and members of the intersessional working group for their effort, underscoring the success of the workshops. Jordan, Morocco and the Czech Republic called for more regional and subregional workshops, and Jordan stressed the need for technical support to assist developing countries with gathering information and depositing it with the appropriate authority. Ghana asked that the Secretariat prepare an information kit on the Stockholm Convention, and Chair Arndt noted that this request would be forwarded to the Convention's Executive Secretary. The Secretariat stressed the need to request additional resources from the COP if it is to carry out additional workshops.

Referring to a request by Ecuador to support sending larger delegations from developing countries to COP-4, the Secretariat noted that, due to budgetary constraints, COP travel support is limited to one representative and one Minister or Deputy Minister from each developing country. Ecuador also called for a mechanism for the POPRC to brief permanent representatives in Geneva who will be representing parties at COP-4 and a meeting among the permanent representatives, Chair Arndt and the Executive Secretary of the Stockholm Convention, Donald Cooper, was arranged on Thursday evening.

Morocco called for the handbook to be made available in the six UN languages, and Chair Arndt noted this may require striking a compromise between ensuring the handbook is kept up to date and making it available in all UN languages. Chad questioned whether this compromise was necessary, reminding the Committee that, at its inception, a decision had been made to have translation into all UN languages. Thailand noted individual countries could undertake the handbook's translation. Sierra Leone suggested a condensed version of the handbook be developed for translation. Yarto suggested a shorter version of the handbook could focus on how to collect and process information for Annex E (Information requirements for the risk profile) and Annex F (Information on socioeconomic

considerations), and could be translated, while a more extensive version would be available in English only. Canada suggested that this discussion be reported to the COP.

The Secretariat reported on activities to obtain funding for workshops. Chair Arndt proposed recommending to the COP that countries in the position to do so financially support regional workshops and the handbook's translation. The Committee agreed that Yarto, Chair of the intersessional working group, would chair a contact group on the issue during POPRC-4.

On Friday afternoon, Yarto presented the draft decision on support for effective participation of the parties in the work of the Committee, which proposes: recommendations to the COP about the need to continue activities to implement projects encouraging effective participation; an updated, briefer version of the handbook; and a workplan for the intersessional working group.

Chair Arndt proposed, and members agreed, to amend the paragraph inviting the COP to develop a resource kit by instead inviting it to request the Secretariat to do so, and clarifying that the intersessional working group does not implement regional workshops but facilitates their implementation. Members adopted the decision with several amendments clarifying the proposed text.

Final Decision: In its decision (UNEP/POPS/POPRC.4/CRP.28), the POPRC agrees to the workplan of the intersessional *ad hoc* working group and requests it to: update the handbook; provide more guidance and an explanatory note on how to complete the Annex E and F forms; and develop a shorter version of the handbook. This version should: be limited to 20 pages, include the core elements of the handbook, focus on the elements of data collection and submission, and should, subject to the availability of funding, be translated into the six UN languages.

The POPRC also invites the Secretariat to: make the handbook available electronically and in an interactive manner through the clearing-house mechanism of the Stockholm Convention; implement, subject to the availability of funding, further workshops; and hold a side event during COP-4 to launch the handbook.

The POPRC invites the COP to: endorse the handbook; provide financial resources to implement activities on effective participation; and request the Secretariat to develop a resource kit providing information on the Convention and the Committee.

STANDARD WORKPLAN FOR INTERSESSIONAL WORK: On Wednesday, the Secretariat introduced a conference room paper (CRP) outlining proposed revisions of the Terms of Reference for the Committee, including amendments stating that: large technical documents, including supporting documents of a proposal for listing a chemical in the annexes of the Convention shall be distributed in English, and in any other official UN language in which they are made available, at least three months before meetings; other documents shall be distributed at least six weeks prior to meetings; and that only the summary of the proposal will be translated into the six UN languages and distributed at least six weeks prior to meetings.

On Thursday, the Secretariat introduced a revised CRP reflecting Wednesday's discussion on the issue. She explained that the text: clarifies that large technical documents include the proposal package for adding a chemical to the POPs list; and specifies the proposal package should include a letter, supporting documents and a summary of the proposal of no more than 20 pages in English.

She further noted the text clarifies that the major resource documents, which are to be translated into the six UN languages and distributed at least six weeks before meetings, would include the summary of a proposal, the risk profile, the risk management evaluation and any report or recommendation of the meeting.

Following questions seeking clarification on what constitutes a large technical document, the Committee agreed to remove the term and instead state that proposals for listing are to be made available three months before the meeting.

China suggested that draft risk profiles and draft risk management evaluations (RMEs) also be considered large technical documents and be made available three months prior to meetings. The Committee agreed the POPRC-4 report could encourage the Secretariat to make the draft risk profiles and draft RMEs available to parties and observers as soon as they are submitted by the intersessional working groups to the Secretariat. Sweden and Switzerland warned against shortening the timeframe available for intersessional work. The Committee agreed to forward to COP-4 the recommended amendments to the Terms of Reference.

Japan called attention to the availability of sources cited in documents and said that if data are cited from unpublished sources, these should be made available to the Committee for review. The Committee agreed it would be useful for the Secretariat to collect all its decisions on such procedural matters in one document.

On Wednesday, Chair Arndt asked whether the Committee should seek guidance from the COP on the interpretation of Article 19.6(c), which stipulates that the Committee should only resort to voting in decision-making if "all efforts have been exhausted." Chair Arndt asked if the Committee would permit him to seek guidance on what constitutes "exhaustion" when he reports to COP-4 on the POPRC's work. Canada questioned the type of guidance that could be received.

On Friday, the Secretariat introduced the draft workplan for the period between POPRC-4 and POPRC-5 (UNEP/POPS/POPRC.4/5), noting that it sets out a multi-phase process for preparing a draft risk profile. The Committee agreed that Ricardo Barra (Chile) would chair the intersessional *ad hoc* working group preparing the draft risk profile on endosulfan and approved the proposed workplan.

Chair Arndt reminded members that the intersessional *ad hoc* working group on effective participation by parties in the POPRC would be chaired by Mario Yarto (Mexico), and that the intersessional *ad hoc* working group on toxic interactions would be co-chaired by Henk Bouwman (South Africa) and Ivan Holoubek (Czech Republic).

Chair Arndt reminded members they had supported establishing an intersessional *ad hoc* working group on POPs alternatives and substitutes, and the Committee agreed the Secretariat would take the lead in coordinating this working group.

CONSIDERATION OF DRAFT RISK MANAGEMENT EVALUATIONS

POPRC-4 considered draft RMEs for four substances: commercial octabromodiphenyl ether (c-octaBDE), pentachlorobenzene (PeCB), and alpha- and beta-hexachlorocyclohexane (HCH). The RME is the final stage of POPRC's work in assessing a substance, and leads to a recommendation by the COP to list the substance in Annexes A, B or C of the Convention.

At POPRC-2, each of these substances had undergone an evaluation of whether they fulfill the requirements under Annex D (Information requirements and screening criteria). Draft risk profiles were then prepared according to Annex E (Information requirements for risk profile). As a result of their risk profiles, POPRC-3 decided that each substance is likely, as a result of its potential for long-range environmental transport (LRET), to lead to significant adverse human health and/or environmental effects and that global action is warranted.

The draft RMEs take into account socioeconomic considerations as described under Annex F (Information on socioeconomic considerations), and were prepared by intersessional *ad hoc* working groups on each substance.

OCTABROMODIPHENYL ETHER: On Tuesday morning, Alfredo Cueva (Ecuador) introduced the draft RME for c-octaBDE, noting challenges encountered in preparing the RME (UNEP/POPS/POPRC.4/6, INF/6 and INF/10). He referred to POPRC-4's earlier discussion of reductive debromination of bromo-aromatics, which indicated agreement that the listing for c-octaBDE should not include the octa- and nona- congeners. Cueva underscored that there is little information on the production, main uses of, and alternatives to c-octaBDE, and explained that while there are practicable and economically viable substitutes available for all identified uses, the human and environmental impacts of these alternatives are not completely known.

Canada asked that the final RME reflect the most current information on the substance's status in his country. Underscoring that the draft RME did not address the economic impact of listing c-octaBDE on developing countries, Morocco called for additional studies to be conducted to provide this information and stressed the need for technical and financial support to help developing countries meet commitments. Chair Arndt noted that developing countries would have the opportunity to submit additional information to COP-4 and the Secretariat clarified that there are provisions to generate information on the impact on developing countries of listing a substance after it has been listed. China noted that many developing countries may not be aware that c-octaBDE is in use in their countries.

The Environmental Health Fund (EHF) highlighted recent studies, and observed that the listing language for pentabromodiphenyl ether (pentaBDE) could be used as a model in recommending listing of c-octaBDE.

The Committee agreed that Cueva would chair a small drafting group to finalize the RME and prepare a draft decision recommending listing under the Convention.

On Thursday, Cueva introduced the draft RME for c-octaBDE, noting that the document incorporated several changes introduced earlier in the week, including elimination of all references to nona- and decaBDEs and incorporation of text on developing countries prepared by Morocco.

An observer from the US suggested that a reference to the Polluter Pays Principle in the document text did not add value to the paragraph, but South Africa noted that the Principle is referenced in the Convention text, and no member of the Committee proposed deleting the language.

Cueva then introduced the draft decision for c-octaBDE, and the Committee accepted both the RME and decision with minor amendments.

Final Decision: In its final decision on c-octaBDE (UNEP/POPS/POPRC.4/CRP.13), the POPRC: adopts the RME for c-octaBDE; and decides to recommend to the COP that it consider listing in Annex A hexa- and heptaBDEs present in c-octaBDE, using BDE-153, BDE-154, BDE-175, and BDE-183 as markers for enforcement purposes.

PENTACHLOROBENZENE: On Tuesday afternoon, Martinus Janssen, Netherlands National Institute of Public Health and the Environment, presented the draft RME for PeCB (UNEP/POPS/POPRC.4/7 and INF/7), including a recommendation for listing PeCB in Annexes A and C of the Convention.

Chair Arndt stressed the need to explain to the COP the implications of listing PeCB under Annex C as this is a new issue. France agreed to listing PeCB under Annex C. India questioned the rationale for listing PeCB under Annex C, saying this would not solve implementation problems, especially relating to non-industry activities leading to PeCB releases, such as open-fire cooking. China pointed out that listing PeCB under Annex C would entail additional costs for countries, for example through reporting requirements. An observer from the US lamented that there was little discussion in the RME of the socioeconomic impacts of possible control measures as required in Annex F, and suggested further discussion on the impacts of listing PeCB under Annex C. He also noted, supported by China, that control measures related to dioxin and furan would already lead to significant reduction of unintentional releases of PeCB. Switzerland, emphasizing that the Committee had agreed that PeCB was a POP, that it therefore was to be listed, and that the involvement of unintentional releases meant it could be listed under Annex C, supported the Chair's proposal to establish a contact group to draft the Committee's recommendations to the COP.

Japan noted that measures taken to reduce dioxin and furans lead to reductions in PeCB, and said the chemical should be listed in Annexes A and C. Canada noted that because PeCBs are used along with polychlorinated biphenyls (PCBs) in dielectric

fluids, a similar exemption might be necessary, and suggested flagging potential problems with listing PeCB in an explanatory note to the COP.

Acknowledging opposing views in the Committee, Arndt proposed that a contact group describe the implications of listing PeCB in Annex C, and that the Committee decide whether to send this information to the COP.

On Thursday afternoon, contact group Chair Jarupong Boon-Long (Thailand) presented the revised draft RME for PeCB and the draft decision on PeCB. He explained that the revised draft RME: includes new information; outlines the implications for listing PeCB in Annex C; and clarifies, at the request of Canada, that while forest and bush fires can be expected to be a source of PeCB, natural sources of unintentional production are excluded from the Convention.

The Committee discussed a request from China to amend the summary of information on societal impacts of possible control measures, and members agreed to text stating that listing in Annex C would mean that PeCB would become subject to measures that prevent, reduce or eliminate its formation and release, and that control measures under the Convention for other unintentionally produced POPs could be applied to unintentionally released PeCB.

After discussion, the Committee also agreed to include text noting that monitoring, enforcement and supervision could lead to additional costs, and it also clarified that listing of PeCB under Annex C would oblige parties to include PeCB in their reports submitted pursuant to Article 15 (Reporting) of the Convention.

Drafting group Chair Boon-Long introduced the draft decision on PeCB, highlighting that the second paragraph recommends listing under Annexes A and C. Chair Arndt noted that the content was based on the RME, and the Committee adopted the decision.

Final Decision: In its final decision on PeCB (UNEP/POPS/POPRC.4/CRP.19), the POPRC: adopts the RME for PeCB and decides to recommend that the COP consider listing PeCB in Annexes A and C of the Convention.

ALPHA- AND BETA-HEXACHLOROCYCLOHEXANE: On Tuesday, Mario Yarto (Mexico) presented the draft RMEs for alpha- and betaHCH (UNEP/POPS/POPRC.4/8 and UNEP/POPS/POPRC.4/9). Noting that technical HCH has been out of use worldwide since 2000, Yarto stated that a review of existing control measures shows that risks to humans and the environment from exposure to alpha- and betaHCH can be reduced significantly, and proposed that the Committee recommend that the COP consider listing alpha- and betaHCH in Annex A. After additional information was provided by Finland, South Africa and Austria, Chair Arndt noted general agreement on the proposal and established a drafting group to finalize the draft RME and the draft decision recommending the listing.

On Thursday, drafting group Chair Yarto introduced the draft RMEs for alpha- and betaHCH and draft decisions recommending listing under Annex A, and described the changes incorporated by the drafting group. The Committee adopted the RMEs and decisions recommending listing alpha- and betaHCH in Annex A, with minor amendments.

Final Decision: In its decision on alpha-HCH and betaHCH (UNEP/POPS/POPRC.4/CRP.11), the POPRC adopts the risk management evaluations for alpha- and betaHCH, and decides to recommend to the COP that it consider listing alpha- and betaHCH in Annex A of the Convention, giving due consideration to the by-production of these substances from the production of lindane.

CONSIDERATION OF DRAFT RISK PROFILES

POPRC-4 considered draft risk profiles for two substances: short-chained chlorinated paraffins (SCCPs) and unintentional releases of PeCB. The risk profile is the second stage of the POPRC's work in assessing a substance, and is prepared for each substance according to Annex E by intersessional *ad hoc* working groups. Based on draft risk profiles, the POPRC must decide whether a substance is likely, as a result of its LRET, to lead to significant adverse human health and/or environmental effects and whether global action is warranted.

SHORT-CHAINED CHLORINATED PARAFFINS: On Monday, Mohammad Aslam Yadallee (Mauritius), Chair of the intersessional *ad hoc* working group on SCCPs, presented the draft risk profile for SCCPs (UNEP/POPS/POPRC.4/10, INF/9 and INF/20). He explained a draft risk profile had been discussed already at POPRC-3, when members requested the *Ad Hoc* Working Group on SCCPs to collect further information on toxicity and LRET and postponed a decision on the risk profile until POPRC-4. Noting that the new draft risk profile concluded that SCCPs are likely, as a result of their LRET, to lead to significant adverse effects on the environment and global action is warranted, Yadallee said that not all members were in agreement. Reservations were, *inter alia*, that the draft risk profile did not provide enough data to show that there were significant adverse effects on the environment and human health; there was too much focus on local effects; and there is a lack of clarity about the scope of the risk profile.

POPRC Chair Arndt stressed the need to clearly address the key point of whether, as a result of their LRET, SCCPs lead to significant environmental or human health effects. Japan pointed out that in Annex E, the evaluation of risk was based on both hazard and exposure. France, with Sweden and Switzerland, noted that there is enough information to conclude that SCCPs may produce adverse effects on the environment. China emphasized that the risk profile must focus on the migratory effects of SCCPs. India questioned whether the substance fulfills the criteria in Annex D and Annex E and strongly opposed any move toward global action.

Japan stated that more scientific evidence was needed before SCCPs could be categorized as POPs. A representative of the Indigenous Environmental Network and Alaska Community Action on Toxics noted that while SCCPs are not used in the Arctic, they are present in the environment and in humans, and called upon the Committee to consider the health implications of SCCPs for people living in the region. India stated that in the absence of evidence of adverse effects on human health, SCCPs do not meet the criteria for regulation. Arndt reminded the Committee that it must decide whether a chemical is

likely to lead to adverse effects on either human health or the environment, not necessarily both. The Committee agreed that a contact group chaired by Yadallee would finalize the risk profile.

On Thursday, Yadallee explained the contact group had become a drafting group to finalize the text and introduced a revised draft risk profile, an addendum to the draft risk profile containing only the revised concluding statement, and a draft decision on SCCPs. Yadallee outlined the extensive changes to the draft risk profile, including: a change of the chemical identity to reflect the extensive data provided on commercial SCCPs; the addition of information and data to a paragraph on mammalian toxicity; and inclusion of local, regional and remote data on ecotoxicology in a new table.

Canada noted that: the tables constitute the major changes to the document; the group had added information about regions farther from the sources of chemical release; and that while there are no universally accepted approaches to dealing with application factors, the group had presented concentrations for a range of scenarios for the sake of comparison.

An observer from the University of the Philippines noted that lowest observed effect level (LOEL) computations are not usually used to ensure the safety of humans, as they indicate that at a certain level there will be some toxic effects. Canada responded that the issue was discussed by the group, which compromised by presenting LOEL and tolerable daily intake for the same scenarios.

An observer from China listed concerns about the validity of evidence in the draft, highlighting the use of terms such as "potential" and "possible," and a lack of evidence for LRET, toxicity, ecotoxicity and carcinogenicity.

Yadallee then introduced the revised concluding statement for the draft risk profile for SCCPs, explaining it contained three bracketed options for ending the statement. The first states that based on the available evidence, it is concluded that SCCPs are likely, as a result of their LRET, to lead to significant adverse environmental and human health effects, such that global action is warranted. The second states that, based on available information, there is inadequate evidence to support the conclusion that global action is warranted. The third encourages parties to undertake necessary actions to ensure that the manufacture, processing and use of SCCPs are adequately managed such that low environmental levels are maintained.

Chair Arndt asked that members first discuss the unbracketed body of the concluding statement. France proposed minor amendments to the text and suggested adding that SCCPs are possibly carcinogenic. An observer from the Chlorinated Paraffins Industry Association emphasized that while individual sentences in the document were accurate, the way they were put together led to insupportable conclusions. An observer from IPEN emphasized that simultaneous exposure to POPs may be of concern and suggested acknowledging the significant data gaps on toxicological endpoints.

Chair Arndt sought members' views on which text they favored for ending the concluding statement. India stressed that the SCCP concentration levels in air and water are very low,

questioned whether such low levels could lead to adverse effects, and said there was inadequate data to conclude that global action is warranted.

Japan noted that science should not be decided by vote. He also stated that while current concentration levels of SCCPs are low in remote areas, the compound is persistent and bioaccumulates, and concentrations might increase if production of this compound is continued. He concluded that this question was a matter of risk management and suggested seeking guidance from the COP.

The Committee agreed it would resume discussion of the issue on Friday. On Friday afternoon, Chair Arndt suggested putting the draft risk profile on the POPRC-5 agenda, since many members were still uncertain as to whether they could conclude that global action is warranted, and inviting outside experts to aid in discussions. After deliberations, members agreed to invite two outside experts, one from a developing and one from a developed country, on the toxicology and two on the ecotoxicology of SCCPs, in addition to the two experts on persistence already agreed upon to invite for the discussion on HBCD. They also agreed to draw on the expertise on environmental monitoring from the Committee member from the Czech Republic. India suggested drawing on outside experts to get an unbiased opinion, and Chair Arndt stressed that each committee member signed conflict-of-interest forms. India noted he was not putting in doubt the integrity of members.

The Committee agreed to Arndt's proposal to put the draft risk profile, as amended at POPRC-4, on the agenda of POPRC-5.

UNINTENTIONAL RELEASES OF

PENTACHLOROBENZENE: On Tuesday morning, Chair Arndt explained that POPRC-3 had noted information gaps in the risk profile regarding the relative environmental burden caused by unintentional releases of PeCB and that the Committee had therefore invited parties and observers to submit information on unintentional sources and releases of PeCB during the intersessional period.

The Chair of the intersessional *ad hoc* working group, Jarupong Boon-Long (Thailand), gave a presentation on unintentional releases of PeCB (UNEP/POPS/POPRC.4/13 and INF/19). Chair Arndt suggested, and the Committee agreed, to postpone discussion on this issue until after the presentation on the RME of PeCB.

On Tuesday afternoon, the Committee discussed the need to include the information on unintentional releases of PeCB provided earlier in the day in an addendum to the risk profile. The Committee agreed to establish a small drafting group to create the addendum to the risk profile.

On Thursday afternoon, drafting group Chair Boon-Long presented the draft addendum to the risk profile for PeCB, which included new information on unintentional releases and traces of PeCB as impurity in other chemicals. The addendum was approved by the Committee without amendment.

ISSUES RELATING TO RISK PROFILES

PRESENTATION ON EXPERIENCES IN DECISION-MAKING FOR RISK PROFILES: On Monday, Andrew Gilman, Sustainable Solutions International, discussed the findings of his review of ten risk profiles produced by the POPRC (UNEP/POPS/POPRC.4/INF/11). Noting variations in how and what information was reported, Gilman suggested that in preparing future risk profiles, the POPRC should: use up-to-date peer-reviewed science; undertake intersessional work to develop guidelines on the tabulation of critical elements; attempt to provide chemical, physical and biological data for the critical products together with the pathways and rates of degradation; investigate how interactions among POPs may be factored into risk assessments; revisit past recommendations on interpretation of data on bioaccumulation and biomagnification; use a proposed checklist to ensure all available data is considered and linked; and maintain the 20-page limit.

Mexico proposed integrating consideration of Gilman's suggestions into the work of the contact group on the handbook for effective participation in the POPRC. Switzerland called for such a group to be open to new participants.

Canada noted that while discussions could focus in part on consistency in the format and presentation of risk profiles, discussions could also verge on interpretation issues, which would have to be carefully considered.

The Committee agreed to take the report into consideration when preparing future risk profiles.

REDUCTIVE DEBROMINATION OF BROMO-

AROMATICS: On Tuesday, Ian Rae (Australia) presented information on reductive debromination of bromo-aromatics (UNEP/POPS/POPRC.4/INF/12). He emphasized that while there is ample evidence that decaBDE can be reductively debrominated in the environment in microbial and higher organisms, the transformation products are mostly octa- and nonaBDEs, and there is no evidence of a cascade of reductive debrominations that would produce significant quantities of the most persistent, toxic and bioaccumulative congeners such as BDE-47 and BDE-99. Rae noted that debromination is an active research field and suggested that the POPRC ask the COP for a mandate to continue collecting information.

Alfredo Cueva, Chair of the intersessional working group on c-octaBDE, noted that the group had agreed, due to lack of evidence, that decaBDE should not be addressed in the RME of c-octaBDE.

Japan emphasized that there is not enough scientific information to consider octa- and nonaBDEs as precursors to hexa- and heptaBDEs, and asked that only hexa- and heptaBDEs be considered as part of the commercial mixture for octaBDE. China emphasized that the Committee should not be too hasty in its work, and suggested that consideration of debromination should cease, and resume when more studies are available. France suggested that the Committee restrict its current work to hexa- and heptaBDEs, and noted that an EU-level study of debromination will be available at the end of the year. Canada stated that his country will also publish a study of debromination next year, which could be helpful in intersessional work.

Arndt proposed continuing work on debromination intersessionally and noted that the COP would be informed of the POPRC's intentions to continue its work on this issue through the Committee's report.

CONSIDERATION OF CHEMICALS NEWLY PROPOSED FOR INCLUSION IN ANNEXES A, B OR C OF THE CONVENTION

POPRC-4 considered proposals to include two chemicals in Annexes A, B or C of the Convention: endosulfan and hexabromocyclododecane (HBCD). The proposal is the first stage of the POPRC's work in assessing a substance, and requires the POPRC to assess whether the proposed chemical satisfies the criteria in Annex D of the Convention. The criteria for forwarding a proposed chemical to the risk profile preparation stage are persistence, bioaccumulation, potential for LRET and adverse effects.

ENDOSULFAN: On Monday, José Tarazona (Spain) presented a proposal to list endosulfan on behalf of the European Community and its member states (EC). He explained that endosulfan is a synthetic organochlorine compound widely used as an agricultural insecticide. He noted that while the proposal was to be considered by POPRC-3, at that time the European Risk Assessment, from which much of the data in the proposal were drawn, was not yet publicly available, and therefore the proposal's introduction and consideration was postponed until POPRC-4.

Tarazona said the nomination includes both the alpha- and beta-isomers of endosulfan, technical endosulfan, and endosulfan sulfate. Tarazona explained that endosulfan's half-life in soils is greater than six months and said there is evidence of sufficient persistence to justify consideration. On bioaccumulation, he noted that the log KoW is close to 5 and there is evidence of bio-concentration factor values greater than 5000. He also underscored the evidence of high toxicity and ecotoxicity, said evidence of LRET is confirmed by concentrations reported in the Arctic, and underscored the potential for endocrine disruption, as well as neurotoxicity and other effects.

Chair Arndt then opened discussion on a procedural concern raised by India and China who had submitted a CRP urging POPRC-4 to refuse to consider the EC's proposal, as they objected to the procedure used at POPRC-3 to adjourn its consideration. Masa Nagai, UNEP Legal Adviser to the Stockholm Convention, noted that due procedure had been followed. The Committee discussed whether it had the legal authority to postpone consideration in this manner, focusing in particular on POPRC's authority, under the Terms of Reference set out in Decision SCI/7 (Establishment of the POPRC), to develop flexible work plans to take into account workload and the need to acquire sufficient information from relevant stakeholders. India and China underscored their concern that this process did not comply with Article 8.4 (Listing of chemicals under Annexes A, B, or C) of the Convention.

Ultimately, the Committee voted on whether it would consider the EC's proposal to list endosulfan. Twenty-four members voted in favor of considering the proposal, while China and India opposed, and Germany and Sierra Leone abstained.

Members then discussed whether endosulfan met the criteria laid out in Annex D, including persistence, bioaccumulation, the potential for LRET, and toxicity and ecotoxicity. On persistence, Sierra Leone asked that information on the conditions under which data were obtained are included, noting that references to websites were not always accessible, especially for members from developing countries. Japan emphasized that, under certain conditions, endosulfan may not meet the persistence criteria. India stressed that various factors affect the half-life of endosulfan, thus rendering questionable its qualifications under the criterion.

On bioaccumulation, Japan underscored the need to discriminate between bioaccumulation and bioconcentration, stating that endosulfan may meet the criteria only for bioaccumulation. India said that several studies showed that endosulfan did not meet the criteria for bioaccumulation. Chair Arndt emphasized that Annex D contains three criteria to assess bioaccumulation and that only one of these needs to be fulfilled for a chemical to be regarded as bioaccumulating under the POPRC procedure.

Switzerland pointed to a CRP she had submitted indicating that endosulfan meets the criterion. India stressed that any assessment of endosulfan's potential for LRET had to take into account that various factors affected its deposition patterns.

On toxicity and ecotoxicity, India underscored the needs to distinguish between short- and long-term toxicity and to exercise caution in interpretation of data generated under laboratory rather than field conditions. China lamented that the document contained references to a number of unpublished materials, which were not accessible and therefore compromised members' abilities to carry out sufficient analysis.

On Wednesday afternoon, Chair Ricardo Barra reported on the contact group on endosulfan, noting that no agreement had been reached on: persistency, bioaccumulation, potential for LRET and adverse effects, and introduced a draft decision text with many brackets, including an annex evaluating endosulfan against the criteria of Annex D.

India lamented that his note of dissent had not been taken into account. Citing Convention Article 8 (Listing of Chemicals in Annexes A, B or C), India opposed discussing the issue on the grounds that information not included in the original proposal had been considered in preparing the draft decision. Chair Arndt suggested bracketing any text based on information not provided in the EC's proposal and France noted that the only piece of information not contained in the original proposal related to the biomagnification factor (BMF) values in terrestrial organisms. Japan questioned the scientific validity of these BMF values.

The Committee again consulted Masa Nagai on the issue of which information can be taken into consideration in evaluating endosulfan against the Annex D criteria. Nagai focused his interpretation on Article 8.3 of the Convention, which states:

“The Committee shall examine the proposal and apply the screening criteria specified in Annex D in a flexible and transparent way, taking all information provided into account in an integrative and balanced manner.” Nagai stated that the reading of the first part means that the nominating party’s proposal and the Secretariat’s summary are the primary sources of information, and said the second part of the paragraph signifies that the Committee can also look into other information provided to members. Nagai also emphasized the custom set by the Committee in incorporating additional information into its previous reviews of listing proposals.

Responding to India’s reiteration of his point and questioning the necessity of legal advice, the Secretariat explained the role and importance of UNEP’s legal advisors as guides to treaty interpretation.

Referring to India’s concern that the additional information provided on endosulfan came from the same party that submitted the proposal and may therefore be biased, Chair Arndt referred to the Committee’s conflict-of-interest procedures and stressed the role of the POPRC as a scientific committee, underscoring that any additional information considered had to be based on available and reliable sources and was screened by all members.

Ecuador expressed concern that valuable translation time was being lost by this legal discussion, and warned that it may render all previous POPRC decisions invalid as additional information had been included by members during consideration of previous proposals.

Chair Arndt proposed, and the Committee agreed, to begin discussing the information included in the proposal and to establish a drafting group to present new text to the Committee. India outlined several concerns about the proposal, including: lack of evidence from tropical regions; references to unpublished data sources; the use of outdated methods for data collection; and uncertainty about the sources of chemicals found in the environment. South Africa stated that much of the evidence requested by India could be provided at the risk profile stage, should screening criteria be met. Tarazona noted that full references for the unpublished data in the proposal are listed in the bibliography and are available for the Committee to peruse.

Sierra Leone highlighted the lack of evidence of persistence in hot climates. France noted that the proposal includes evidence from at least one tropical region and emphasized that new data is available on biomagnification and endocrine disruptors.

An observer from Alaska Community Action on Toxics noted that endosulfan has been found in Arctic air, water, snow, fish and animals, and cited several studies on biomagnification and bioaccumulation of endosulfan.

A drafting group, chaired by Barra, was tasked with preparing new text on Wednesday evening, and the Committee agreed that a contact group would consider the resulting draft on Thursday morning. On Thursday morning, Barra briefly reported to the Committee saying that no text was available yet and it was agreed that a drafting group would meet during the day to prepare text to submit to the Committee.

On Friday morning, Barra presented the draft decision on endosulfan, explaining no consensus had been reached on whether endosulfan meets the criteria of Annex D.

Reminding members of the Convention’s objective to protect human health and the environment from POPs, Chair Arndt pointed out that the Annex D screening criteria are very clearly defined and had been applied, by consensus, to ten chemicals to date. He also noted that it was the first time there was no agreement on any of the criteria for a nominated chemical, and proposed to discuss the text in brackets. Canada requested that only bracketed text critical to the decision be considered.

India lamented that the draft decision included only data from a particular region and stated that unless all available data was considered a conclusion could not be reached. Chair Arndt noted that data relevant for national assessments in warmer regions may not be relevant for the POPRC as POPs volatilize more easily in warmer climates.

The Czech Republic, Mexico, Switzerland, Japan, Thailand, and Burkina Faso said the relevant data showed endosulfan meets the criteria and asked to move to the next step and review and prepare a risk profile. Sierra Leone, supported by India, questioned whether conclusions about persistence could be made on the basis of data generated under laboratory conditions, as they did not adequately reflect field conditions. Noting that the document was not perfect, Sierra Leone said that members had to work with what they had.

India lamented that information and references he had provided in the drafting group had not been taken into account. France, supported by Switzerland, said the drafting group had not been able to validate the data referred to by India as the full text of the references had not been made available. He also noted that the document submitted by Europe contained both laboratory and field data, with the field data confirming the laboratory data. He also noted that the draft decision said that in certain cases and conditions the data for persistence does not meet the Annex D criteria. India said he could not be expected to produce the original text of research papers. The Secretariat explained that the letter of invitation to POPRC-4 noted that members planning to provide new and additional information on endosulfan should also provide a copy of the full reference document to ensure data acceptability.

Canada underscored that at this stage the Committee was not being asked to decide whether endosulfan is a POP, but whether available information warrants moving to the review of the chemical under Annex E.

China questioned whether endosulfan meets the bioaccumulation requirements, saying that a lot of experimental data in the EC’s proposal shows it does not, and that the modeling technique referenced in the draft decision is new and requires further verification. He also raised doubts, supported by India, on the evidence of LRET, suggesting endosulfan’s worldwide use does not permit a clear distinction between local and LRET effects. France said the presence of endosulfan in the Arctic and Antarctic where endosulfan is not used illustrates clear potential for LRET. India said the criteria of persistency and adverse effects were also unmet.

The Czech Republic stressed that the risk profile is the stage for providing clarification and at that point there would be clear evidence whether or not endosulfan is a POP. Japan noted that if there are reliable data that meet the criteria then one should consider the Annex D criteria fulfilled and underscored Annex D criteria evaluation does not require the collection of every form of data under every condition. Ecuador said extraneous criteria had infiltrated the discussion and noted that perhaps the POPRC's new members had not been provided with proper training on how to apply the Annex D criteria. He noted that days had been spent discussing the issue and called for moving to consideration of endosulfan under Annex E. Burkina Faso called on members' sense of sportsmanship and noted that the Annex E review would provide for the inclusion of additional information.

India stressed that he must not be viewed as an interested party, explaining he was representing India's Ministry of the Environment and Forests and not the Ministry of Industry or industry. India said that his concerns about the lack of actual field data were ignored in the drafting group, questioned the use of models, and, on potential for LRET, questioned the relevance of data in the nanogram range. Chair Arndt underscored that under each of the criteria only one element had to be satisfied by relevant data, and noted the Committee's successful reliance on models in its decisionmaking. On persistence, India said data had been "cherry picked" to support the criteria. Chair Arndt emphasized that Annex D does not require field data, said that focusing on field data was obstructing the work of the Committee, and warned against mixing discussion of Annex D and Annex E.

An observer from Croplife International said that the deliberations of the Committee would have been facilitated if the EC had provided a comparison of toxicity or ecotoxicity data with detected or predicted levels of endosulfan resulting from its LRET. An observer from the University of the Philippines stressed that neurotoxicity and developmental neurotoxicity are not one and the same.

Chair Arndt proposed that in the afternoon the Committee continue discussing concerns about potential for LRET and bioaccumulation and then report to COP-4 that while the Committee had held an extensive discussion on the issue it could not come to a conclusion and would try to come to a consensus on the issue at POPRC-5.

On Friday afternoon, Sweden, speaking on behalf of several members, said it was time to make use of Article 19.6(c) (establishment of the POPRC), which allows for the POPRC to adopt decisions by a two-thirds majority vote of the members present and voting if all efforts at consensus have been exhausted. Thailand, Morocco, the Republic of Korea, Mauritius, France, the Czech Republic, Switzerland, Japan, Honduras, Mexico, Chile and Syria supported Sweden's proposal and called for preparation of a draft risk profile for review at POPRC-5.

Sierra Leone, China and Jordan supported the Chair's proposal to postpone a decision until POPRC-5. India said there was no provision for postponing discussion of the proposal to

list endosulfan and called for a decision to be taken at POPRC-4. Australia asked if there might be another way to express to COP-4 the view of the POPRC on endosulfan without voting on the issue.

Noting the majority of the Committee supported moving to a vote, Chair Arndt then opened discussions on how the vote would proceed. India argued that under Rule 45 of the Rules of Procedure decisions on substantive issues must be made by consensus, and underscored that consideration of endosulfan cannot be postponed to POPRC-5. Chair Arndt then noted that voting required a document without brackets to use as the basis of the vote and invited Sweden to submit text to this end.

The Committee then consulted the Convention's Legal Advisor for explanation of the voting process. Nagai explained that Article 19.6(c) would apply in this case, and that a decision would require a two-thirds majority of members present and voting. India argued that Rule 45 of the Rules of Procedure should apply, suggesting that Article 19.6(c) referred to recommendations and not decisions. Nagai stated that Rule 60 of the Rules of Procedure stipulates that in the event of conflict between the Rules and the Convention, the Convention shall prevail. He also noted that as this decision was part of the process that eventually leads to recommendations, Article 19.6(c) was applicable. India reiterated his concern that a decision did not fall under the scope of this provision, and Chair Arndt invited him to put his concern in the report of the meeting. Sierra Leone, with China and India, supported consulting COP-4 on the question, and Chair Arndt explained that the majority of members had indicated their preference for a vote.

The Committee then discussed the text proposed by Sweden, which amends the draft decision submitted by the drafting group to the Committee earlier in the day. In the draft decision submitted by Sweden, the POPRC decides that endosulfan satisfies the Annex D criteria and establishes an intersessional *ad hoc* working group to prepare a draft risk profile on the substance. The draft decision contains an annex evaluating endosulfan against the Annex D criteria. India said this text constituted one-sided preconceived text prepared by the party submitting the original proposal for listing. Chair Arndt, supported by Switzerland, underscored that the text was the result of drafting and contact group deliberations throughout the week.

After a brief recess to allow members to review the final document, Chair Arndt introduced the vote and clarified that, as Armenia and Australia had already left, there were 26 members present and voting. Noting his dissatisfaction with the voting procedure, China said he would not participate. India questioned the legal validity of the vote, and said he too would not vote. Chair Arndt clarified that 24 members would be considered present and voting. Brazil, Burkina Faso, Cambodia, Canada, Chad, Chile, the Czech Republic, Ecuador, France, Honduras, Japan, Jordan, Mauritius, Mexico, Morocco, the Republic of Korea, South Africa, Sweden, Switzerland, Syria, and Thailand voted in support of the proposed text. Germany, Ghana and Sierra Leone abstained. Chair Arndt clarified that endosulfan

would therefore be moving to the Annex E review, and the Committee agreed Barra would chair the intersessional *ad hoc* working group responsible for preparing the draft profile for consideration by POPRC-5.

Sierra Leone, supported by China but opposed by the Czech Republic and Chad, suggested that future votes of the Committee be by secret ballot. India requested that the report of the meeting faithfully record his views.

An observer from Argentina underscored that the evidence does not justify replacing endosulfan with alternatives and warned of the impacts of potential substitutes. An observer from the US, supported by India, noted it was unfortunate that observers had not been given a chance to comment on the voting process, warned that moving away from consensus sets a major negative precedent and does not provide governments with assurance that their concerns will be reflected in international treaties, and said the legal issue seemed far from clear.

Final Decision: In the final decision, the POPRC:

- decides it is satisfied that endosulfan, including alpha endosulfan, beta endosulfan and technical endosulfan, fulfills the screening criteria;
- establishes an *ad hoc* working group to prepare a draft risk profile in accordance with Annex E of the Convention; and
- invites parties and observers to submit the information specified in Annex E to the Secretariat.

The final decision includes an annex containing the evaluation of endosulfan against the Annex D criteria, which finds that the chemical identity of endosulfan, alpha- and beta-endosulfan, and technical endosulfan are clearly established, and that there is sufficient evidence that endosulfan meets the criteria on persistence, bioaccumulation, potential for LRET, and adverse effects.

HEXABROMOCYCLODODECANE: Prior to a scheduled expert presentation on HBCD in plenary on Wednesday, China noted that because the technical paper on the substance had not been distributed to participants three months in advance of POPRC-4, the Chinese delegation had not had time to prepare for discussion and would be unable to participate. China emphasized that because an expert was in attendance to present Norway's proposal, it would be acceptable for the Committee to hear the presentation and carry out relevant information exchange. Chair Arndt thanked China for its flexibility, noting that while the Committee could hear the expert's presentation and exchange views, a final decision would not be possible at this meeting and the proposal would be considered at POPRC-5.

Georg Becher, Norwegian Institute of Public Health, introduced Norway's proposal for listing HBCD in Annex A. He explained that HBCD is used mainly in expanded and extruded polystyrene and that most of this HBCD-treated polystyrene is used for insulation foams, for example in buildings and vehicles. He noted that in 2001 the total of global use was 16,700 metric tonnes, most of this in Europe. He concluded that HBCD is persistent, bioaccumulative, subject to LRET and an environmental and human toxicant and should therefore be listed under Annex A.

Members then discussed Norway's proposal. Thailand said that HBCD might not meet the Annex D persistence criteria, but agreed it meets the bioaccumulation, LRET and adverse effects criteria. On persistence, Sierra Leone questioned the extrapolation of data from studies conducted at 12°C, and Japan said this issue should be discussed in a contact group. An observer from the US noted the US has identified HBCD as a high-priority chemical and highlighted a recent study that indicates that HBCD does not meet the persistence criteria. The Bromine Science and Environmental Forum (BSEF) highlighted studies that indicate HBCD may not meet the persistence criteria, and noted a study on HBCD in soils that would be available in 2009. BSEF also observed that not all HBCDs are alike and encouraged a close examination of available studies to make sure they are relevant to substances currently in use.

On bioaccumulation, Sierra Leone questioned the conclusion that HBCD bioaccumulates given that, according to the proposal, only one isomer bioaccumulates. Japan said that the three isomers clearly meet the requirements of Annex D, as their Log KoW exceeds 5.

On the potential for LRET, Chile questioned whether there was evidence of LRET in the southern hemisphere, and Becher explained that because HBCD is mainly used in Europe and to a lesser extent in the US, most of the LRET is northward. Sierra Leone, supported by South Africa, underscored that southward transport by migratory species is also possible. Chile asked whether there is information on HBCD's production, and Chair Arndt noted that data on production would be formally introduced under the Annex E phase of review.

On adverse effects, Japan noted that while HBCD is not as toxic to mammals as previous POPs, its ecotoxicity is very high.

The Committee agreed that Vice-Chair Kyunghye Choi would chair a contact group on HBCD to allow for an exchange of views on whether HBCD satisfies the Annex D criteria.

On Thursday afternoon, Choi introduced her report on the outcomes of the HBCD contact group, noting there was agreement among participants that the proposal meets the bioaccumulation, LRET and adverse effects criteria. She explained that there was general agreement that the half-life data did not meet the persistence criteria. In response to questions from Canada and France, she clarified that the group agreed that the half-life data at 20°C did not meet the numeric persistence criteria. Choi also noted that the group thought it would be useful to have more information about the model to extrapolate data from experimental conditions to ambient temperatures.

Sweden asked whether the Committee would undertake work to provide additional information on persistence, and the Committee agreed to Chair Arndt's suggestion that two experts on persistence, one each from a developed and developing country, be invited to POPRC-5.

On Friday morning, Choi presented a revised Chair's report on the outcomes of the contact group on HBCD reflecting suggestions provided Thursday. The Committee took note of Chair Choi's report.

CONSIDERATION OF RECOMMENDATIONS TO THE CONFERENCE OF THE PARTIES

FORMAT OF POPRC RECOMMENDATIONS ON

THE LISTING OF CHEMICALS: On Tuesday, the Committee focused on a template for explanatory notes that would be attached to the recommendation for listing (UNEP/POPS/POPRC.4/12). Noting that others may have difficulty understanding the POPRC's decision-making process, Arndt stated that the purpose of the note is to make sure the Committee's work is understood. France emphasized the need to avoid a cut-and-paste approach from the RME to the explanatory note. EHF stated the note could be helpful to parties and observers, and emphasized that information included should be strictly factual. An observer from the US suggested including citations to POPRC documents. Noting that the format is a working instrument that may be adapted to fit each chemical, Arndt invited the Secretariat to use the format to prepare draft recommendations to the COP.

On Thursday, the Secretariat introduced the Committee's draft recommendations to the COP pertaining to commercial pentaBDE, chlordecone and hexabromobiphenyl (HBB). Discussion focused on the explanatory note proposed to accompany the Committee's recommendations for listing. Sweden, supported by Japan, suggested including only the summary and conclusion of the RME.

On pentaBDE, Mexico suggested that the availability of substitutes required more detailed information as this issue is particularly important to developing countries. India, supported by Sierra Leone, lamented the lack of reference values to assess whether the concentration of pentaBDE in wildlife and in humans was above relevant thresholds. China emphasized that regulation and management of pentaBDE were more difficult for developing countries than for developed countries, and asked for that to be reflected in the document.

Noting that all interventions concerned the explanatory note, Chair Arndt pointed out that the Committee was in fact not required to present this to the COP. He proposed, and members agreed, to replace it with the summary and conclusion of the RMEs, as this was already agreed text.

Members decided to include a link to the RMEs and risk profiles in the recommendation documents so as to facilitate access to the complete reports, as suggested by EHF.

On Friday, Arndt introduced the Committee's recommendation for commercial pentaBDE, noting that, in line with the Committee's comments, the recommendation is accompanied by the decision of the Committee related to the RMEs, the executive summary, the synthesis of information, and the conclusion provided in the RME, and that the weblink to the meeting reports had been added. Chair Arndt proposed, and members agreed, to request the Secretariat and the rapporteur to finalize the recommendations for the nine chemicals recommended to COP-4 for listing, including pentaBDE, chlordecone, HBB, lindane, and perfluorooctane sulfonate (PFOS), c-octaBDE, PeCB, and alpha- and betaHCH, in this format.

FEASIBLE FLAME-RETARDANT ALTERNATIVES TO PENTABROMODIPHENYL ETHER: Stefan Posner, The Swerea Group, Sweden, presented a guide to feasible alternatives to commercial pentabromodiphenyl ether (c-pentaBDE) (UNEP/POPS/POPRC.4/INF/13). Emphasizing that the guidance focuses on the economic and technical feasibility of the suggested alternatives, Posner noted that: commercially available alternatives that are less hazardous than c-pentaBDE exist; replacing harmful substances with safer options should be encouraged; case-by-case assessments will be necessary to find suitable alternatives for specific uses; and more research is needed to understand the toxicological and ecotoxicological effects of the substances listed in the report.

Mexico asked whether specific weight is given to each of the criteria suggested to assess alternatives, and said the document provides a good illustration of alternatives. Posner clarified that chemicals were only included in the list if they will function appropriately in the end product. Sierra Leone, with South Africa, emphasized that the Committee should be mindful of the economic and social consequences of using alternatives in developing countries that do not have the capacity to develop or manufacture the substances. Posner noted that the alternatives listed are technically viable, and that environmental and health considerations were not part of the guidance. China expressed concerns about potentially negative health and environmental effects of substitutes, and India stressed the need for better information on the environmental and health impacts of substitutes.

EHF underscored the importance of the issue for developing countries, as substitutes might enable them to leapfrog developed countries, and pointed at the lack of representation at POPRC-4 of substitute producers. BSEF responded that their member companies produce both bromides and alternatives.

Canada stated that the presentation is currently publicly available as an INF document and asked whether it should be polished and presented in another format. The Secretariat noted that parties often ask about alternatives and suggested the Committee offer guidance on this issue. Australia, Sweden and Ecuador proposed, and the Committee agreed, to request that the document be made available on the Secretariat's website.

The Committee agreed to establish an intersessional *ad hoc* working group on POPs alternatives and substitutes.

NEW INFORMATION ON PERFLUOROOCTANE SULFONATE: On Wednesday, Robert Chénier (Canada) introduced a document with new information on PFOS submitted by China, Japan and the World Chlorine Council (UNEP/POPS/POPRC.4/INF/17) and a summary of the information in a draft annex to be added to the PFOS RME adopted at POPRC-3.

Two observers from Brazil stressed the importance of a PFOS derivative in production of bait for leaf-cutting ants. Canada explained that this use was noted and discussed in the RME approved by POPRC-3.

IPEN noted that a reference to the use of PFOS derivative in pesticides for control of other pests, such as cockroaches and white ants, in a section for uses for which alternatives may be

available, may be more appropriate under a section for uses for which alternatives are available in developed countries. China asked that a reference to alternatives to PFOS use in chemically-driven oil production be deleted from the annex. A drafting group chaired by Bettina Hitzfeld (Switzerland) was established to finalize the annex to the PFOS RME.

On Friday morning, Hitzfeld presented the draft annex to the RME of PFOS explaining that changes had been made to include new information provided by China and Japan relating to: using PFOS in medical devices; chemically-driven oil production; and suggested risk management measures.

The Committee approved the amendments and agreed to add the annex to the RME of PFOS.

During the lunch break on Tuesday, participants heard two presentations as part of a side-event on substitutes and alternatives. Shuji Tamura, Japanese Ministry of Economy, Trade and Industry (METI), presented results of a survey of PFOS uses in Japanese industry, highlighting examples of successful substitutions and alternatives as well as difficulties in identifying substitutes and alternatives. In the ensuing discussion, participants highlighted the many critical uses of PFOS, as well as the need for a process to ensure that alternatives are safe.

Michael Wittman, Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, reported on a plenary session on substitution and alternatives held at the sixth meeting of the Intergovernmental Forum on Chemical Safety in September 2008 in Dakar, Senegal. He highlighted a recommendation to governments and international organizations to implement a transparent alternatives assessment process in considering exemptions for substances nominated for substitution in international chemicals agreements.

OTHER MATTERS

ROTATION OF MEMBERSHIP: On Friday, the Secretariat introduced a note explaining that COP-4 will need to nominate experts to replace those members whose terms will expire in May 2010 (UNEP/POPS/POPRC.4/2). Japan emphasized the need to nominate experts with relevant expertise, and the Secretariat clarified that current members' terms can be extended. EHF sought clarification from the Secretariat on the process of selecting a new Chair should his term expire, and the Secretariat clarified that the COP designates the POPRC Chair.

DATES AND VENUE OF THE FIFTH MEETING OF THE COMMITTEE

On Friday, Chair Arndt noted that POPRC-5 would convene from 12-16 October 2009, in Geneva, Switzerland.

CLOSURE OF THE MEETING

Before the Committee finished its work and adopted the report of the meeting, Japan stressed that references in all POPRC documents should be made publicly available and, if they are not available, called on *ad hoc* working group chairs to make them available to members.

The Secretariat introduced the report of the meeting (UNEP/POPS/POPRC.4/L.1 and L.1/Add.1). During the discussion of HBCD, China noted that the report stated China had asked

to postpone the discussion because the translated text of the proposal had not been made available in time, when in fact he had highlighted that it was the proposal itself that had not been circulated within the stipulated three-month timeframe. Chair Arndt noted the report would be amended accordingly, and the Committee adopted the meeting report.

Chair Arndt reflected that POPRC-4 had completed an incredible amount of work, thanked Committee members, observers, the Secretariat, and interpreters for their work and gavelled the meeting to a close at 7:05 pm.

A BRIEF ANALYSIS OF POPRC-4

As participants to the fourth meeting of the Persistent Organic Pollutants Review Committee (POPRC-4) convened in their now familiar meeting rooms in Geneva, the significance of the meeting was clear. POPRC-4 would be the Committee's first meeting since its first membership rotation in May 2008, and its last meeting prior to the upcoming Conference of the Parties to the Stockholm Convention (COP-4) in May 2009. POPRC-4 also marked a shift in the work of the Committee from considering what are commonly referred to as "dead" chemicals to those "live" chemicals that are still in use in many parts of the world. And given the difficulties POPRC-3 encountered in reaching agreement on the draft risk profile for short-chained chlorinated paraffins (SCCPs), POPRC-4 was expected to test the Committee's successful track record of forwarding to the COP consensus-based recommendations to list new chemicals under the Convention. This brief analysis will examine this time of transition for the POPRC, specifically focusing on membership rotation, chemicals under consideration and its decision-making process.

CHANGING OF THE GUARD: NEW MEMBERS

When parties negotiated the POPRC's Terms of Reference, they agreed to stagger the rotation of members so that every two years roughly half of the members would be replaced or have their terms extended. In May 2008, fourteen members' initial terms expired, two of which were renewed, and twelve new members joined the Committee. The influx of new members necessitated the development of new working relationships and highlighted the need to provide all the necessary information on the POPRC process in an accessible format. This transition had been foreshadowed by discussions at POPRC-3, which had asked for several activities to be undertaken during the intersessional period to facilitate members' effective participation. Members especially acknowledged the usefulness of a handbook prepared by an intersessional working group as well as regional workshops held in Africa, Latin America and Asia.

While these activities were helpful on a practical level, there were still some bumps along the way. Discussions throughout the week often turned to explanations of how the Committee had previously carried out its work, bringing to light, for members old and new, the many customs and practices that have guided the POPRC's decisionmaking in the last three years. One of the more tangible outcomes of this POPRC will likely be the

Secretariat's preparation of a centralized resource document compiling all the practices and rules applied by the Committee in its organization of work and decision-making.

AGENDA SHIFT: FROM "DEAD" TO "LIVE" CHEMICALS

As noted by Stockholm Convention Executive Secretary Donald Cooper, the COP established a two-tier decision-making process designed to keep technical considerations separate from political evaluations, and the POPRC serves as a model for other multilateral environmental agreements seeking to separate science from politics. Some reflected that the POPRC's success in recommending nine new chemicals for listing may at least partly be due to the fact that most of these chemicals are largely out of use, minimizing the socioeconomic implications of regulation. By contrast, the listing of some of the chemicals nominated more recently, notably hexabromocyclododecane (HBCD), a common flame retardant used in insulation, and endosulfan, an agricultural insecticide, could have significant social and economic implications for parties, as well as for producers and end users of the products.

The way in which the POPRC adapts to this transition from "dead" to "live" chemicals was flagged by many as the true test of how successful the Committee will be in shielding its deliberations from the influence of political and economic concerns. However, the boundaries of the Committee's responsibilities are not always well defined. For instance, the decision-making process outlined in the Convention allows the POPRC to take into account socioeconomic considerations in the risk management evaluation phase, and the Committee can include information on possible exemptions for certain uses. Yet there are few guidelines laying out a systematic process for evaluating alternatives, substitutes, and the need for exemptions. Several observers called for the Committee to develop clear procedures to this end. The POPRC agreed to consider the issue of assessing substitutes and alternatives in an intersessional working group.

Another challenge presented by the shift to "live" chemicals is that these are often newer substances, of which the impacts on human health and the environment are not as well understood. This became clear as participants exchanged views on whether HBCD and endosulfan fulfill the screening criteria of Annex D (Information requirements and screening criteria), a finding necessary to move to the preparation of a draft risk profile. Some members called for more time to evaluate the available evidence, while other experts expressed concern that the Committee's consensus-based decision-making process would overemphasize areas of uncertainty and subsequently favor the status quo. The POPRC struggled to find common ground, and it appeared that some of the disagreement could be attributed to differing interpretations of the burden of proof necessary for determining whether the screening criteria are fulfilled. While the Annex D process is often referred to as determining whether or not a substance is a POP, some members stressed that these criteria are in fact indicators that the substance is likely to be a POP, in line with the precautionary approach of the Convention. Indeed, several members pointed to the risk profile

preparation as the stage at which more data are to be evaluated to determine whether global action is warranted. At POPRC-4, the Committee's tradition of consensus-based decision-making was pushed to the limits, and in the end a vote was held to move endosulfan to the risk profile stage.

GROWING PAINS: PROCESS AND DECISION-MAKING

The goal of consensus was a common thread connecting the disparate issues addressed throughout the week. In their opening statements, Cooper and POPRC Chair Reiner Arndt both emphasized POPRC's successful track record of working collaboratively to reach agreement on complex scientific issues. Many participants commended the cooperative spirit of the POPRC, grounded in both the principles of science-based evaluation and the common goal of protecting humans and the environment from the risks posed by POPs.

Questions of process and decision-making took center stage at POPRC-4. While some queries were easily addressed, the Convention's legal advisor, Masa Nagai, had to be contacted three times to address conflicts over interpretations of the POPRC's mandate and the process for reviewing the European Community's proposal to list endosulfan under the Convention. Some seasoned participants suggested that such procedural hurdles were being raised as a ploy to impede progress toward listing an agricultural insecticide that is of significant economic importance and still in use in several countries around the world. Ultimately, endosulfan proved to be a dominant issue at POPRC-4 and prompted the Committee to twice break its tradition of consensus-based decision-making.

As no agreement on endosulfan had been reached by Friday, a majority of members supported resolving the disagreement by a vote. Objecting to the process, India and China opted not to vote. The decision that endosulfan satisfied Annex D was approved, with three members abstaining and the rest of the members present and voting raising their hands in favor of moving the proposal to the next stage of evaluation. Feelings were mixed on the implications of this break not only with POPRC tradition, but also with the custom of consensus-based decision-making in multilateral environmental agreements. Some warned that it could weaken the legitimacy of the POPRC recommendations forwarded to the COP. Others heralded this development as an important step towards strengthening the Committee's legitimacy.

LOOKING AHEAD

As many participants noted, the successes of the Stockholm Convention and the POPRC are unparalleled as, in the three years since its first meeting, the POPRC has prepared recommendations to list nine new chemicals under Annexes A, B or C of the Convention. At COP-4, parties will have to decide whether the "dirty dozen" should be joined by pentaBDE, chlordecone, hexabromobiphenyl, lindane, PFOS, alphaHCH, betaHCH, PeCB, and c-octaBDE. Some at POPRC-4 noted that the speed with which chemicals can be evaluated by the Committee will begin to slow, pointing out that only one chemical will be reviewed during the intersessional period up

to POPRC-5. Some members said that there were no obvious candidates for future consideration, and that the POPRC may therefore need to adapt its focus and workplan. One participant noted that the question of SCPPs, the risk profile of which was again deferred, may be illustrative of the fact that the Committee may have to adjust its expectations from having a two-year timeline for evaluation to lengthier deliberations on a smaller number of candidate POPs. As the POPRC experiences some “growing pains,” there is expectation that the COP should be able to provide guidance to the Committee because, as some members stressed, it was after all its “parent.”

UPCOMING MEETINGS

MEETING OF THE OPEN-ENDED LEGAL AND TECHNICAL WORKING GROUP FOR THE INTERNATIONAL CONFERENCE ON CHEMICALS MANAGEMENT (ICCM): This meeting will take place in Rome, Italy, from 21-24 October 2008. For more information, contact: Muhammed Omotola, SAICM Secretariat; tel: +41-22-917-8532; fax: +41-22-797-3460; e-mail: saicm@chemicals.unep.ch; internet: <http://www.chem.unep.ch/saicm/OELTWG/Open-ended.htm>

FOURTH MEETING OF THE CONFERENCE OF PARTIES TO THE ROTTERDAM CONVENTION (PIC COP-4): PIC COP-4 will take place in Rome, Italy, from 27-31 October 2008. For more information, contact: Rotterdam Convention Secretariat; tel: +41-22-917-8296; fax: +41-22-917-8082; e-mail: pic@pic.int; internet: <http://www.pic.int>

STAKEHOLDERS’ MEETING TO REVIEW THE DRAFT BUSINESS PLAN TO PROMOTE A GLOBAL PARTNERSHIP FOR DEVELOPING ALTERNATIVES TO DDT: This meeting will be held in Geneva, Switzerland, from 3-5 November 2008. For more information, contact: Paul Whyllie, Programme Officer, Stockholm Convention Secretariat; tel: +41-22-917-8729; fax: +41-22-917-8098; e-mail: ssc@pops.int; internet: <http://www.pops.int>

FOURTH POPS INFORMATION WAREHOUSE WORKSHOP IN EAST ASIAN COUNTRIES: This meeting will be held in Seoul, Republic of Korea, from 3-4 November 2008. For more information, contact: Kyunghoo Choi, Director, National Institute of Environmental Research, Ministry of Environment; tel: +82-32-560-7206; fax: +82-32-568 2041; e-mail: nierchoi@me.go.kr

MEETING OF THE GLOBAL MONITORING PLAN COORDINATION GROUP: The Global Monitoring Plan Coordination Group will meet from 10-12 November 2008 in Geneva, Switzerland. This meeting will be attended by the nominated coordination group members from all five UN regions. The purpose of the meeting is to discuss and agree on: organizing the group’s work; facilitating preparation of the global monitoring report; and evaluating the first phase of the global monitoring plan. For more information, contact: Katarina Magulová, Programme Officer, Stockholm Convention Secretariat; tel: +41-22-917-8729; fax: +41-22-917-8098; e-mail: ssc@pops.int; internet: <http://www.pops.int>

INFORMAL WORKSHOP ON STAKEHOLDERS’ INFORMATION NEEDS ON CHEMICALS IN ARTICLES/ PRODUCTS: This informal workshop will be held in Bangkok, Thailand, from 2-4 December 2008. It aims to facilitate informed decision-making in relation to the issue of hazardous chemicals in articles and products. For more information, contact: SAICM Secretariat; tel: +41-22-917-8532; fax: +41-22-797-3460; e-mail: saicm@chemicals.unep.ch; internet http://www.chem.unep.ch/unepsaicm/cheminprod_dec08/default.htm

EXPERT MEETING TO FURTHER DEVELOP THE STANDARDIZED TOOLKIT FOR IDENTIFICATION AND QUANTIFICATION OF DIOXIN AND FURAN RELEASES: This expert meeting will be held from 3-4 December 2008 in Geneva, Switzerland, to prepare proposals for COP-4 for revising and updating the Toolkit. For more information, contact: Stockholm Convention Secretariat; tel: +41-22-917-8729; fax: +41-22-917-8098; e-mail: ssc@pops.int; internet: <http://www.pops.int>

FOURTH MEETING OF THE CONFERENCE OF THE PARTIES TO THE STOCKHOLM CONVENTION ON PERSISTENT ORGANIC POLLUTANTS: COP-4 will be held from 4-8 May 2009, in Geneva, Switzerland. For more information, contact: Stockholm Convention Secretariat; tel: +41-22-917-8729; fax: +41-22-917-8098; e-mail: ssc@pops.int; internet: <http://www.pops.int>

GLOSSARY

alphaHCH	Alpha hexachlorocyclohexane
BAT	Best available techniques
BEP	Best environmental practices
betaHCH	Beta hexachlorocyclohexane
BSEF	Bromine Science and Environmental Forum
CA	Concentration Addition
c-octaBDE	Commercial octabromodiphenyl ether
c-pentaBDE	Commercial pentabromodiphenyl ether
decaBDE	Decabromodiphenyl ether
EHF	Environmental Health Fund
HBB	Hexabromobiphenyl
HBCD	Hexabromocyclododecane
HCH	Hexachlorocyclohexane
IA	Independent Action
IFCS	Intergovernmental Forum on Chemical Safety
IPEN	International POPs Elimination Network
KoW	Octanol-water partition coefficient
LRET	Long-range environmental transport
PeCB	Pentachlorobenzene
pentaBDE	Pentabromodiphenyl ether
PFOS	Perfluorooctane sulfonate
POPRC	Persistent Organic Pollutants Review Committee
POPs	Persistent Organic Pollutants
RME	Risk management evaluation
SCCPs	Short-chained chlorinated paraffins