

SUMMARY OF THE SEVENTH MEETING OF THE PERSISTENT ORGANIC POLLUTANTS REVIEW COMMITTEE OF THE STOCKHOLM CONVENTION: 10-14 OCTOBER 2011

The seventh meeting of the Persistent Organic Pollutants Review Committee (POPRC-7) of the Stockholm Convention on Persistent Organic Pollutants (POPs) took place from 10-14 October 2011 in Geneva, Switzerland. Over 105 participants attended the meeting, including 29 of 31 Committee members, 47 government and party observers, and 18 representatives from non-governmental organizations.

POPRC-7 adopted 12 decisions, including on: advancing chlorinated naphthalenes and hexachlorobutadiene (HCBd) to the risk profile stage; recommending parties consider listing hexabromocyclododecane (HBCD) in Annexes A, B, and/or C of the Convention; effective participation in the Committee's work; the assessment of alternatives to perfluorooctane sulfonic acid (PFOS) in open applications, DDT, and endosulfan; and the implications of climate change on POPs.

POPRC-7 also established nine intersessional working groups to address HBCD, HCBd, chlorinated naphthalenes, pentachlorophenol and its salts and esters, alternatives to endosulfan and DDT, alternatives to PFOS in open applications, the draft risk profile on short-chained chlorinated paraffins, consideration of toxic interactions, and the impact of climate change on the Committee's work. These working groups will report back at POPRC-8, which is scheduled for October 2012.

A BRIEF HISTORY OF THE STOCKHOLM CONVENTION AND THE POPS REVIEW COMMITTEE

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 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 have adverse effects

on human health and the environment. With further evidence of the long-range environmental 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 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

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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 (INC) 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.

The INC met five times between June 1998 and December 2000 to elaborate the convention, and delegates adopted the Stockholm Convention on POPs at the Conference of the Plenipotentiaries convened from 22-23 May 2001 in Stockholm, Sweden.

Key elements of the treaty include the requirement that developed countries provide new and additional financial resources and 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. 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 176 parties.

The Convention can list chemicals in three annexes: Annex A contains chemicals to be eliminated; Annex B contains chemicals to be restricted; and Annex C calls for the minimization of unintentional releases of listed chemicals. When adopted in 2001, 12 POPs were listed in these annexes. These POPs include 1) pesticides: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex and toxaphene; 2) industrial chemicals: hexachlorobenzene and polychlorinated biphenyls (PCBs); and 3) unintentionally produced POPs: dioxins and furans.

When adopting the Convention, provision was made for a procedure to identify additional POPs and the criteria to be considered in doing so. At the first meeting of the Conference of the Parties (COP-1), held in Punta del Este, Uruguay from 2-6 May 2005, the POPRC was established to consider additional candidates nominated for listing under the Convention.

The Committee is comprised of 31 experts nominated by parties from the five United Nations regional groups and reviews nominated chemicals in three stages. The Committee first determines whether the substance fulfills POP screening criteria detailed in Annex D of the Convention, relating to its persistence, bioaccumulation, potential for long-range environmental transport (LRET), and toxicity. If a substance is deemed to fulfill these requirements, the Committee then drafts a risk profile according to Annex E 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 therefore warrants global action. Finally, if the POPRC finds that global action is warranted, it develops a risk management evaluation, according to Annex F, reflecting socioeconomic considerations associated

with possible control measures. Based on this, the POPRC decides to recommend that the COP list the substance under one or more of the annexes to the Convention. The POPRC has met annually in Geneva, Switzerland since its establishment.

POPRC-1: The first meeting of the POPRC (POPRC-1) was held 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 POPRC-2. 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.

POPRC-2: POPRC-2 was held from 6-10 November 2006. The Committee adopted the risk profiles for commercial pentabromodiphenyl ether (c-pentaBDE), chlordecone, hexabromobiphenyl (HBB), lindane, and perfluorooctane sulfonic acid (PFOS), and agreed that intersessional working groups would develop draft risk management evaluations (RMEs) 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), commercial octabromodiphenyl ether (c-octaBDE) and short-chained chlorinated paraffins (SCCPs), and agreed that intersessional working groups would develop risk profiles on these chemicals to be assessed by POPRC-3.

POPRC-3: This meeting took place from 19-23 November 2007. The Committee approved the RMEs for five chemicals, and recommended that COP-4 consider listing under Annexes A, B, and/or C: lindane; chlordecone; HBB; c-pentaBDE; and PFOS, its salts and PFOS fluoride (PFOSF). Risk profiles were approved for four chemicals, and POPRC-3 adopted a work programme to prepare draft RMEs for those chemicals, namely: c-octaBDE, PeCB, and alphaHCH and betaHCH. The Committee decided that a proposal by the European Community to consider endosulfan for inclusion in Annexes A, B, and/or C would be considered by POPRC-4.

POPRC-4: This meeting convened from 13-17 October 2008. POPRC-4 considered several operational issues, including conflict-of-interest procedures, toxic interactions between POPs, and activities undertaken for effective participation of parties in POPRC's work. The Committee approved the RMEs for four chemicals, and recommended that COP-4 consider listing under Annexes A, B, and/or C: c-octaBDE, PeCB, alphaHCH, and betaHCH. A draft risk profile for SCCPs was discussed and the Committee agreed to forward it to POPRC-5 for further consideration. 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).

COP-4: The fourth meeting of the Conference of the Parties (COP-4) was held from 4-8 May 2009 in Geneva, Switzerland. Parties adopted 33 decisions on a variety of topics, including financial resources and technical assistance, and the listing

of nine new substances under Annexes A, B, and/or C of the Convention, namely: c-pentaBDE; chlordecone; HBB; alphaHCH; betaHCH; lindane; c-octaBDE, PeCB and PFOS, its salts and PFOSF. The amendment to list additional POPs under Annexes A, B and/or C entered into force on 26 August 2010. This amendment does not apply to those 18 parties that had declared, in their original ratification, that any amendment to Annexes A, B and/or C shall enter into force only upon deposit of their instruments of ratification with respect to such amendments. One party also provided a notification that it is unable to accept the amendments. Countries that have become parties to the Stockholm Convention following adoption of amendments to Annexes A, B, and/or C are bound to the whole of the Convention as amended.

POPRC-5: POPRC-5 met from 12-16 October 2009 and addressed several operational issues, including: work programmes on new POPs; substitutions and alternatives; toxicological interactions; and activities undertaken for effective participation in the POPRC's work. POPRC-5 agreed that HBCD met the Annex D criteria for listing and that a draft risk profile should be prepared. Draft risk profiles for endosulfan and SCCPs were considered. SCCPs were kept in the Annex E phase for further consideration at POPRC-6 and the Committee, through a vote, decided to move endosulfan to the Annex F phase, while inviting parties to submit additional information on adverse effects on human health.

Ex-COP: The simultaneous extraordinary Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions were held from 22-24 February 2010 in Bali, Indonesia. Delegates adopted an omnibus synergies decision on joint services, joint activities, synchronization of the budget cycles, joint audits, joint managerial functions, and review arrangements. Jim Willis (US) was appointed as the Joint Head of the Basel and Stockholm Convention Secretariats and UNEP-part of the Rotterdam Convention Secretariat in April 2011.

POPRC-6: POPRC-6 met from 11-15 October 2010 and addressed several operational issues, including: support for effective participation in POPRC's work; work programmes on new POPs; and intersessional work on toxic interactions. POPRC-6 adopted the risk profile for HBCD and established an intersessional working group to prepare a draft risk management evaluation on HBCD. POPRC also agreed, by a vote, to adopt the risk management evaluation for endosulfan and recommend listing endosulfan in Annex A, with exemptions. The Committee considered a revised draft risk profile on SCCPs, agreeing to convene an intersessional working group to revise the draft risk profile on the basis of an intersessional discussion of the application of the Annex E criteria to SCCPs and of information arising from a proposed study on chlorinated paraffins by the intersessional working group on toxic interactions, and to consider the revised draft risk profile at POPRC-8.

COP-5: COP-5 was held from 25-29 April 2011 in Geneva, Switzerland. Parties considered several reports on activities within the Convention's mandate and adopted over 30 decisions on, *inter alia*: listing endosulfan and its isomers in Annex A of the Convention with exemptions for specified crop-pest complexes; financial and technical assistance; synergies; and endorsing seven new Stockholm Convention regional centres,

in Algeria, Senegal, Kenya, South Africa, Iran, India and the Russian Federation. COP-5 also requested the POPRC assess alternatives to endosulfan, develop terms of reference for a technical paper on the identification and assessment of alternatives to the use of PFOS in open applications, and to assess alternatives to DDT.

POPRC-7 REPORT

On Monday, 10 October 2011, Jim Willis, the Joint Executive Secretary of the Basel and Stockholm Conventions and the UNEP part of the Rotterdam Convention, opened the seventh meeting of the Persistent Organic Pollutants Review Committee (POPRC-7), welcoming participants and congratulating the Committee for its work on endosulfan, which culminated in the Conference of Parties' (COP) decision to list the chemical at its last meeting (COP-5). Willis emphasized the importance of synergies among the three major chemicals Conventions and, where appropriate, the implementation of synergies to assist with delivery at the national level.

POPRC Chair Reiner Arndt (Germany) welcomed participants and reviewed the organization of work for the week, and members adopted the provisional agenda (UNEP/POPS/POPRC.7/1). Chair Arndt reviewed the procedures by which POPRC conducts its work and described the different roles of members and observers, noting that members do not need procedural guidance on decision-making, but would welcome facts and new information relevant to issues being discussed.

The Committee met in plenary throughout the week. Contact groups, open to observers, and drafting groups, limited to POPRC members, convened on a variety of topics. Some items were also addressed in Friends of the Chair groups, which often included members and observers. This summary of the meeting is organized according to the order of the agenda.

The current members of POPRC are Argentina, Bulgaria, Cambodia, Canada, Chad, Chile, China, Colombia, Costa Rica, Czech Republic, Egypt, Finland, France, Germany, Ghana, Honduras, India, Japan, Jordan, Mauritius, New Zealand, Nigeria, Portugal, the Republic of Korea, Switzerland, Syria, Tanzania, Thailand, Togo, Ukraine and Zambia. The members from Mauritius and Syria were unable to attend POPRC-7.

REVIEW OF COP-5 OUTCOMES RELEVANT TO THE COMMITTEE'S WORK

On Monday, the Secretariat reviewed and reported on COP-5 outcomes relevant to the POPRC (UNEP/POPS/POPRC.7/INF/9), highlighting the COP's decision to list endosulfan and additional work requested of the POPRC on brominated diphenyl ethers (BDEs) and perfluorooctane sulfonic acid (PFOS), as well as DDT exemptions. Chair Arndt also noted the COP's preference for POPRC to reach decisions by consensus.

OPERATIONAL ISSUES

ROTATION OF MEMBERSHIP: On Monday, the Secretariat reported on the parties nominated to designate POPRC experts with terms beginning in 2012, namely: Brazil, Cameroon, Cuba, France, India, Indonesia, Kenya, the Republic of Korea, Kuwait, the Former Yugoslav Republic of Macedonia, Madagascar, Norway, the Netherlands and Sudan. She also noted that since POPRC-6 Bulgaria had nominated a new expert and

said *curricula vitae* submitted for new members were available in UNEP/POPS/POPRC.7/INF/10/Rev.1.

WORKPLAN FOR THE INTERSESSIONAL PERIOD:

On Wednesday afternoon, the Secretariat introduced the document outlining the workplan for the intersessional period between POPRC's seventh and eighth meetings (UNEP/POPS/POPRC.7/8), noting that POPRC-8 will be held from 15-19 October 2012, and reviewed the deadlines for work prior to this meeting.

The draft work plan was adopted without amendments.

CONSIDERATION OF DRAFT RISK MANAGEMENT EVALUATION ON HBCD

On Monday, the Secretariat introduced the draft risk management evaluation (RME) on hexabromocyclododecane (HBCD) (UNEP/POPS/POPRC.7/5) and a compilation of comments and responses to the draft RME (UNEP/POPS/POPRC.7/INF/7), recalling that at POPRC-6 the Committee adopted the risk profile for the substance, decided that HBCD is likely, as a result of its long-range environmental transport (LRET), to lead to significant adverse human health and environmental effects such that global action is warranted, and mandated an intersessional working group to prepare a draft RME according to Annex F (Information on socio-economic considerations).

Peter Dawson (New Zealand), Chair of the intersessional working group that prepared the draft RME, explained that HBCD is the third largest brominated flame retardant in use and noted that commercial applications include flame retardant textiles, electronic equipment, and expanded polystyrene (EPS) and extruded polystyrene (XPS) insulation boards. He said negotiations on HBCD will soon begin under the UN/ECE Convention on Long-Range Transboundary Air Pollution and that the European Union (EU), Japan and the US are considering action on HBCD. He underscored uncertainty related to volumes produced and used, explaining that phase-out costs in developing countries should be lower as most use occurs in Europe. Dawson said environmental release occurs at all stages, particularly waste disposal, and possible control options include substituting flame retardants, building materials, or altering building processes. He noted that an alternative chemical, Emerald3000, could be commercially available by 2012. He said the draft RME recommends HBCD be listed under Annex A.

Chair Arndt underscored the transparency of the POPRC's decision-making procedures, noting that the 130 comments received intersessionally on the draft RME and the actions taken in response are listed in UNEP/POPS/POPRC.7/INF/7.

China highlighted data demonstrating rising consumption of HBCD in developing countries and noted that HCFC, used as a forming agent in XPS, is being phased out under the Montreal Protocol. He questioned the suggestion that costs of phasing out HBCD would be concentrated in Europe.

Tanzania emphasized the need to speed the disposal process to prevent long-term exposure of populations and the environment to HBCD via waste. Chair Arndt asked for information about the locations of the 23 million tonnes of HBCD noted in the report. Finland explained that much of this is "future waste" being used

as insulation in buildings and said that approximately 90% of the projected waste is XPS or EPS insulation boards, both of which are too bulky to be transported easily for waste disposal.

Thailand suggested incorporating information on non-combustion technology for waste disposal. Egypt noted the possibility of using kilns in cement-producing countries to dispose of the waste.

An observer from the US noted that an alternative to HBCD will be available on the market soon, expressed support for recommending HBCD for listing, and noted potential challenges, including issues associated with recycling products containing HBCD. Ukraine highlighted the importance of considering existing domestic regulatory measures.

An observer from Norway noted that her country has used EPS without flame retardants since 2004. India asked if HBCD is covered by the Basel Convention and Chair Arndt clarified that the Basel Convention is automatically invited to consider chemicals following decisions to list them under the Stockholm Convention. Zambia emphasized the importance of waste issues, noting that developing countries are importing vehicles containing HBCD. Japan and the Republic of Korea supported listing HBCD in Annex A with exemptions.

China recalled two recent fires that led to domestic requirements for insulation to contain flame retardants, explaining this is connected to the increasing demand for HBCD in China. He underscored the draft RME is inadequate in complying with Annex F, noting that the costs of substituting HBCD are only addressed in one paragraph. China also stressed the uncertainties regarding alternatives and warned against making hasty decisions on the basis of inadequate information on alternatives.

Finland underscored the intention of the draft RME was not to compromise fire safety but to enable the phase-out of HBCD, and highlighted the potential for technologies to reduce reliance on flame retardants in EPS/XPS without affecting the potential use of insulation boards as a means of reducing energy demands and addressing climate change.

On Wednesday afternoon, Dawson introduced the revised text of the draft RME, noting numerous clarifications and additions of new information. Dawson noted the likely need for an exemption for use of HBCD in polystyrene manufacturing processes, but not for other minor uses, including polystyrene used in electronic applications.

Participants had an extensive discussion about the chemical identity of the substance under review, with France suggesting that the alpha, beta and gamma isomers be added to the list of substances and Chair Arndt noting that the components of HBCD can be captured by CAS numbers. Finland noted that producers and importers provided information on the substance under two different names, both of which were covered by the risk profile and the draft RME. Dawson clarified that the POPRC had assessed only one molecule with multiple CAS numbers, and said that while HBCD is not chemically correct because it does not indicate the positional isomers of the molecule, it is the simple name. Canada concurred, saying that 1,2,5,6,9,10-hexabromocyclododecane best describes the substance and captures all of the stereoisomers.

Dawson then introduced the draft decision on HBCD, which specifies that the POPRC decides to recommend that the COP consider listing HBCD in Annexes A, B and/or C; and invites the *ad hoc* group on HBCD to collect information on chemical alternatives to the substance and information on production and use, and to consider, at POPRC-8, whether to specify the annex to the Convention and possible exemptions to be considered by the COP in listing HBCD.

Canada asked if the POPRC is considering recommending listing in Annex C. Dawson clarified that there is no question of listing in Annex C, and said the draft decision uses general language to recommend listing. France noted that chemical alternatives to HBCD could be dangerous, and Dawson explained that the US EPA will be conducting a health and environmental assessment of alternatives.

Chair Arndt emphasized the need to be clear about what information would be collected intersessionally. Dawson explained that it would strictly consist of information on chemical alternatives to HBCD in EPS and XPS applications in order to help POPRC-8 focus on the nature and scope of any possible exemptions. China confirmed that the information sought is for alternatives to HBCD in EPS and XPS.

Regarding information on the production and use of HBCD, Finland stated there was uncertainty regarding the impacts of a possible ban on different countries. He said there was indication that some parties using HBCD did not report their use during the Annex E process.

IPEN suggested the Committee seek information on non-chemical alternatives to HBCD. Dawson stated the text needed to clarify that alternatives are sought to HBCD in polystyrene insulation, not to insulation itself. Finland agreed, saying there was sufficient information in the RME on non-chemical alternatives to EPS, XPS and textiles. Chair Arndt suggested considering non-chemical alternatives if necessary.

Thailand expressed concern about the implications of amending the RME at POPRC-8. Chair Arndt responded that the decision to list at this meeting would be a positive step and said POPRC-8 would consider the additional information as an addendum to the RME in order to decide on the appropriate annex in which to recommend listing. He reminded members there is time because COP-6 meets in 2013, after POPRC-8.

On Thursday, Dawson introduced the revised draft decision, explaining the text clarifies the chemical identity of HBCD and specifies the type of additional information sought. He noted that the clarification of HBCD's chemical identity was also included in a revised draft RME. POPRC-7 adopted the decision without amendment.

Final Decision: In the final decision (UNEP/POPS/POPRC.7/CRP.8/Rev.1), the POPRC adopts the RME for HBCD and decides to recommend to COP that it consider listing HBCD in Annexes A, B, and/or C to the Convention. The Committee also invites the *ad hoc* working group on HBCD that prepared the RME to collect further information on: chemical alternatives to HBCD, especially in EPS or XPS foam applications, in terms of their availability, cost, efficacy, efficiency and health and environmental impact, especially with regard to their POPs properties; and the production and use of HBCD especially for EPS or XPS foam applications. POPRC also agrees to review

the additional information made available to it and to consider at POPRC-8 whether to specify the annex to the Convention and possible exemptions to be considered by COP in listing HBCD.

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

POPRC-7 considered three proposals for listing in Annexes A, B and/or C of the Convention: chlorinated naphthalenes (CNs), hexachlorobutadiene (HCBd) and pentachlorophenol (PCP), its salts and esters. 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 long-range environmental transport (LRET), and adverse effects.

CHLORINATED NAPHTHALENES: On Monday, Peter Korytar (European Commission) introduced the proposal to consider CNs for inclusion in Annexes A, B and/or C of the Convention (UNEP/POPS/POPRC.7/2 and INF/3). He noted that Europe and North America discontinued production of CNs and said information is not available for other regions. He explained they are used as abrasives, polymers, components of plastic and synthetic resins, in a variety of applications, including wood preservatives, cable insulation and engine oil, noting unintentional production can occur during industrial processes involving chlorine and heat. He said that CNs containing more chlorine molecules can show greater persistence, bioaccumulation and toxicity, and cited evidence of CNs present in Arctic and Antarctic regions, which demonstrates LRET.

Japan noted it might be useful to group CNs according to the number of chlorine molecules to further discussion. Thailand noted uncertainty related to bioaccumulation and persistence.

The Committee agreed that CNs would be taken up by a contact group co-chaired by Svitlana Sukhorebra (Ukraine) and Floria Gutiérrez (Costa Rica).

On Thursday morning, Sukhorebra introduced the draft decision on CNs, explaining it notes that there are 75 possible CNs with one to eight chlorine atoms, and concludes that the Annex D screening criteria have been fulfilled for polychlorinated naphthalenes (di-, tri-, tetra-, penta-, hexa-, hepta- and octa-chlorinated naphthalene).

The Committee adopted the draft decision without amendment.

Final Decision: In the decision (UNEP/POPS/POPRC.7/CRP.9), the POPRC decides that it is satisfied the screening criteria have been fulfilled for di-, tri-, tetra-, penta-, hexa-, hepta- and octa-chlorinated naphthalenes. The POPRC also decides to establish an *ad hoc* working group to prepare a draft risk profile in accordance with Annex E and invites parties and observers to submit to the Secretariat, before 9 February 2012, the information specified in Annex E.

An annex to the decision details the Committee's evaluation of chlorinated naphthalenes against the criteria of Annex D.

HEXACHLOROBUTADIENE: On Monday, the Secretariat introduced the documents on HCBd (UNEP/POPS/POPRC.7/3, INF/4, and INF/8). Korytar presented the EU's proposal to list the substance in Annexes A, B and/or C. Emphasizing

that HCBd is produced mainly as a by-product during the manufacture of chlorinated hydrocarbons, Korytar concluded that the substance meets the criteria for persistence, bioaccumulation, LRET and adverse effects. Korytar noted that of the several bioaccumulation in fish studies available, only one is suitable for deriving the bioconcentration factor.

Japan offered to provide a study of bioaccumulation in carp, noting that HCBd is highly accumulative. An observer from the US emphasized that HCBd does not meet the criteria for persistence, questioned the sufficiency of a single study on bioaccumulation, called for data on toxicity of HCBd levels in the environment, as required in Annex D, paragraph 2, and concluded that HCBd should not advance to the risk profile stage. Chair Arndt suggested that questions on persistence be discussed in the contact group addressing CNs and HCBd, co-chaired by Svitlana Sukhorebra (Ukraine) and Floria Gutiérrez (Costa Rica).

On Wednesday, Gutiérrez introduced the draft decision, reporting that the contact group agreed that HCBd met Annex D criteria for persistence, bioaccumulation, LRET and adverse effects. She said additional information shows evidence of HCBd in biota in Norway and Greenland, demonstrating persistence, bioaccumulation and LRET.

The World Chlorine Council highlighted information it had provided to the contact group regarding a comparison of exposure and effects and asked why the information was not included. Chair Arndt responded that such comparison tables were supplementary information not required for an assessment of Annex D criteria.

On Thursday, the Committee adopted the decision without amendment.

Final Decision: In the decision (UNEP/POPS/POPRC.7/CRP.6), the POPRC decides that it is satisfied that the screening criteria for HCBd have been fulfilled. The Committee also decides to establish an *ad hoc* working group to prepare a draft risk profile in accordance with Annex E and invites parties and observers to submit to the Secretariat, before 9 February 2012, the information specified in Annex E. An annex to the decision details the Committee's evaluation of HCBd against the criteria of Annex D.

PENTACHLOROPHENOL AND ITS SALTS AND ESTERS: On Monday, the Secretariat introduced the documents on PCP, its salts and esters (UNEP/POPS/POPRC.7/4, INF/5, INF/5/Add.1 and INF/6).

Korytar presented an overview of the EU's proposal for listing in Annexes A, B and/or C, noting that the proposal covers three substances: PCP, sodium pentachlorophenolate and its monohydrate (NaPCP), and pentachlorophenyl laureate (PCPL). He explained that: PCP has been used in a number of applications, including as a wood preservative, biocide, disinfectant, defoliant, and anti-microbial agent; PCPL has been used as a preservative treatment in textiles; and pentachloroanisole (PCA) is both a bio-transformation product and a precursor of PCP.

Korytar explained that while PCP does not meet the criterion for persistence and may not meet the criterion for bioaccumulation, its degradation product, PCA, meets both criteria; furthermore, Korytar said that both PCP and PCA meet

the criteria for LRET and adverse effects. He concluded that international action is warranted for control of the production and use of PCP and its compounds.

China highlighted a parallel between PCP/PCA and endosulfan sulfate, derived from endosulfan. New Zealand stated that his country has discontinued PCP use. Canada reminded the Committee to focus on scientific merit at this stage and asked for information on the relative contribution of PCP to PCA concentrations. Korytar noted other chemicals contribute, but relative weights are uncertain. A US observer stated that neither PCP nor PCA should move ahead because PCP does not meet bioaccumulation or persistence criteria and information on PCA persistence is undetermined. Thailand noted that his country has banned PCP, yet agreed with the US that it does not meet the Annex D criteria. An observer from Malaysia stated that his country has banned PCP as a pesticide. The Committee agreed to establish a contact group, chaired by Ricardo Barra (Chile), to consider the substance.

On Tuesday, Barra reported on the contact group's work, noting the group considers PCA, not PCP, to be persistent. He said the group did not consider PCP to meet bioaccumulation criteria and said that it reviewed additional studies detecting PCP in remote regions. He explained that a drafting group would convene on Wednesday to improve the document.

On Wednesday, Barra reported that the PCP drafting group agreed that PCP degrades to form PCA, but lacked clarity on PCP's relative contribution compared to that of other chemicals, causing some bracketed text. Chair Arndt encouraged the contact group to focus on Annex D criteria and perhaps flag issues for Annex E evaluation.

On Thursday, Barra reported on the work of the drafting group on PCP, reviewing the discussion according to the Annex D screening criteria. On chemical identity, he noted the nomination targets PCP and two precursors. On persistence, he said consensus was reached that there was evidence PCP does not meet the criteria, as well as evidence that PCA does meet the criteria. On bioaccumulation, he reported there was a protracted discussion of information not included in the original study, and said bioaccumulation levels for PCA were found to be close to boundary values. He also said there was evidence of bioaccumulation in various species of fish in the Arctic region. He also noted that PCP and PCA were found to comply with criteria for LRET. On adverse effects, he said both PCP and PCA have been widely described as carcinogenic and highly toxic for different types of organisms.

Japan noted there was agreement that PCP does not meet the requirement, while PCA does, and proposed further research to assess what percentage of PCA comes from PCP. He emphasized that it is too early to decide and called for postponing a decision to POPRC-8 to allow for additional experiments to be carried out and further information to be gathered.

Chair Arndt proposed that the POPRC agree that the Annex D screening criteria are fulfilled and collect information on the contribution of PCP to PCA in the Annex E phase of review.

Japan emphasized that it is the EU's duty to present information on the transformation of PCP to PCA, said his government may be able to collect such information in the coming year, and suggested the EU resubmit the proposal at

POPRC-8. Argentina, China, Tanzania, and Cambodia expressed support for Japan, calling for collection of additional information for consideration at POPRC-8.

Canada, supported by Finland, the Republic of Korea and the Czech Republic, emphasized that an analysis of the relative contributions of precursors to PCA in the environment belongs in Annex E, and supported moving the proposal forward. Switzerland emphasized that Annex D instructs the POPRC to look at both the chemical and its transformation products, and said that PCA fulfills all of the screening criteria. France said the available evidence meets the Annex D screening criteria, and underscored that quantifying the contribution of PCP to PCA was Annex E work. He highlighted the philosophy under the Convention was not to require complete information at the Annex D stage so as not to preclude any party from submitting a nomination for listing.

Chair Arndt clarified that the POPRC was considering two different arguments against moving PCP to Annex E, explaining that some participants were uncertain about the “team” approach to degradation of PCP to PCA, and others were suggesting that other chemicals in the environment degrade to PCA.

Japan said that if every chemical is considered to meet Annex D screening criteria, there is no need for the annex, and reiterated his desire to defer a decision to POPRC-8. China, supported by Cambodia, questioned the need for urgent action on PCP/PCA.

Alaska Community Action on Toxics, speaking on behalf of the International POPs Elimination Network (IPEN), the Inuit Circumpolar Council, and the Pesticide Action Network (PAN), detailed the health impacts of PCP, underscored that actual PCP emissions are the only remaining unregulated source of PCP and PCA in the environment, and called for urgent consideration of the substance. Chair Arndt suggested that a Friends of the Chair group continue deliberations on the issue.

On Friday, Barra introduced a revised draft decision on PCP, its salts and esters, noting that the conclusion to the evaluation against Annex D criteria was bracketed. Barra also introduced a document containing additional information compiled by the Friends of the Chair group, highlighting the inclusion of a table summarizing a series of studies on the transformation of PCP to PCA in various conditions, some of which contradict the conclusion that PCP transforms to PCA. Barra explained that the Friends of the Chair had identified gaps in knowledge, and suggested that parties and stakeholders, including Japan and the EU, be invited to conduct studies on PCP in relevant environmental conditions and collect the information for review at POPRC-8.

Chair Arndt clarified that the POPRC would not take a formal decision at this meeting, and would instead agree to the proposed work programme and establish an intersessional working group to prepare the outcome of the work programme for consideration at POPRC-8.

Japan encouraged members and observers to contribute to the work programme and highlighted the need to discuss the conditions that should be used in experiments.

France highlighted the information already available, warned against building a mountain of experimental data, and stressed the need to focus on reaching a conclusion.

Final Outcome: POPRC agreed to postpone a decision until POPRC-8 and to establish an intersessional working group to implement a work programme (UNEP/POPS/POPRC.7/CRP.20) to determine the appropriate environmental conditions for studies of the transformation of PCP to PCA, to collect monitoring data on PCP and PCA, to prepare a report on this data and relevant studies conducted intersessionally by governments and others, and to reconsider all of the available information at POPRC-8.

TECHNICAL WORK IN RELATION TO CHEMICALS LISTED IN ANNEXES TO THE CONVENTION WITH EXEMPTIONS

ASSESSMENT OF ALTERNATIVES TO ENDOSULFAN:

On Tuesday, the Secretariat introduced the relevant documents, including a compilation of information related to alternatives to endosulfan (UNEP/POPS/POPRC.7/9, INF/11/Rev.1, INF/12 and INF/24). Chair Arndt introduced a conference room paper outlining his proposals on the methodology the POPRC might apply in assessing both chemical and non-chemical alternatives.

France underscored the need to limit the POPRC’s activity to the analysis of the POPs characteristics of alternatives and supported relying on other bodies like the UN Food and Agriculture Organization (FAO) for additional analyses. Argentina underscored the need to assess alternatives not only in light of their POPs characteristics but also to consider their socioeconomic effects, citing the example of their potential impact on honey bees. Chair Arndt agreed that the POPRC could assess POPs characteristics as well as other unwanted properties but underscored that individual countries would have to assess the local suitability of alternatives.

India asked how to assess alternatives in the absence of complete information on the 84 suggested alternatives. Chair Arndt explained modeling could be used in the absence of data.

Sharing his country’s experience in eliminating endosulfan in coffee production, Colombia suggested the FAO coordinate an examination of such success stories. Switzerland raised concerns regarding the feasibility of conducting risk assessments of all the proposed alternatives and suggested focusing on alternatives for the specific crop-pest complexes for which there are exemptions. Tanzania called on the FAO to assist countries in undertaking monitoring, including on the impact of alternatives on pollinators.

The FAO reported on work with countries and intergovernmental organizations (IGOs) to introduce sustainable and environmentally-sound plant protection strategies, including through sound ecosystem management and non-chemical pest management strategies, supplemented where necessary with low-hazard chemical pesticides. She noted that on request, a global or regional study on pest management solutions to replace current endosulfan uses could be undertaken if the necessary resources are provided.

The Czech Republic noted that the POPs Global Monitoring Plan (GMP) includes endosulfan, although there are limitations. The Committee created a Friends of the Chair group, led by Bettina Hitzfeld (Switzerland), to consider methodologies, prioritize alternatives, and offer options to address missing data. The Committee agreed that this group would also consider the preparatory work for the assessment of alternatives to DDT.

On Thursday, Hitzfeld introduced the draft decisions, explaining the group had finalized decision texts on alternatives to endosulfan and DDT. She explained that the draft decision on alternatives to endosulfan establishes an intersessional working group to assess the chemical alternatives to endosulfan and to check them against POPs criteria and other hazard criteria. She explained that this group would also assess and evaluate non-chemical alternatives to endosulfan. On DDT alternatives, she reported they would be assessed against POPs criteria and the same intersessional working group would carry out these three assessments for consideration at POPRC-8.

On Friday, the Secretariat introduced a revised draft decision on assessment of alternatives to endosulfan, highlighting two changes: one inviting the FAO to provide or undertake studies on integrated pest management solutions to replace existing uses of endosulfan; and the second inviting governments, IGOs and non-governmental organizations (NGOs) to provide technical and financial resources to support the Committee to employ a consultant. The POPRC adopted the decision without amendment.

Final Decision: In its decision (UNEP/POPS/POPRC.7/CRP.14/Rev.1), POPRC decides to: establish an *ad hoc* working group to review and identify information gaps on alternatives to endosulfan and to assess endosulfan alternatives; invite the FAO to provide or undertake studies of integrated pest management alternatives to endosulfan; and invite governments, IGOs and NGOs to provide technical and financial resources to support the Committee to employ a consultant to carry out the review of information and assessment of alternatives.

The Committee also requests the Secretariat to collect information from parties and observers to facilitate intersessional work, to facilitate access to information on endosulfan alternatives, and to provide guidance to strengthen the capacity of countries to implement alternatives. Annex I to the decision details the workplan for these activities, and Annexes II and III set out the terms of reference for intersessional work on chemical and non-chemical alternatives to endosulfan, respectively.

ASSESSMENT OF PFOS ALTERNATIVES IN OPEN APPLICATIONS: On Monday, the Secretariat introduced the documents (UNEP/POPS/POPRC.7/10 and INF/22), which detail potential terms of reference for a consultant to undertake an assessment of alternatives to PFOS in open applications for review at POPRC-8 as the Committee prepares recommendations for COP-6.

An observer from the US emphasized that his country supports the draft terms of reference but had over a page of observations and questions, including a number of recommendations for clarifications. Emphasizing that good questions need good answers, Chair Arndt formed a Friends of the Chair group, led by Samuel Banda (Zambia).

On Wednesday, Banda introduced the revised terms of reference for the technical paper, the revised format for collecting information, and the revised outline for the technical paper.

On the format for collecting information, Banda explained that the categories for types of use were expanded to allow for those uses included in the decision to list PFOS and any other uses of relevance for POPRC. He also highlighted an included

note specifying that PFOS in this context refers to PFOS, its salts and PFOSF. He reported that the Friends of the Chair agreed to collect information on the socio-economic costs of alternatives.

On the outline of the technical paper, Banda explained that it would provide for evaluation based on socio-economic considerations, in addition to technical feasibility, health and environmental effects, cost-effectiveness, efficacy, availability, and accessibility.

On the terms of reference, Banda underscored that the consultant will compile information on alternatives as submitted by parties and observers. He detailed the workplan for the preparation of the paper, including opportunities for submission of comments in time for consideration by POPRC-8.

On the definition of PFOS, Germany suggested using an OECD list of PFOS-related chemicals and/or a list compiled in an effort to provide national implementation plan (NIP) guidance for PFOS inventories. An observer from the US favored using the terminology from the listing decision, namely PFOS, its salts, and PFOSF.

An observer from Norway suggested amendments to the outline of the technical paper to include information on cases in which substitutes for PFOS have been used. Japan suggested including information on exposure, such as monitoring data and alternative chemicals.

Chair Arndt asked the Friends of the Chair to integrate these suggestions into the outline of the technical paper and asked the Secretariat, in cooperation with the observer from Norway, to draft decision text for the revised terms of reference for the technical paper.

On Thursday, Banda led members through the revised format for collection of information and a revised outline of the technical paper on the identification and assessment on alternatives to the use of PFOS in open applications. An observer from the US, supported by Switzerland, proposed to identify PFOS as including PFOS, its salts, PFOSF and PFOS-related chemicals. With that modification, the Committee approved the document including both the format for collection and the outline of the technical paper.

The Secretariat then introduced the draft decision on the assessment of alternatives to PFOS in open applications and the Committee adopted it without amendments.

Final Decision: In its final decision (UNEP/POPS/POPRC.7/CRP.10), the POPRC requests the Secretariat to use the revised questionnaire to collect information from parties and observers, and, subject to available resources, to commission a technical paper on the identification and assessment of alternatives to PFOS in open applications. The Committee also decides to establish an *ad hoc* working group to develop recommendations on the basis of the technical paper for consideration by COP-6. The POPRC invites parties in a position to do so to provide financial support for the implementation of these activities.

Annex I to the decision includes the terms of reference for the technical paper on the identification and assessment of alternatives to PFOS in open applications. Annex II details a workplan for the work to be carried out prior to POPRC-8.

GUIDANCE ON ALTERNATIVES TO PFOS AND ITS DERIVATIVES: On Monday, the Secretariat introduced the documents (UNEP/POPS/POPRC.7/11 and INF/13), explaining

that POPRC-6 had endorsed a revised guidance document on alternatives to PFOS and its derivatives, and that the Secretariat collected comments on the guidance document. Chair Arndt asked for guidance to address the information on alternatives to PFOS and its derivatives, noting the procedural implications for future inclusion of information on alternatives. The Secretariat asked for assistance in addressing substantive comments. The Committee agreed the Secretariat would integrate the information and highlight areas needing guidance for a Friends of the Chair group to review and determine further steps.

On Friday, the Secretariat introduced a draft decision on the issue, prepared in consultation with Samuel Banda (Zambia). Banda explained that the decision refers to an updated guidance document, which was revised during the course of POPRC-7, taking into account submitted comments. Chair Arndt reminded members of their earlier decision to task a consultant with assessing alternatives to PFOS in open applications, noting this implied the guidance will need to be examined at POPRC-8 in light of that new information.

The POPRC adopted the decision without amendment.

Final Decision: In the decision (UNEP/POPS/POPRC.7/CRP.18), the POPRC requests the Secretariat to widely disseminate the revised guidance document and invites parties and observers to submit to the Secretariat, by 31 July 2012, comments on the document, as well as experience in replacing PFOS and its derivatives. The Committee also decides to consider at POPRC-8 both the provided information and the possibility of revising the guidance document.

EVALUATION OF BROMINATED DIPHENYL ETHERS PURSUANT TO PARAGRAPH 2 OF PARTS IV AND V OF ANNEX A TO THE CONVENTION: On Monday, the Secretariat introduced the relevant document (UNEP/POPS/POPRC.7/12), explaining that the COP requested the Secretariat, with advice from relevant experts, to develop a process enabling the COP's evaluation of parties' progress in achieving the ultimate objective of eliminating BDEs contained in articles, and to review the continued need for this specific exemption. She also emphasized the question had implications for the POPRC's work programme on BDEs and PFOS (UNEP/POPS/POPRC.7/18).

France asked whether the "relevant experts" to be consulted included experts under the Basel Convention. Tanzania underscored that if countries cannot identify articles containing BDEs, it will be difficult to gather information and make progress. Colombia noted the need to address recycling of BDE residues in the context of the Basel Convention.

IPEN suggested that in collecting information parties be asked whether they know if BDEs are in their products and, if not, whether procedures are in place to find out if BDEs are present.

On Tuesday, the POPRC discussed how to make information on exemptions for BDEs related to recycling useful to the COP. Chair Arndt emphasized that POPRC expertise is in POPs, not recycling. He noted compiling information on national experiences would be useful, but said an assessment of the solutions may be difficult.

Thailand noted some countries already have NIPs that include recycling. Switzerland noted the Basel Convention has experience assessing recycling methodologies and approaches.

Jordan suggested providing guidance to help countries fill out the questionnaire and prepare their NIPs. Colombia called for the establishment of a coordination mechanism between the Stockholm and Basel Conventions to help countries conduct inventories of new POPs.

Joint Executive Secretary Willis highlighted a draft declaration prepared by Colombia for Basel Convention COP-10 and invited POPRC participants to comment on relevant issues such as recovery of wastes and materials from wastes.

India expressed support for guidance from the POPRC and the Secretariat on identification of POPs-containing waste.

An observer from Zambia suggested considering the ways in which regional centres are helping countries meet their obligations.

IPEN suggested attaching the original recommendations to the questionnaires to remind countries of the importance of the information, and also suggested asking a consultant to compile a document of case studies to provide success stories and solutions that could be replicated.

The Global Environment Facility (GEF) highlighted a provision to provide grants to all eligible countries that update their NIPs and noted that additional information is available on the GEF website. Egypt emphasized that the GEF can play a role in projects to identify new POPs and highlighted three GEF-financed projects in her country.

Chair Arndt established a Friends of the Chair group on the issue, chaired by Mohammed Khashashneh (Jordan).

On Wednesday, Khashashneh reported that the BDE exemptions Friends of the Chair group agreed to merge the two current questionnaires (on BDEs and PFOS) into one questionnaire to avoid duplication.

On Friday, Khashashneh introduced the draft decision, explaining it addresses the collection of information on progress made in eliminating listed BDEs and in reducing risk from PFOS and its derivatives. The POPRC adopted the decision with minor editorial amendments.

Final Decision: In the decision (UNEP/POPS/POPRC.7/CRP.19), the POPRC requests the Secretariat use the reporting format and explanatory note annexed to the decision to collect information from parties on progress made in eliminating BDEs from articles and on their experience in implementing the Committee's recommendations. The POPRC also requests the Secretariat to extract information on BDEs and on PFOS, its salts, and PFOSF and attach it to the questionnaire, and to compile the information obtained from parties for consideration by COP-6. The POPRC also decides to revise the draft process for evaluating BDEs in articles at POPRC-8, including possibly by incorporating the format for collecting information for the purpose of paragraph 2 of Parts IV and V of Annex A to the Convention in the format for reporting under Article 15 of the Convention.

PREPARATORY WORK FOR THE ASSESSMENT OF ALTERNATIVES TO DDT: On Tuesday, the Secretariat introduced documents on the preparatory work, background information, and possible actions on the assessment of alternatives to DDT (UNEP/POPS/POPRC.7/13 and INF/19), recalling that COP-6 will review alternatives to DDT for disease vector control. The Secretariat reviewed the mandate of the DDT

Expert Group established under the Stockholm Convention. The World Health Organization (WHO) confirmed that the POPRC's role is to assess whether the twelve alternatives listed exhibit POP characteristics.

Chad, Thailand and Zambia outlined their national experiences with malaria control using DDT and alternatives. India noted that initial information suggests that some of the alternatives might be POPs. An observer from Zambia noted a key issue is resistance to insecticides and stressed that alternatives must also be effective. An observer from the US supported the consideration of alternatives and encouraged the development of new technologies and strategies as alternatives to both DDT and pyrethroids. The Committee decided to task the Friends of the Chair group working on the assessment of alternatives to endosulfan, led by Bettina Hitzfeld (Switzerland), with consideration of DDT alternatives as well.

On Thursday, Hitzfeld introduced the draft decisions, explaining the group had finalized decision texts on alternatives to endosulfan and DDT. On DDT alternatives, she reported the intersessional working group established to assess alternatives to endosulfan would also assess DDT alternatives against POPs criteria, for consideration at POPRC-8.

On Friday, the Secretariat introduced a revised draft decision on assessment of alternatives to DDT, noting a change to clarify that the POPRC invites governments, IGOs, and NGOs to provide technical and financial resources to support the committee to employ a consultant to carry out the activities requested in paragraph 9 of Decision SC-5/6. The POPRC adopted the decision without amendment.

Final Decision: In its decision (UNEP/POPS/POPRC.7/CRP.16/Rev.1), the POPRC decides to: establish an *ad hoc* working group to assess the alternatives to DDT, request the Secretariat to facilitate access to information on alternatives to DDT, and invite governments, IGOs and NGOs to provide technical and financial resources to employ a consultant to carry out the assessment of alternatives to DDT.

OTHER TECHNICAL WORK

INTERSESSIONAL WORK ON SHORT-CHAINED CHLORINATED PARAFFINS: On Tuesday, the Secretariat introduced the documents on intersessional work on short-chained chlorinated paraffins (SCCPs) (UNEP/POPS/POPRC.7/14), including the compilation of comments on how to interpret the information specified in Annex E (UNEP/POPS/POPRC.7/INF/14).

Robert Chénier (Canada), Chair of the intersessional working group on SCCPs, outlined the POPRC's review of SCCPs since POPRC-2, noting that the current risk profile has brackets only in the conclusion, as the substantive information has been discussed repeatedly and there is general consensus about the data. Chénier explained that the group is now focusing on the risk profile, supporting documents, comments received intersessionally, and new information derived from the work on toxic interactions, as well as potentially considering the relationship between POPs and climate change.

Chair Arndt summarized the status of the review of SCCPs, and France expressed his belief that this discussion can be finalized at POPRC-8.

On Thursday, the Secretariat introduced the proposal for next steps on SCCPs. Chénier specified intersessional work will focus on adding information from the toxic interactions study regarding SCCPs and identify further information in remote and regional exposure scenarios to add to the current risk profile. Japan asked that information on the bioaccumulation and bioconcentration of SCCPs with a carbon number of 13 remain and data be provided. Chair Arndt reminded members that the SCCP risk profile will be reconsidered at POPRC-8.

Final Outcome: In the document UNEP/POPS/POPRC.7/CRP.12, the Committee adopts the proposal for SCCP intersessional work and agrees to annex the document to the meeting's report. The proposal asks *ad hoc* working group members to revise relevant parts of the draft risk profile on SCCPs to incorporate information on toxic interactions of chlorinated paraffins and to compile issues and principles to be applied in the interpretation of Annex E criteria at POPRC-8.

INTERSESSIONAL WORK ON TOXIC INTERACTIONS: On Tuesday, Ivan Holoubek (Czech Republic), Chair of the intersessional working group on toxic interactions, presented a summary of the intersessional work (UNEP/POPS/POPRC.7/15), including a discussion paper on toxic interactions (UNEP/POPS/POPRC.7/INF/17), and provided an overview of the two case studies prepared intersessionally, one on possible toxic interactions resulting from exposure to chlorinated paraffins (UNEP/POPS/POPRC.7/INF/15), and the second related to ecotoxicological issues on high volume POPs in environmental matrices on a long-range scale (UNEP/POPS/POPRC.7/INF/16).

Holoubek concentrated on the latter, which describes a preliminary assessment of the ecotoxicological risk for an Arctic food chain, and experimentally confirms the hypothesis that in remote areas far from emission sites, the distribution of POPs is relatively homogenous. Holoubek highlighted several possible conclusions to be drawn from the outcomes of the studies, including, *inter alia*: the types of additional information needed to assist the POPRC in its discussions of toxic interactions, the information on POPs interactions to be included in risk profiles, and the possible implications of interactive effects of POPs for application of the precautionary approach.

Marco Vighi (University of Milano-Bicocca), author of one of the studies, cited exposure data and the concentration additivity approach as strengths of the reports, but noted limited data on toxic effects. In response to some surprising findings, he proposed work to reconstruct historic trends on the mixtures' composition. France and Switzerland said the studies highlight the need to include interactions when applying Annex D criteria to new chemicals. Canada noted the need to include interactions among SCCPs, other chlorinated paraffins, and other POPs.

Colombia cited monitoring gaps on POPs. IPEN noted the report should acknowledge that non-linear exposure impacts and synergism do occur, despite uncertainties. An observer from Norway suggested that interactions should encourage members toward application of the precautionary principle at the risk profile stage. An observer from Sweden cited new information on air exposure pathways. WHO recommended that the POPRC use the guiding questions of the WHO Framework for Combined Exposures to prioritize which chemical interactions to study. An

observer from the US supported the strong analysis and urged greater synthesis before application in Annex D. Chair Arndt urged members to consider how to use the information and act on the results, rather than debate the reports.

The POPRC agreed to establish an intersessional working group, to be co-chaired by Holoubek and Francisca Katagira (Tanzania), tasked with drafting guidance to enable the POPRC to address those substances found with other POPs in biota in remote areas. Chair Arndt explained that the working group would look at toxic interactions conceptually, as well as specifically at the presence of chlorinated paraffins in biota, and would make the latter information available to the intersessional working group on SCCPs. Holoubek concurred, explaining that he would draft an overview of existing approaches, and asked if Robert Chénier (Canada), Chair of the intersessional working group on SCCPs, could direct the second task and extract the information relevant to the POPRC's decision-making process.

On Thursday, Holoubek introduced the draft decision on toxic interactions and the workplan for development of a draft approach to consideration of toxic interactions when evaluating proposed chemicals. Chair Arndt expressed concern that the timeline was unrealistic, and suggested 15 April 2012 be considered the final deadline. The POPRC accepted the decision as amended.

Final Decision: In the final decision (UNEP/POPS/POPRC.7/CRP.15), the POPRC decides to: establish an *ad hoc* working group to develop, according to the workplan annexed to the decision, a draft approach to consideration of toxicological interactions when evaluating chemicals proposed for listing; and to continue to provide technical input through the Secretariat to the framework to assess the risks of combined exposures to multiple chemicals prepared by the International Programme on Chemical Safety of the WHO.

DEBROMINATION OF BROMINATED FLAME RETARDANTS: On Wednesday, the Secretariat introduced the issue, recalling the Committee's previous considerations of the debromination of brominated flame retardants (UNEP/POPS/POPRC.7/16), and explained that Ian Rae (Australia), a former POPRC member, had been asked to prepare a paper on the question (UNEP/POPS/POPRC.7/INF/18).

Rae explained that the overarching question related to whether the debromination of decabromodiphenyl ether (decaBDE) was leading to quantities of concern for BDEs listed under the Convention: commercial pentabromodiphenyl ether (c-pentaBDE) and commercial octabromodiphenyl ether (c-octaBDE).

He noted his paper focused on recent research results. He said thermal processes can produce chlorine-bromine molecules, as well as dioxins and furans with bromine rather than chlorine substituents, noting this may be of concern where electronic waste is recovered in artisanal situations. Rae concluded that it is confirmed that there are multiple pathways for the debromination of BDEs, that debromination proceeds differently in different organisms, and that no significant accumulation of tetra- and penta-BDE has been reported.

France noted this report could be used should a party wish to nominate decaBDE, polybromodibenzodioxins or polybromodibenzofurans for consideration for listing under the

Convention. Canada noted that his country is moving toward regulatory action for the total elimination of decaBDE. IPEN suggested that because decaBDE can create substances listed in the Convention, the Committee might undertake work on risk management options for decaBDE as a means of addressing the unintentional production of listed BDEs.

On Friday, the Secretariat introduced a draft decision on the issue, prepared in consultation with Sylvain Bintein (France). Bintein explained the document reflects the discussions held earlier in the week. He noted it underscores that the information presented at POPRC-7 may be useful for parties in considering national, regional or international regulatory action on highly brominated diphenyl ethers or on polybromodibenzodioxins and polybromodibenzofurans. The Committee adopted the draft decision without amendment.

Final Decision: In the decision (UNEP/POPS/POPRC.7/CRP.17), the POPRC takes note of: the increasing number of studies related to the potential of highly brominated congeners to be reductively debrominated in the environment and to contribute to the formation of BDEs listed in Annex A of the Convention; and of the formation of polybromodibenzodioxins and polybromodibenzofurans during the incineration of wastes containing polybrominated diphenyl ether (PBDEs). The Committee decides that it should reconsider, if necessary, the implications of debromination of brominated flame retardants when additional relevant information becomes available, and requests the Secretariat to make the information available at COP-6 to ensure that it reaches as broad an audience as possible.

WORK IN COLLABORATION WITH OTHER SCIENTIFIC BODIES: Work with the Basel Convention: On Tuesday, the Secretariat recalled that the COP to the Stockholm Convention invited the COP to the Basel Convention to consider the involvement of POPRC members in their work relating to POPs waste, including to establish levels of destruction and irreversible transformation, define low POPs content, and update guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with POPs (UNEP/POPS/POPRC.7/17). The Basel Convention Secretariat presented ways in which POPRC members could participate in the Basel Convention's Open-Ended Working Group's small intersessional working group on technical guidelines on POPs waste.

Egypt noted that POPRC experts could also participate through coordination with their country's Basel Convention focal point. France sought additional information on the Basel Convention's expertise needs. Zambia noted Joint Executive Secretary Willis could facilitate the involvement of POPRC members in Basel Convention work. Colombia underscored the potential of online working groups.

An observer from the US said the review of existing guidelines is not an appropriate path forward as there is no new relevant science for consideration. Costa Rica, Germany and IPEN indicated their interest in taking part in such collaborative work, should financial resources allow.

Work with the Rotterdam Convention: The Secretariat reintroduced a document on collaboration with other scientific bodies (UNEP/POPS/POPRC.7/17) and introduced an outline on possible collaboration activities, prepared by the Chairs of POPRC and the Chemical Review Committee of the Rotterdam

Convention (UNEP/POPS/POPRC.7/INF/21). Chair Arndt clarified that the outline was prepared in a personal capacity, rather than in his role as POPRC Chair, and welcomed comments.

Implications of the study on climate change and POPs:

On Wednesday, the Secretariat introduced the documents on the implications of the study on climate change and POPs (UNEP/POPS/POPRC.7/7), explaining that COP-5 asked the POPRC to consider the possible implications of interlinkages between climate change and POPs for the Committee's work. Andrew Gilman, Sustainable Solutions International and consultant to the Secretariat, reviewed the discussion paper prepared intersessionally (UNEP/POPS/POPRC.7/INF/20), highlighting how climate change might be factored into the POPRC's assessment of Annexes D and E, as well as its recommendations for listing.

Canada called for the POPRC to be mindful of the great variations and range of impacts of phenomena associated with climate change in different regions, emphasizing the diversity of effects climate change may have on POPs in the environment.

IPEN emphasized that the remobilization of old POPs from stockpiles and environmental sinks and the likelihood of increased toxicity of some POPs as a result of climate change put pressure on the Committee to take a truly precautionary approach.

An observer from the US said it would have preferred a more scientific, transparent process in the development of the report. Finland asked if remobilization should be considered in work on effectiveness evaluation and the GMP, and the Czech Republic responded that this is included in updated guidelines to the GMP.

Egypt asked if the document could lead to recommendations for countries that are particularly affected by the interlinkages between climate change and POPs, like Egypt and Bangladesh.

An observer from Norway emphasized the importance of considering available information about issues such as temperature rises and changes in current systems in the POPRC's work at the Annex D and E stages.

China highlighted the value of the report, emphasizing that climate change may change the behavior of POPs and candidate POPs, and suggested that the POPRC keep this in mind when conducting reviews for Annexes D, E and F.

Zambia noted that regions face different challenges, citing drought in Africa as an example. Argentina noted the difficulties of assessing the implications of climate change for POPs criteria, particularly given differing time horizons between POPs degradation and climate change.

The Secretariat clarified the Technical Working Group for the GMP requested this study due to concerns over the evaluation of the efficacy of management activities, notably uncertainty as to whether monitored POPs increases are the result of new releases or of remobilization due to climate change.

Thailand noted extreme weather events could transport POPs to neighboring countries and recognized the mutual impacts between POPs and climate change. Chair Arndt also highlighted that the POPRC's activities could influence actions relevant to climate change, such as through its work related to insulation. The Committee agreed to form a contact group to discuss

whether, and how, to include climate change impacts in Annexes D and E. The contact group was chaired by Timo Seppälä (Finland) and Jianxin Hu (China).

On Thursday morning, Seppälä reported on the contact group's work, explaining there was a general consensus that guidance would be useful, and could take a practical view on the issue, by giving practical examples of elements that could have an impact on the review process. He said there was agreement that the preparation of this guidance should be transparent and participatory. He said the group prepared a draft workplan and draft decision that would set up an intersessional working group to prepare this guidance before POPRC-8. Chair Arndt suggested, and the committee agreed, that a Friends of the Chair group would prepare the outline that would serve as the basis for the guidance.

Later on Thursday, Seppälä introduced a draft decision on the issue, noting it proposes to establish an *ad hoc* working group that would focus its work on existing documents, notably the revised discussion paper (UNEP/POPS/POPRC.7/INF/20/Rev.1) and the report "Climate Change and POPs: Predicting the Impacts" prepared by an expert group presenting a collaboration between UNEP and the Arctic Council's Arctic Monitoring and Assessment Programme (AMAP). He detailed a proposed draft workplan that would make guidance available for POPRC-8. Chair Arndt asked that the Friends of the Chair group continue working on the issue. Seppälä also noted the guidance could include information relevant to Annex F. Chair Arndt suggested prioritizing decision-making in Annexes D and E, and possibly considering Annex F at a later date.

On Friday, Seppälä introduced a revised draft decision, noting the group agreed that a better understanding of the interaction of POPs and climate change is relevant to the POPRC's work, especially to the evaluation of chemicals under Annexes D and E. He reported the draft decision provides for an *ad hoc* working group to develop, subject to the availability of funds, guidance on how to consider the possible impact of climate change on POPRC's work. Regarding the workplan, Seppälä highlighted two important dates: 1 December 2011, the deadline for the annotated outline, and 28 August 2012, the deadline for the final version. He noted the second date means the report will miss the translation deadline for POPRC-8.

Chair Arndt proposed to orally amend the decision to clarify that the funds are to hire a consultant as a drafter. The POPRC adopted the decision as orally amended. Later on Friday after the decision had been adopted, Seppälä announced that Liselott Säll, an observer from Norway, had agreed to draft the guidance document in consultation with the working group.

Final Decision: In the final decision (UNEP/POPS/POPRC.7/CRP.13/Rev.1), the POPRC takes note of the paper on the implication of the study on climate change and POPs and concludes that a better understanding of the interlinkages between POPs and climate change is relevant for its work. The POPRC also decides to establish an *ad hoc* working group to develop guidance on how to consider the possible impact of climate change on its work, subject to the availability of funds for a consultant, and agrees that the working group should focus

its work on the study “Climate Change and POPs: Predicting the Impacts” and other relevant literature. The workplan for developing the guidance is annexed to the decision.

EFFECTIVE PARTICIPATION OF PARTIES IN THE POPRC’S WORK: On Tuesday, the Secretariat reviewed activities to encourage effective participation of parties in the POPRC (UNEP/POPS/POPRC.7/6). The Secretariat noted recent workshops with chemicals experts from the Rotterdam Convention as well as webinars to prepare for the POPRC. The Secretariat reminded members of upcoming webinars and asked for suggestions on how to improve effective participation.

Argentina proposed holding webinars on topics expected for upcoming POPRC meetings or regional meetings to share experiences. Zambia noted some regions face limited internet access and expensive telephone calls. Jordan cited its workshops to disseminate information and build capacity to participate.

On Thursday, the Secretariat introduced a draft decision on effective participation in the Committee’s work that directs the Secretariat to continue activities such as webinars and regional meetings (UNEP/POPS/POPRC.7/CRP.5).

Togo raised concerns that UNEP’s Chemical Information Exchange Network (CIEN), which provides regional servers for forty countries to share data, could face interruptions due to funding concerns. Joint Executive Secretary Willis suggested that CIEN could be discussed with the UNEP Chemicals Programme. Observers from Kenya and Sudan underlined that effective participation involves capacity building.

China suggested additional information from developing countries regarding use of candidate POPs would be useful, noting the POPRC’s current experience with HBCD.

Chair Arndt asked if the GEF supports work on candidate POPs. The GEF replied that, while they only support work on POPs agreed by the COP, it could be cost-effective to help countries collect information on candidate POPs as part of their NIP.

Nigeria, supported by Ghana and Tanzania, raised concerns that several developing countries use foreign laboratories for analysis. The Czech Republic noted consistency concerns if too many laboratories contribute to the GMP. Colombia suggested using regional centres for laboratory work. Chair Arndt reminded members that the COP is responsible for technical assistance matters.

Later on Thursday, the Secretariat introduced a revised draft decision incorporating these comments, including, *inter alia*, a note of the need for technical information from developing countries and a request to the COP to take appropriate capacity-building action, such as increasing laboratory capacity. The POPRC adopted the draft decision on Friday without amendment.

Final Decision: In the final decision (UNEP/POPS/POPRC.7/CRP.5/Rev.1), the POPRC invites the COP to take note of the lack of scientific and technical data on candidate POPs in the conditions experienced in developing countries, and to take appropriate action to enhance the capacity of those countries to identify and gain access to data on POPs by strengthening laboratory capacity, potentially through regional collaboration. The Committee also invites the Secretariat to continue its efforts to facilitate effective participation in the Committee’s work

subject to the availability of resources by, *inter alia*: enhancing stakeholders’ understanding of the Committee’s work, providing guidance on information sources available in the regions, raising awareness of issues posed by alternatives to new POPs, and enhancing the coordinated implementation of the Basel, Rotterdam and Stockholm Conventions at the national level by exploring opportunities and benefits of possible synergies.

In the decision, the POPRC also invites: the Secretariat to stress the critical importance of information on exposure under specific country circumstances when requesting information pertaining to Annexes E and F; regional centres and parties to develop strategies for collecting and providing information on candidate and newly-listed POPs as part of their NIPs; and parties and observers in a position to do so to contribute to the Committee’s work and to provide financial support for the implementation of activities in support of effective participation by parties in that work.

DATES AND VENUE OF THE COMMITTEE’S EIGHTH MEETING

On Wednesday, the POPRC agreed that POPRC-8 would be held from 15-19 October 2012 in Geneva, Switzerland.

CLOSURE OF THE MEETING

On Friday, Committee members reviewed the draft report of the meeting (UNEP/POPS/POPRC.7/L.1 and L.1/Add.1). The Committee adopted the report with minor amendments.

Chair Arndt thanked the outgoing members for their contributions to the POPRC’s success, and the Secretariat and Executive Secretaries for their hard work throughout the week. Chair Arndt also expressed his gratitude for members’ spirit of working together and progress at this meeting. He gavelled the meeting to a close at 1:06 pm.

A BRIEF ANALYSIS OF POPRC-7

The multidimensional, expansive agenda of the seventh meeting of the Persistent Organic Pollutants Review Committee (POPRC-7) challenged the POPRC to address a number of emerging concerns that stretch this technical body’s mandate and expertise. In addition to its “core work” of reviewing substances nominated for listing in the Stockholm Convention’s annexes, POPRC-7 tackled a number of issues that are increasingly interlinked with the work of other environmental conventions, from hazardous wastes to climate change. Many of these tasks have arisen from decisions of the Conference of Parties (COP) that ask the Committee to address the implications of its recommendations, including those to list “live” substances like DDT and endosulfan. While members and observers embraced their new responsibilities by establishing nine intersessional working groups to address these issues, this broad agenda raised questions about the suitability of the POPRC’s expertise to address these challenges, as well as concerns about how this expanding mandate may affect the Committee’s primary responsibility: the review of POPs candidates.

STRETCHING THE POPRC’S MANDATE

As its name implies, the POPs Review Committee was designated to review, according to Annexes D, E and F, those newly nominated substances that would ensure that the

Stockholm Convention remains an evolving treaty reflecting new and developing knowledge, and the Convention text calls for the government-designated POPRC members to be experts in chemical assessment or management. Nevertheless, the Convention text also allows for the broadening of its mandate, noting that the POPRC is to perform any functions assigned by the COP.

The COP's decision to ask the POPRC to review alternatives to listed chemicals for which some parties have registered exemptions was welcomed by many participants, some of which underscored that this task is directly related to the POPRC's core work of chemical review and can make use of the technical knowledge already within the Committee. They cited the importance of providing information to countries to help them move away from listed chemicals and to employ "safer" alternatives, including non-chemical approaches to pest management.

However, this task is not necessarily straightforward. Several members cited examples of alternatives adopted as a means of addressing one environmental concern, only to cause unexpected problems. For example, China explained that in phasing out halons for firefighting under the Montreal Protocol on the ozone layer, it transitioned to using PFOS, a substance which is now listed under the Stockholm Convention. This illustrates the potential for unforeseen interconnections among environmental regimes, and prompted some participants to caution against recommending alternatives before a full consideration of their potential impacts, some of which may be beyond the remit of POPRC.

In this respect, the possible limits of the Committee's expertise were illuminated as POPRC-7 prepared to assess the numerous chemical and non-chemical alternatives to endosulfan identified by parties and observers. While it was broadly agreed that the main limitation to assessing the POPs characteristics of the chemical alternatives was the sheer scope and magnitude of the work, a few observers expressed concern about the abilities of POPRC members to judge other hazard indicators, such as the potential impacts of alternatives on pollinators, without accounting for factors such as local conditions and applications. Furthermore, several participants questioned the suitability of the POPRC's expertise in assessing non-chemical alternatives to endosulfan, including the implementation of integrated pest management (IPM) approaches. In order to address some of these challenges and supplement the expertise available to the Committee, the POPRC requested the assistance of the FAO, which has been encouraged to share its experience with IPM solutions and successes.

Similarly, the POPRC looked to outside expertise when considering ways to assess parties' progress in eliminating brominated diphenyl ethers (BDEs) in the waste stream. In order to achieve agreement to list commercial pentabromodiphenyl ether (c-pentaBDE) and commercial octabromodiphenyl ether (c-octaBDE), COP-4 reached a compromise that allows for the environmentally sound recycling of articles that may contain these brominated flame retardants. The POPRC's expertise has been stretched as it examines the implications of this outcome, and at POPRC-6 members agreed to invite experts under the Basel Convention on hazardous wastes to include POPRC

members in work related to setting acceptable thresholds for low-POPs content in waste. This stems from the fact that identifying articles that contain BDEs is often a significant challenge for parties, and the compromise struck at COP-4 means that BDEs are not only entering the waste stream, but potentially being diluted and dispersed into new products containing recycled materials.

The parties to the Basel Convention have yet to respond to POPRC-6's invitation, as they are scheduled to meet the week following POPRC-7. However, even as the POPRC considered the possibility of cooperating with the Basel Convention's work on these issues, some participants questioned whether members' participation in this work makes best use of the POPRC's resources and expertise, citing the proliferation of complex matters already on the Committee's agenda.

INCREASING COMPLEXITY IN DECISION-MAKING

The potential difficulties posed by the expansion of the POPRC's mandate were encapsulated by one of the newest and most complicated issues on POPRC-7's agenda: the possible effects of climate change on POPs in the environment and, consequently, the implications of climate change for the POPRC's work to determine whether nominated chemicals meet the criteria for listing in the Stockholm Convention. Several participants observed that the magnitude of this task necessitates careful consideration of the boundaries of the POPRC's mandate, abilities and resources.

The challenges of this work were evident in the many different approaches stakeholders took to this question. Some participants raised concerns about the likelihood that climate change will remobilize POPs contained in stockpiles and environmental sinks, thereby causing widespread dispersal and increased exposure to these chemicals. Others, however, argued that the projected temperature increases are unlikely to be substantial enough to have such effects, and pointed to the uncertainty inherent in predicting the effects of climate change, and noted that the mechanisms that could lead to dispersal, such as wind currents, are likely to vary substantially across geographic regions.

Divergent views among participants about the possible implications of climate change for the POPRC's review of chemicals indicate that the first challenge for the POPRC will be to define clear boundaries for its work on this complex question. Several participants underscored the importance of confining work on climate change implications to the specific criteria for chemical review under Annex D and E and cautioned against engaging in discussions of broader climate science. POPRC-7's agreement on the intersessional work programme reflected these concerns, establishing the basis for a carefully-designed, participatory, transparent, science-based process for developing guidance on how climate change might affect the way in which the POPRC conducts its chemical reviews.

MEANWHILE, THE "CORE WORK" CONTINUES

While POPRC-7 laid the groundwork for addressing these new challenges, the Committee also engaged in its core work of chemical review, with three new candidates for review, nominated by the EU. POPRC members reached agreement relatively easily that hexachlorobutadiene and chlorinated

naphthalenes meet the screening criteria of Annex D (persistence, bioaccumulation, potential for long-range environmental transport, and adverse effects). In contrast, deliberations on the third candidate substance were more contentious, and the discussion brought to light three important, interrelated issues with broader implications for POPRC's approach to review: how to handle complexities related to chemical identity, the accessibility of the process, and the role of precaution in decision-making.

In making the case for listing this substance, the EU focused not just on PCP but also on pentachloroanisole (PCA), a substance that is both a bio-transformation product and a precursor of PCP. While the Committee agreed that PCA met all four of the screening criteria, a few members raised concerns that because PCP did not meet persistence and bioaccumulation criteria, the proposal should not move forward. Further, they questioned the extent to which PCP is responsible for PCA in the environment, underscoring that other substances can be transformed into PCA. In contrast, several members argued that the Convention requires consideration of transformation products in assessing the Annex D criteria, and said moving the proposal to the risk profile preparation stage would be the appropriate means of gathering information on the question of transformation.

Members drew parallels to similar challenges the POPRC has faced in clearly defining the chemical identity of what is being reviewed, and thus clearly delineating the scope of their work. Some noted that in previous cases, such as those of PFOS and endosulfan, chemical identity had not been finalized until later stages of review. Furthermore, some cautioned against introducing unnecessarily strict standards of evidence at the Annex D stage of review, recalling that the Annex D screening criteria had been deliberately drafted to be broad, thus ensuring that information requirements were not so stringent so as to preclude any party from nominating chemicals. This discussion also raised concerns about how the precautionary approach is implemented in the POPRC's work, with some warning that the Stockholm Convention's commitment to human health was being sacrificed in favor of unstated political and economic interests. Furthermore, environmental NGOs emphasized that PCP is found in air, water and soil throughout the world and argued for urgent action, underscoring that PCP is being detected in blood and tissue of Inuit and other populations, and that PCP emissions are the only remaining unregulated source of PCP and PCA in the environment.

In the end, the Committee agreed to make use of its in-house expertise and wait for the outcome of studies members offered to carry out intersessionally, a decision some viewed as an illustration of the POPRC sticking to its strengths. Throughout the week, members and observers often reiterated that the POPRC is, first and foremost, a scientific committee and participants repeatedly demonstrated their commitment to responding to the COP's requests for technical guidance. This is perhaps best exemplified by the extensive intersessional work that members and observers undertake, in addition to their already full workloads, including the conduct of additional studies and the drafting of extensive reviews to address the specific questions that come up in the context of the POPRC's

work. Some questioned whether such enthusiasm for additional work would exist in the absence of the cooperative, inclusive and collegial atmosphere that characterized this meeting. Many participants commented this positive spirit was reminiscent of the first meetings of the POPRC and were hopeful that it would carry forward in years to come, thus facilitating the continued effective, efficient work of the Committee.

UPCOMING MEETINGS

Basel Convention COP-10: The tenth meeting of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal will convene to discuss, *inter alia*: a new strategic framework; the outcomes of the Indonesian-Swiss country-led initiative (CLI) to improve the effectiveness of the Basel Convention; technical guidelines; environmentally sound dismantling of ships; capacity building; and the Basel Convention Partnership Programme. **dates:** 17-21 October 2011 **location:** Cartagena de Indias, Colombia **contact:** Basel Convention Secretariat **phone:** +41-22-917-8218 **fax:** +41-22-797-3454 **email:** sbc@unep.org **www:** <http://www.basel.int>

Third Session of the INC to Prepare a Global Legally Binding Instrument on Mercury: This meeting is scheduled to be the third of five Intergovernmental Negotiating Committee (INC) meetings to negotiate a legally binding instrument on mercury. **dates:** 31 October - 4 November 2011 **location:** Nairobi, Kenya **contact:** Mercury Programme, UNEP DTIE **phone:** +41-22-917-8192 **fax:** +41-22-797-3460 **email:** mercury.chemicals@unep.org **www:** <http://www.unep.org/hazardoussubstances/Mercury/Negotiations/INC3/tabid/3469/Default.aspx>

Third Meeting of Mercury Partnership Advisory Group: This meeting is expected to consider updated partnership areas business plans, an interim report on progress within the UN Environment Programme (UNEP) Global Mercury Partnership, and an independent evaluation of the artisanal and small scale gold mining partnership area. **dates:** 5-6 November 2011 **location:** Nairobi, Kenya **contact:** Mercury Programme, UNEP DTIE **phone:** +41-22-917-8192 **fax:** +41-22-797-3460 **email:** mercury@unep.org **www:** <http://new.unep.org/hazardoussubstances/PAGThirdMeeting/tabid/56156/Default.aspx>

OEWG for the International Conference on Chemicals Management: The first meeting of the Open-ended Working Group (OEWG) is scheduled to take place to consider the implementation, development and enhancement of the Strategic Approach to International Chemicals Management. The meeting will be preceded by technical briefings and regional groups meetings on 14 November 2011. **dates:** 15-18 November 2011 **location:** Belgrade, Serbia **contact:** SAICM Secretariat **phone:** +41-22-917-8532 **fax:** +41-22-797-3460 **email:** saicm@unep.org **www:** <http://www.saicm.org>

Capacity building for environmentally sound management of PCB oil and PCBs containing equipments: The training programme on capacity building for environmentally sound management of PCB oil and PCBs-containing equipments will target officials who are directly or indirectly involved in the handling and disposal of PCBs or PCBs-containing equipments.

The training programme is organized by the CSIR- National Environmental Engineering Research Institute (CSIR-NEERI), a Stockholm Convention regional centre for Asia. **dates:** 21-29 November 2011 **location:** Alang, Gurjarat, India **contact:** Stockholm Convention Regional Centre for Asia on POPs, India **phone:** +91-712-2249885-88 **fax:** +91-712-2249900 **email:** director@neeri.res.in **www:** <http://chm.pops.int/Secretariat/Meetings/tabid/331/mctl/ViewDetails/EventModID/1007/EventID/143/xmid/1181/mret/t/Default.aspx>

Joint 9th Meeting of the Vienna Convention COP and 23rd Montreal Protocol MOP: The 23rd session of the Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (MOP 23) and ninth meeting of the Conference of the Parties to the Vienna Convention for the Protection of the Ozone Layer (COP 9) are scheduled to take place in November. **dates:** 21-25 November 2011 **location:** Bali, Indonesia **contact:** Ozone Secretariat **phone:** +254-20-762-3851 **fax:** +254-20-762-4691 **email:** ozoneinfo@unep.org **www:** <http://montreal-protocol.org/>

Third Meeting of the Advisory Committee of the PCBs Elimination Network (PEN): PEN Advisory Committee Members will meet in France. **dates:** 23-25 November 2011 **location:** Lyon, France **contact:** Kei Ohno, Stockholm Secretariat **phone:** +41-22-917-8729 **fax:** +41-22-917-8098 **email:** kohno@pops.int **www:** <http://chm.pops.int/Implementation/PCBs/PCBsEliminationNetworkPEN/AdvisoryCommittee/tabid/664/Default.aspx>

Eighth Meeting of the Chemicals Review Committee: The next meeting of the Rotterdam Convention Chemicals Review Committee will take place in March 2012. **dates:** 18-23 March 2012 **location:** Geneva, Switzerland **contact:** Rotterdam Convention Secretariat **phone:** +41-22-917-8296 **fax:** +41-22-917-8082 **email:** pic@pic.int **www:** <http://www.pic.int/>

Rio+20 United Nations Conference on Sustainable Development: Rio+20 will focus on the themes of green economy in the context of sustainable development and poverty eradication and institutional framework for sustainable development. **dates:** 4-6 June 2012 **location:** Rio de Janeiro, Brazil **contact:** UNCSD Secretariat **email:** uncsd2012@un.org **www:** <http://www.uncsd2012.org/>

Fourth Session of the INC to Prepare a Global Legally Binding Instrument on Mercury: This meeting is scheduled to be the fourth of five Intergovernmental Negotiating Committee (INC) meetings to negotiate a legally binding instrument on mercury and is tentatively scheduled to take place in Uruguay. **dates:** 18-22 June 2012 **location:** Uruguay [tentative] **phone:** +41-22-917-8192 **fax:** +41-22-797-3460 **email:** mercury.chemicals@unep.org **www:** <http://www.unep.org/hazardoussubstances/Mercury/Negotiations/tabid/3320/Default.aspx>

Third Session of the International Conference on Chemicals Management (ICCM3): This meeting is expected to consider, *inter alia*: adding nanotechnology and hazardous substances within the lifecycle of electrical and electronic products to the SAICM Global Plan of Action (GPA); adding endocrine disruptors and persistent pharmaceutical pollutants to the emerging issues; and the future of financing SAICM

implementation after the expiration of the Quick Start Programme (QSP). **dates:** 15-20 July 2012 **location:** Geneva, Switzerland **contact:** SAICM Secretariat **phone:** +41-22-917-8532 **fax:** +41-22-797-3460 **email:** saicm@unep.org **www:** <http://www.saicm.org>

32nd International Symposium on Halogenated Persistent Organic Pollutants (POP's): The International Dioxin Symposium provides an open public forum for presentations of cutting edge scientific research on POPs across all disciplines, including analytical and environmental chemistry, molecular biology, human health, risk assessment and risk management. The International Dioxin Symposia have been held annually since 1980. **dates:** 26-31 August 2012 **location:** Cairns, Australia **contact:** MCI Australia **phone:** +61-7-3858-5507 **fax:** +61-7-3858-5499 **www:** <http://www.dioxin2012.org>

Eighth meeting of the Persistent Organic Pollutants Review Committee (POPRC-8): POPRC-8 will consider draft risk profiles for HCBd, CNs and SCCPs, and continue their consideration of PCP. They will also continue their work on newly listed POPs and prepare recommendations for COP-6. **dates:** 15-19 October 2012 **location:** Geneva, Switzerland **contact:** Stockholm Convention Secretariat **phone:** +41-22-917-8729 **fax:** +41-22-917-8098 **email:** scc@unep.ch **www:** <http://www.pops.int>

GLOSSARY

BDE	Brominated diphenyl ether
c-octaBDE	Commercial octabromodiphenyl ether
CNs	Chlorinated naphthalenes
COP	Conference of the Parties
c-pentaBDE	Commercial pentabromodiphenyl ether
EPS	Expanded polystyrene
FAO	UN Food and Agriculture Organization
GEF	Global Environment Facility
GMP	POPs Global Monitoring Plan
HBCD	Hexabromocyclododecane
HCBd	Hexachlorobutadiene
IPEN	International POPs Elimination Network
LRET	Long-range environmental transport
NIP	National implementation plan
PCA	Pentachloroanisole
PCP	Pentachlorophenol
PFOS	Perfluorooctane sulfonic acid
PFOSF	PFOS fluoride
POP	Persistent organic pollutant
POPRC	POPs Review Committee
RME	Risk management evaluation
SCCPs	Short-chained chlorinated paraffins
XPS	Extruded polystyrene
WHO	World Health Organization