



REPORT OF THE FIRST SESSION OF THE CRITERIA EXPERT GROUP FOR PERSISTENT ORGANIC POLLUTANTS: 26-30 OCTOBER 1998

The first session of the Criteria Expert Group (CEG-1) for persistent organic pollutants (POPs) was held from 26-30 October 1998 in Bangkok, Thailand. Over 100 delegates from approximately 50 countries met in Plenary to consider the programme of work of the CEG, including the development of science-based criteria for identifying additional POPs as candidates for future international action. Concurrently with discussions on criteria, delegates considered the development of a procedure for identifying additional POPs, including the information required at different stages of the procedure and what body would nominate, screen and evaluate a substance as a potential future POPs candidate. Several contact groups were also convened to discuss specific issues and report back to Plenary. The outcome of CEG-1 will be reported to the second session of the Intergovernmental Negotiating Committee for an International Legally Binding Instrument for Implementing International Action on Certain Persistent Organic Pollutants (INC-2) in January 1999, and the CEG will continue its work at its next session in the first half of 1999.

The CEG is an open-ended technical working group with a mandate to present to the INC proposals for science-based criteria and a procedure for identifying additional POPs as candidates for future international action. The process should incorporate criteria pertaining to persistence, bioaccumulation, toxicity and exposure in different regions and should take into account the potential for regional and global transport including dispersion mechanisms for the atmosphere and the hydrosphere, migratory species and the need to reflect possible influences of marine transport and tropical climates. This work is to be completed and submitted to the INC at or before its fourth session.

Having expected a relatively small meeting of around 40-60 experts, the Thai hosts of CEG-1 were not the only ones surprised when over 100 delegates arrived in Bangkok, forcing quick adjustments to the host government's reception on the first evening. Indeed, the high level of interest in the work of the CEG was clear evidence of the importance attached to its mandate of developing science-based criteria and a procedure for identifying additional POPs as candidates for the future international convention. The unexpected size of the group may have been a factor in the slow start of the proceedings, but by the end of five days the CEG had made substantial headway on both the question of criteria and the establishment of a procedure.

A BRIEF HISTORY OF THE POPS NEGOTIATIONS

Growth in the use of certain chemicals in industry and as pesticide increased dramatically during the 1960s and 1970s. Many of these chemicals are important to modern society but can also pose a serious threat to human health and the environment. In particular, a certain category of chemicals known as persistent organic pollutants (POPs) has recently attracted international attention. POPs are chemical substances that are persistent, bioaccumulate and pose a risk of causing adverse effects to human health and the environment. A growing body of scientific evidence indicates that exposure to very low doses of certain POPs – which are among the most toxic substances ever created – 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. With the further evidence of the long-range transport of these substances to regions where they have never been used or produced and the consequent threats they now pose to the environment worldwide, the international community has called for urgent global action to reduce and eliminate their release into the environment.

Prior to 1992, international action on chemicals primarily involved developing tools for risk assessment and conducting international assessments of priority chemicals. For example, in 1989 UNEP amended its London Guidelines for the Exchange of Information on Chemicals in International Trade and the FAO established the International Code of Conduct for the Distribution and Use of Pesticides.

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Agenda 21, adopted at the 1992 UN Conference on Environment and Development, included Chapter 19 on the "Environmentally Sound Management of Toxic Chemicals Including Prevention of Illegal International Traffic in Toxic and Dangerous Products," which called for the creation of an Intergovernmental Forum on Chemical Safety (IFCS). The Inter-Organization Programme on the Sound Management of Chemicals (IOMC) was also established to promote coordination among international organizations involved in implementing Chapter 19.

In March 1995, the UNEP Governing Council (GC) adopted Decision 18/32 and invited the IOMC, together with the International Programme on Chemical Safety (IPCS) and the IFCS, to initiate an assessment process regarding a list of 12 POPs, taking into account the circumstances of developing countries and countries with economies in transition. The assessments of the chemicals were to include available information on their chemistry, sources, toxicity, environmental dispersion and socio-economic impacts. The IFCS was further invited to develop recommendations and information on international action to be considered by the 1997 sessions of the UNEP GC and the World Health Assembly (WHA). In response to this invitation, UNEP convened an *Ad Hoc* Working Group on POPs that developed a work-plan for the assessment of these 12 substances, which was subsequently adopted by the second meeting of the Inter-Sessional Group (ISG-2) of the IFCS in March 1996, in Canberra, Australia.

The *Ad Hoc* Working Group reported to the IFCS meeting held in June 1996 in Manila, the Philippines. The meeting concluded that sufficient information existed to demonstrate that international action, including a global legally binding instrument, is required to minimize the risks from the 12 specified POPs through measures to reduce and/or eliminate their emissions and discharges. Consequently, IFCS recommended to the UNEP GC and the WHA that immediate international action be taken.

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, prepare for and convene an intergovernmental negotiating committee (INC) with a mandate to prepare, preferably by 2000, an international legally binding instrument for implementing international action beginning with the 12 specified POPs. The 12 POPs are grouped into three categories: 1) pesticide POPs: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex and toxaphene; 2) industrial chemical POPs: hexachlorobenzene and polychlorinated biphenyls (PCBs); and 3) POPs that are unintended byproducts: dioxins and furans. The first meeting of the INC was also requested to establish an expert group for the development of science-based criteria and a procedure for identifying additional POPs as candidates for future international action. Also in February 1997, the second meeting of the IFCS, held in Ottawa, Canada, decided that the IFCS *Ad Hoc* Working Group would continue to assist in the preparations for the negotiations. In May 1997, the WHA endorsed the recommendations of the IFCS and requested that the World Health Organization (WHO) participate actively in negotiations of the international instrument. The May 1998 meeting of the UNEP GC again highlighted the beginning of the UNEP POPs negotiations.

A number of recent meetings have also addressed issues related to the POPs INC agenda:

- In June 1995, Parties to the Barcelona Convention for the Protection of the Mediterranean Sea against Pollution agreed to the Barcelona Resolution, which aims to reduce by the year 2005 and to gradually eliminate discharges and emissions of substances that are toxic, persistent and liable to bioaccumulate and that could reach the marine environment.
- An "International Expert Meeting on Persistent Organic Pollutants: Towards Global Action," jointly organized by Canada and the Philippines, was held in Vancouver, Canada, in June 1995. The meeting concluded that domestic regulatory arrangements are

not adequate in managing the adverse global impacts of POPs and requested that a suitable international agency provide definitions, criteria and a comprehensive list of POPs.

- The Intergovernmental Conference to Adopt the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) took place in Washington, DC, in November 1995. Over 108 governments declared, *inter alia*, their support for the development of a legally binding instrument to reduce or eliminate the discharge, manufacture, and use of the 12 POPs.
- During 1997 and 1998, UNEP and the IFCS conducted eight regional and subregional joint awareness-raising workshops on the risks and global issues associated with POPs, particularly for developing countries and countries with economies in transition.
- In March 1998, representatives from 95 governments completed negotiations for an international legally binding Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC Convention). The PIC principle states that export of dangerous chemicals and pesticides should not proceed unless explicitly agreed upon by the importing country. The major aim is to promote a shared responsibility between exporting and importing countries in protecting human health and the environment from the harmful effects of certain hazardous chemicals being traded internationally. This Convention was adopted and opened for signature at a Diplomatic Conference held in Rotterdam, the Netherlands, in September 1998.
- The UN Economic Commission for Europe (UN/ECE) recently concluded negotiations for a Protocol to the Convention on Long-Range Transboundary Air Pollution (LRTAP) regarding 16 POPs. On 24 June 1998, 32 countries and the European Community signed the Protocol, which aims to control, reduce or eliminate discharges, emissions and losses of POPs. The Protocol: bans the production and use of some products outright (aldrin, chlordane, chlordecone, dieldrin, endrin, hexabromobiphenyl, mirex, toxaphene); schedules others for elimination at a later stage (DDT, heptachlor, hexachlorobenzene, PCBs); and severely restricts the use of DDT, HCH (including lindane), and PCBs. It also obliges countries to reduce their emissions of dioxins, furans, PAHs and HCB below their 1990 levels and provides for best available techniques to cut emissions of these POPs.

INC-1: The first session of the INC (INC-1) for an international legally binding instrument for implementing international action on certain POPs was held from 29 June – 3 July 1998 in Montreal, Canada. Delegates from 92 countries agreed on rules of procedure, elected bureau members and considered the programme of work for the INC as well as possible elements that might be included in an international legally binding instrument. The INC also established the Criteria Expert Group (CEG), as well as a subsidiary body to examine implementation aspects of a future instrument, including issues related to technical and financial assistance. Based on the discussions at INC-1 and written comments, the Secretariat was asked to prepare for INC-2 a document for discussion containing material for possible inclusion in an international legally binding instrument.

REPORT OF CEG-1

Fatoumata Jallow Ndoye (The Gambia), Co-Chair of the CEG, opened CEG-1 on Monday, 26 October 1998. She thanked the Government of the Kingdom of Thailand for hosting the meeting and the United States for assisting in the funding of the meeting.

Suwit Khunkitti, Minister of Science, Technology and Environment of Thailand, welcomed the delegates to Thailand and said that Thailand gave high priority to the problem of chemical hazards. He highlighted the growing use of chemicals and noted that they are often used irresponsibly and without understanding the dangers, and that there is also a lack of systematic controls during chemical import,



production, transport, sale, use, storage and disposal. He also highlighted: Thailand's 20-year national plan that sets out policy for management of these substances; Thailand's cooperation with UNEP in convening a regional workshop; and Chapter 19 of Agenda 21 on "Environmentally Sound Management of Toxic Chemicals Including Prevention of Illegal International Traffic in Toxic and Dangerous Products."

Suvit Yodmany, Director of the UNEP Regional Office for Asia and the Pacific, stressed the difficulty of the task ahead and the importance of taking into account the different characteristics, uses and sources of the substances on the initial list of 12 POPs. He emphasized the complexity of the problem of POPs and the importance of the output of the CEG for the negotiations in the INC.

ORGANIZATIONAL MATTERS

During the opening Plenary, Co-Chair Jallow Ndoye reminded delegates of the CEG's mandate, terms of reference and objectives, as well as the need to work expeditiously in light of the large task ahead. She also outlined the categories and characteristics of POPs, their impacts, growing international concern, and potential solutions including alternatives, voluntary programmes and legislation. She stressed that the task of the CEG is to complete its work before INC-4, and emphasized the moral duty to protect and preserve the universe and prosperity from harmful POPs. The agenda for the meeting, as contained in UNEP/POPS/INC/CEG/1/1 and amended by the Bureau, was then adopted by the Plenary.

Delegates had before them two documents prepared by the Secretariat on the consideration and development of science-based criteria and a procedure for identifying additional POPs as candidates for future international action (UNEP/POPS/INC/CEG/1/2 and UNEP/POPS/INC.1/6). Also available were a number of conference room papers (CRPs) on the positions of various delegations on the development of criteria and a procedure for identifying additional POPs.

Co-Chair Jallow Ndoye announced that although Luis Fernando Soares de Assis (Brazil) had been elected Rapporteur for the CEG at INC-1, he was now unable to fulfil that role. The Plenary agreed that Jarapong Boon Long (Thailand) would be the new Rapporteur for the CEG. Reiner Arndt (Germany) served as Co-Chair for the CEG.

Deliberations on the development of criteria and a procedure for identifying additional POPs as candidates for future international action began on Monday, 26 October, in Plenary. The Plenary heard opening statements from delegations and considered, *inter alia*, the programme of work for the CEG and possible elements of science-based criteria and a procedure for identifying additional POPs. Several contact groups were convened to discuss specific issues and report back to Plenary. The following summarizes the various issues discussed during the week.

OPENING STATEMENTS

On Monday, 26 October, delegates in Plenary heard opening statements from governments, intergovernmental organizations (IGOs) and non-governmental organizations (NGOs). Many delegates expressed their appreciation to UNEP and the Secretariat as well as to the Government of the Kingdom of Thailand for hosting the first session.

Bo Wahlström (UNEP Chemicals) presented a Secretariat document on the consideration of possible criteria for identifying further POPs as candidates for international action (UNEP/POPS/INC.1/6). He noted that the information in this document was based on submissions to UNEP from a number of countries as well as IGOs and NGOs. Factors such as volatility, persistence, bioaccumulation, toxicity and long-range transport were highlighted by many of the submissions, and other factors that were mentioned included measurements of chemicals in remote regions, bioavailability, climatic factors, dispersion mechanisms and patterns of use. He noted, however, that scientific uncertainty and a lack of data might complicate the application of such criteria.

FRANCE identified three steps for identifying further POPs, as contained in document UNEP/POPS/INC/CEG/1/CRP.1. First, substances should be screened using the criteria of presence or persistence in the environment and toxicity to man or the environment. Second, substances should then be prioritized using the criteria of toxicity, ecotoxicity, persistence, bioaccumulation and information from monitoring data. Third, there should be a risk assessment of the substance to identify unacceptable levels in the environment. Following the risk assessment, those substances that are considered to be a risk will be considered as POPs and subject to international risk management.

GERMANY highlighted that UN/ECE Decision 1998/2 regarding the procedure for adding substances to the LRTAP POPs Protocol and the properties of the 12 POPs that are to be included in the POPs convention were important starting points for identifying further POPs, as contained in document UNEP/POPS/INC/CEG/1/CRP.2. He suggested that there could also be a precautionary aspect to the criteria that will be established, but that migratory species are unlikely to be a significant source of long-range transport. He proposed the use of a step-by-step procedure that begins with a screening phase.

AUSTRALIA noted that decisions on criteria would depend on how the criteria were to be applied and stressed that the procedure for identifying POPs was important (UNEP/POPS/INC/CEG/1/CRP.5). He suggested that the process should be open and transparent and rely on a scientific base. He also proposed a three-step process consisting of a nomination stage, an evaluation stage and a response stage. Nominations for chemicals to be included should only come from Parties and the decision to consider a chemical as a POP should include socio-economic, climatic, health, political and trade considerations.

SOUTH AFRICA noted that the soil in southern Africa is different and may retain some chemicals for longer periods. This can lead to contamination of run-off in rivers and therefore transportation in water is an important criteria. SWEDEN noted that while the criteria for pesticides in Sweden have been very specific, flexibility is also an important element. He highlighted the basis of the new Swedish chemicals policy that persistent and bioaccumulative organic substances always represent a potential threat to human health and the environment. SWEDEN also presented a paper on behalf of the Nordic Project Group on the criteria for the selection of persistent, bioaccumulative and toxic substances (UNEP/POPS/INC/CEG/1/CRP.3). He highlighted the existence of their database of about 17,000 hazardous substances that are used in Nordic countries that includes data on physical-chemical properties, toxicity, bioaccumulation and biodegradability.

INDIA stressed that not all countries have the resources to produce data with regards to POPs and that the CEG should recommend to the INC that funds be made available so that the required data can be generated in the various regions of the world. He noted that socio-economic considerations are important but should not override scientific data. The RUSSIAN FEDERATION noted that they had much experience with POPs, and highlighted their rigid system of criteria for pesticides. He emphasized that the CEG must classify substances clearly and that the initial 12 POPs that are to be regulated are not a major concern for them since they have been nationally regulated since the 1970s. ICELAND noted that establishing criteria was very important because it would determine if the convention would be confined to the 12 listed POPs or if it would be dynamic and include other substances. He noted that future developments should be taken into account and that while strict numeric values are important, there must also be flexibility. Both field measurements and intrinsic characteristics are important.

The UKRAINE outlined its intent to offer criteria, such as acceptable daily intake (ADI), that expand on conventional criteria and referred to the importance of transport from water or soil to plants. He also suggested including risk assessment criteria in the future (UNEP/POPS/INC/CEG/CRP.18).



The US supported developing a deliberative, transparent procedure and criteria enabling thorough evaluation and identification of pollutants that pose significant adverse health and environmental risks from exposures occurring as a result of long-range environmental transport (UNEP/POPS/INC/CEG/1/CRP.9). He stressed that transport and deposition patterns of a pollutant should be of sufficient scale to warrant global action. On procedure, the US envisioned a four-step process: nomination (with sufficient supporting information); initial screening; detailed evaluation (by a subsidiary to the COP considering risks from long-range environmental transport and other considerations); and referral to the COP. JAPAN proposed a flow-chart defining a specific science-based screening procedure for POPs based on long-range transport, persistence, bioaccumulation and toxicity (UNEP/POPS/INC/CEG/1/CRP.8). Technical information was also presented showing the specific chemical properties and relationships of various POPs.

The WORLD METEOROLOGICAL ORGANIZATION (WMO) presented the results of a 1996 UN/ECE workshop on heavy metals and POPs that was held in order to improve knowledge on physical-chemical properties of these substances, including information on emissions and modelling (UNEP/POPS/INC/CEG/1/CRP.11). UNEP, on behalf of the UN/ECE, presented a paper on the requirements for information to be submitted and the procedure for adding substances to the LRTAP POPs Protocol (UNEP/POPS/INC/CEG/1/CRP.10). In this procedure, Parties must submit a risk profile that demonstrates long-range transboundary atmospheric transport, toxicity, persistence and bioaccumulation when proposing to add new substances to the Protocol. The proposal must also contain available information on production, uses and emissions of the substance that is proposed for regulation and information related to alternative substances, such as socio-economic factors.

GREENPEACE INTERNATIONAL highlighted the importance of a convention that focuses on the elimination of POPs and benefits many countries through improvements in capacity. He noted that there were many more than 12 POPs of global concern and that there should be a presumption that the process created by the CEG would be approved by Parties and not held up by political considerations. Criteria should be flexible and based on the precautionary principle.

The INTERNATIONAL COUNCIL OF CHEMICAL ASSOCIATIONS (ICCA) outlined the principles that should be considered in the final criteria and process, as contained in document UNEP/POPS/INC/CEG/1/CRP.4. She suggested that the process: be practical and based on sound science; involve a prioritization of a manageable number of substances; build on what has already been done; and understand and respect all positions. She offered the expertise of industry in contributing to the discussions of the CEG and the assessment of specific chemicals.

DEVELOPMENT OF SCIENCE-BASED CRITERIA

On Monday, 26 October, delegates began consideration of the CEG's work programme on the development of science-based criteria for identifying additional POPs as candidates for future international action, including: transport in air, water and migratory species; persistence; bioaccumulation; and socio-economic considerations. Concurrently, delegates considered the development of a procedure for identifying additional POPs, including the information required at different stages of a procedure and which bodies would nominate, screen and evaluate a substance as a potential future candidate.

Bo Wahlström (UNEP Chemicals) presented a Secretariat document on the development of science-based criteria and a procedure for identifying additional POPs as candidates for future international action (UNEP/POPS/INC/CEG/1/2) and stressed that the document was designed to facilitate discussion and not to prescribe solutions. He suggested that criteria should be open and transparent, based on sound science and widely understandable. He stressed the factors that should be considered, including transport of POPs in multiple media (air,

water and migratory species) and noted progress already made with measurements and models. He highlighted the relevance of policy and political goals and the options specified in the document, and further emphasized issues such as integration of monitoring data, linking long-range transport with toxicity and bioaccumulation, and possible use of a decision tree.

LONG-RANGE TRANSPORT, PERSISTENCE, BIOACCUMULATION, AND REASONS FOR CONCERN: Regarding long-range transport by migratory species, ICELAND highlighted the presence of PCBs and DDT in Iceland despite the chemicals never being used there. He noted the transport role of migratory birds by reference to the discovery of chemicals in falcons due to their predation on seabirds. CANADA, supported by the US, stressed the impacts of POPs on aboriginal peoples in the north that consume migratory species and, identifying specific evidence of POPs concentrations in human tissues directly attributable to consumption of bird eggs, said migrating species were a vehicle for threatening remote regions.

The RUSSIA FEDERATION asked Co-Chair Arndt to formulate a view on the meaning of criteria versus indicators. Co-Chair Arndt responded there was a need to distinguish between data, qualities of data and values for identifying POPs, but that the process will determine when these labels are to be used. The US noted that migratory species are relevant in a qualitative sense but are not a major source of long distance POPs.

Hydrospheric Transport: On long-range transport in water (hydrospheric transport), GERMANY suggested that transport is much slower in water than in air, but that the quantities may be significantly higher. ICELAND said there is evidence of these substances showing hydrospheric transport but that data in this area is scarce. NEW ZEALAND noted that studies on this had been done and data exists regarding oceanographic transfer. CAMEROON said his country was at the junction of major ocean currents, and emphasized the important socio-economic role played by mangroves and the potential for deposition of POPs.

On Tuesday, 27 October, delegates in Plenary continued discussion regarding the criteria of long-range transport. Regarding hydrospheric transport, the NETHERLANDS highlighted the issue of regional problems with respect to marine environments and suggested that while regional problems should be dealt with in that region, there are cases where these problems, such as discharges from a river that travels to the North Sea, may require international consideration. CHINA noted that while they had prohibited DDT in 1983, a Chinese survey of Tibetan rivers showed the presence of organochlorine pollution in remote highland areas and that rainfall is an important dispersion mechanism for organochlorines that may enter rivers and soils. SOUTH AFRICA noted that the direction of currents and heavy river flow in Africa may lead to pollution outflow, but that detailed information about this was lacking. Co-Chair Arndt suggested that some substances may travel through the atmosphere and hydrosphere, whereas others may travel primarily through the hydrosphere. He asked for data or chemical properties that would help explain hydrospheric transport.

FINLAND, supported by CANADA, ICELAND, GERMANY and the US, suggested that persistence was a key factor in determining the physical-chemical properties for long-range hydrospheric transport. She also noted that degradation was a slower process in colder waters. Several delegations, including GERMANY and GREENPEACE INTERNATIONAL, also highlighted consideration of persistence in sediment, as well as in the water column.

FRANCE highlighted the case of tributyl tin (TBT), used in anti-fouling paint on boat hulls, and suggested that sediment and shipping should also be important considerations. ICELAND and the US preferred that the issue of TBT be discussed at a later date and that the work of the International Maritime Organization (IMO) regarding controls on this substance should be taken into account. ICELAND agreed to prepare a discussion paper on TBT for the CEG.



Some delegations, including ICELAND, GREENPEACE INTERNATIONAL and INDONESIA, suggested that the three transport mechanisms of air, water and migratory species should be considered together because substances can move in more than one medium. Others, such as the US and the RUSSIAN FEDERATION, preferred that the transport mechanisms be considered individually first, and then similarities could be found.

Atmospheric Transport: Regarding long-range transport through the atmosphere, CANADA supported flexible use of criteria so that substances are added to the convention in a scientifically intelligent and defensible way. FRANCE supported the idea of flexibility and said it did not want to exclude substances with vapour pressure higher than 1000 Pascals (a measurement of pressure) and therefore favored either non-exclusive or no vapour pressure criteria. DENMARK supported the use of well-known volatility criteria in a flexible way and taking account of other relevant criteria.

Measured Values for Criteria: Delegates also discussed measured values for criteria. JAPAN, supported by COLOMBIA, stressed that detection of substances far from their sources should be accorded priority over chemical characteristics such as vapour pressure and persistence such that detection should in itself lead to further consideration of the substance. DENMARK highlighted the inherent shortcomings of using monitoring data but nonetheless considered it to be an important tool. GREENPEACE INTERNATIONAL stressed the limitations of monitoring data where problems are unidentified and the need for predicted criteria about newly introduced products currently in low production. CANADA, supporting GREENPEACE INTERNATIONAL, highlighted the need to use both predicted and detected criteria rather than choosing between them. JAPAN noted its support for the use of both approaches and the ICCA also supported both approaches where available, but highlighted the primacy of measurement over estimation.

Supporting the general consensus, SOUTH AFRICA stressed that local conditions vary considerably and that a POP in one area may not be one in another. The WMO stressed the need for national data to demonstrate different conditions and highlighted the usefulness of local, regional and global scale modelling. NEW ZEALAND said that if new high volume chemicals persist and bioaccumulate, then modelling may provide information as to long-range transport. On monitoring in remote areas to look at atmospheric transportation, he said studies have been done showing movements of various substances. GREENPEACE INTERNATIONAL stressed the need to look at the use of criteria and monitoring in an evolving sense and use a learning approach. The ICCA stressed the different approaches needed for existing chemicals and for new chemicals.

What Qualifies a POP? On identifying what qualifies a chemical as a POP, GREENPEACE INTERNATIONAL said if a substance is persistent, bioaccumulates and can be found at a distance in biota, then there is a presumption of a problem, the accuracy of which can then be verified. He said that inquiries must extend beyond documented individual injuries in a species to include much wider and more subtle effects across a population as a whole. In such circumstances, he said, proving damage definitively is very difficult so the burden of proof is also to demonstrate absence of harm. The ICCA supported a secondary step of assessment after problems had been identified and said despite the potential complexity of toxicology in remote regions it needs to be considered. The WORLD CHLORINE COUNCIL stressed differentiating between presence of and exposure to chemicals.

If there are low environmental concentrations of a substance, FRANCE proposed examination of its chronic environmental and health effects, although acute toxic data could be used to create a risk profile. The WORLD WILDLIFE FUND (WWF) stressed that knowledge is not complete on the effects of chemicals and there is a need to think of the interactive effects of low-level exposure when looking at toxicity. On toxicity, AUSTRIA stressed exercising care since there is no clear definition and he highlighted the need to bear in mind the

precautionary principle and consider toxicity with flexibility. INDIA said availability of data on toxicity has to be wide-ranging and stressed the need for data on endangered species in particular regions. The UKRAINE said that toxicological data will determine the prioritization of POPs. JAPAN, noting that most toxicological data is based on temperate zone experiments and not polar or tropical, said toxicity is connected with the procedural issue and that without toxicity data we may encounter nominations for inclusion of a substance when there are no effects.

Persistence: On Wednesday, 28 October, delegates discussed in more detail the criteria of persistence, bioaccumulation and long-range transport. FRANCE said that they did not want to see the three criteria linked and proposed delegates using the criteria in LRTAP Executive Body Decision 1998/2 (UNEP/POPS/INC/CEG/1/CRP.10) as a starting point for discussions. Acting on the proposal, Co-Chair Arndt called on delegates to first consider the criteria of persistence.

CANADA supported the LRTAP criteria as being useful for consideration. NEW ZEALAND stressed that these values should be considered only as guideline values and, supported by the US, called for consideration of a synthesis of the country presentations on criteria presented during the opening statements. ICELAND stressed high variations in persistence and, supported by SOUTH AFRICA, agreed the criteria should be treated as indicative. The UKRAINE underscored the need to consider gradations of persistence in different elements such as air and soil, while the RUSSIAN FEDERATION stressed taking account of the full range of persistence factors.

To facilitate discussion, the US presented a summary of criteria values for long-range transport, persistence, bioaccumulation and toxicity used in various programmes, such as NAFTA, LRTAP and the International Joint Commission. GREENPEACE INTERNATIONAL asked for clarification from the US on whether there were internationally accepted standards for measuring "half-life" (the time it takes for half the substance to disappear). The US said that the values are indicative and for guidance only. SOUTH AFRICA asked if there is some distance measurement for "remote measurement" and the US said "remote" tends to be undefined. CAMEROON stressed the regional scope of the LRTAP Convention and that its values should be treated as indicative. Agreeing that criteria should be indicative, the US supported flexible application of persistence criteria encompassing both quantitative and qualitative elements. The UKRAINE stressed considering data in different climatic zones while there is no international protocol on persistence. COLOMBIA highlighted the environmental hazards of long-lasting pesticides that do not in fact bioaccumulate. GREENPEACE INTERNATIONAL, highlighting the difficulty in determining "half-life," called for a single definition or a range of acceptable definitions and underscored the importance of meaningful values to achieve a flexible, durable document that can accommodate a learning process.

Delegates in Plenary then discussed the criteria of bioaccumulation. JAPAN suggested a level of 5000 as the bioaccumulation or bioconcentration factor, but that the log Kow value (an indication of solubility in water or fat) should be 4. The ICCA asked if these levels were to be guidelines or set levels. JAPAN further noted that the OECD Chemicals Committee meets next month and will discuss this issue and that other criteria, such as serious pollution in remote regions, might be relevant if bioaccumulation levels are low. Co-Chair Arndt added that some delegates had suggested that a lower bioaccumulation level could be chosen if a higher toxicity level is chosen.

Criteria for Long-Range Transport: Turning to the criteria of potential for long-range transport, delegates started discussions based on the values used in the LRTAP POPs Protocol under Decision 1998/2. These levels are evidence that the substance has a vapour pressure below 1,000 Pascals (a measurement of pressure) and an atmospheric half-life greater than two days, or monitoring data showing that the substance is found in remote regions. FINLAND noted that the LRTAP POPs criteria only considers air transport whereas the CEG is



mandated to consider other transport methods. CANADA agreed, but also highlighted that information on monitoring, which may show the presence of a substance that arrived by air or water or migration, is also relevant.

Co-Chair Arndt asked where the information about a POP would come from. The EUROPEAN COMMISSION (EC) noted that it held substantial information on the production and use of chemicals and that industries are required to submit information about chemicals that are produced in a volume in excess of 1,000 tonnes. He said the EC has data on 2,500 high-volume production chemicals and offered to make this information available to the CEG. The US also noted that it holds substantial information about chemicals and suggested that those countries with data could cooperate to make the information available to the CEG. FINLAND reminded delegates that there are still data gaps about some chemicals. The EUROPEAN CHEMICAL INDUSTRY COUNCIL (CEFIC) highlighted the ability of industry to assist in determining values on criteria and helping with data gaps. Co-Chair Arndt then asked a contact group, chaired by Dudley Achu Sama (Cameroon) and Andrew Gilman (Canada), to discuss criteria values and other issues related to criteria.

Tributyl Tin (TBT): On Thursday, 29 October, delegates in Plenary returned to the discussion on TBT based on a paper prepared by Iceland (UNEP/POPS/INC/CEG/1/CRP.16), which outlines the effects, persistency, transport mechanisms and existing regulations on this persistent pollutant. The document proposes that the CEG ask the INC to request further information about intended actions by the IMO before consideration is given to whether TBT and similar compounds should be addressed by the convention.

Co-Chair Jallow Ndoye noted that pollution from ships is the responsibility of the IMO and that dispersion of TBT is by ships and not by any of the environmental dispersion mechanisms (air, water, migratory species) that are under consideration by the CEG. JAPAN noted that its studies on organic tin compounds indicated that TBT had a high bioconcentration factor. FINLAND, supported by the US, supported the proposal to consult the IMO. CHINA and INDIA noted they would like to undertake national consultations regarding the use of TBT in their countries, given their ship-building industries.

FRANCE asked if shipping or transport should be included as a criteria for long-range transport. Co-Chair Arndt responded the definition of criteria should not be discussed under this topic because the decision required here is simply whether or not to make an information request of the IMO. The CEG agreed to return to this question at a later date after information had been received from the IMO.

Report of the Contact Group on Criteria: On Thursday afternoon, the Plenary discussed the results of the contact group on criteria, as contained in UNEP/POPS/INC/CEG/1/CRP.15/Rev.3. The Co-Chair of the contact group, Dudley Achu Sama, reported that the previous draft of this document had been a skeleton to which more specific guidance had been added. The document proposes that four criteria be used when nominating a substance.

- First, persistence as evidenced by values of a substance's half-life: greater than either [two] or [six] months in water; or greater than six months in soil; or greater than six months in sediment.
- Second, bioaccumulation evidenced by: a bioconcentration (BCF) or bioaccumulation (BAF) factor in aquatic species greater than 5,000; or, in the absence of that data, a log Kow value greater than 4 or 5; or reasons for concern such as high toxicity or ecotoxicity if the BCF or BAF is significantly lower than 5,000; or monitoring data in biota indicating a bioaccumulation potential.
- Third, the potential for long-range transport as measured by: levels of potential concern in locations distant from the sources of the substance; or monitoring data that shows that long-range transport may have occurred via air, water or migratory species; or information (such as environmental fate properties) that demonstrates the potential for long-range transport.
- Fourth, reasons for concern about a substance, such as evidence of

toxicity or ecotoxicity data that indicates a potential for damage to human health and the environment.

The document also notes that additional information about a substance should be provided to the extent possible. Then, at the screening stage, the nomination information should be reviewed in a flexible and integrative fashion to determine whether the substance warrants further evaluation (evaluation stage) by the Parties for inclusion in the convention.

FINLAND asked what methods would be used to measure half-life values for persistence. Contact group Co-Chair Andrew Gilman responded that there are some existing methods that may provide guidelines, such as those used by the OECD, but noted this will need clarification by the CEG. After minor editing, the Plenary agreed to continue deliberation on these criteria at CEG-2.

Delegates then considered a second conference room paper prepared by the criteria contact group on other issues related to criteria, in particular the analysis of data availability and the issue of new chemicals (UNEP/POPS/INC/CEG/1/CRP.21). The analysis of data availability refers to the availability of test data relevant to POPs criteria for the purpose of preparing nominations or more detailed evaluations of substances. The paper notes that several delegations, including the EC, the US, Sweden, Norway, Finland, Germany, Denmark and Japan, expressed interest in determining the availability of such test data on substances, starting with high production volume chemicals and pesticides, and providing this evaluation of data availability to CEG-2.

A number of other delegations indicated their desire to participate in this process, and INDIA, ICELAND, SOUTH AFRICA, BRAZIL and the ICCA were added to the list. The US agreed to lead the process and said that given time constraints, any data contributions should be searchable by Chemicals Abstract Service (CAS) number.

Delegates next discussed the issue of new chemicals. The contact group paper notes that the CEG has identified the potential development and introduction of new substances that may exhibit POPs characteristics and that the INC may wish to develop a provision to address this. As described, the provision would seek to encourage countries to include, within their national or regional chemicals regulatory and assessment schemes for new substances, criteria and processes that would provide protection against health and environmental risks arising from long-range environmental transport of substances, or their associated by-products, that exhibit the characteristics of POPs. The Plenary agreed to these provisions and agreed to continue the discussion regarding these other issues related to criteria at CEG-2.

Co-Chair Arndt proposed that the CEG consider producing some working definitions to assist the INC, in particular a definition of a POP. AUSTRALIA suggested that clarification could also be useful with respect to "organic" and the NETHERLANDS proposed that "regional impact" also be more clearly defined. However, delegates agreed it was premature to produce definitions and deferred the matter for future consideration.

SOCIO-ECONOMIC CONSIDERATIONS: On Tuesday, 27 October, delegates in Plenary began consideration of the socio-economic factors related to criteria. Co-Chair Jallow Ndoye noted that the IFCS had stressed the importance of socio-economic factors when considering regulating new POPs. These factors include costs of alternatives, climatic conditions and impact on trade. COLOMBIA, supported by CUBA, stressed that developing countries may have POP substances but not the means to reduce them. CUBA and CHINA said there should be consideration of the different levels of development in different parts of the world. Several delegations, including KENYA, SOUTH AFRICA and CÔTE D'IVOIRE, highlighted the economic impact of disposing of obsolete pesticides, with KENYA further emphasizing that any information on chemicals that is held by manufacturers should be available to users.



A number of delegations such as CAMEROON, EL SALVADOR, CHAD and SOUTH AFRICA also highlighted the costs of alternatives to certain chemicals that may be regulated, including that they might not be as effective as the original substance in protecting human health. CHAD said it would be helpful to engage in local awareness-raising activities about the hazards of certain chemicals.

AUSTRALIA asked for information regarding the types of risk management options that are used in developing countries, and the Secretariat responded that some of this information would be available from the UNEP regional POPs awareness-raising workshops that have been held. The INDIAN CHEMICAL MANUFACTURERS ASSOCIATION noted that DDT is still in use for malaria control in India and highlighted the establishment of the Multilateral Fund of the Montreal Protocol that assisted developing countries with ozone-friendly substances and technology. Supported by CÔTE D'IVOIRE, he proposed such a fund be established for POPs. KENYA highlighted accountability and transparency, noting that many substances banned in industrialized countries enter developing countries through the subsidiaries of companies based in industrialized countries. He said that companies in all countries should be accountable for what they produce.

On Wednesday, 28 October, delegates in Plenary resumed consideration of the socio-economic aspects of regulating POPs. Many delegations, including THAILAND, the RUSSIAN FEDERATION, CUBA, CHINA, IRAN, CAMEROON, INDIA, ZIMBABWE, INDONESIA and the INDUSTRIAL TECHNOLOGY INSTITUTE (Sri Lanka), described their experience with the use of POPs, in particular agricultural pesticides and the use of chemicals such as DDT for malaria control. Several developing country delegations also outlined their legislative history with respect to POPs and identified areas of concern, such as the cost of alternatives and the import of hazardous chemicals, while others outlined their efforts to reduce the risk from the list of 12 POPs initially to be controlled. Co-Chair Jallow Ndoye then proposed that a contact group, chaired by Henk Bouwman (South Africa), draw up a list of indicative socio-economic factors for consideration in establishment of criteria and procedure.

Report of the Contact Group on Socio-Economic Considerations: On Thursday, 29 October, the CEG considered a draft report from the contact group on socio-economic considerations (UNEP/POPS/INC/CEG/1/CRP.20/Rev.1). The document provides that evaluation should be undertaken regarding control measures (which could encompass the full range of options, including management and elimination) for proposed POPs substances and for this purpose relevant information should be provided on socio-economic considerations associated with control measures to enable decision by the COP. The information should reflect due regard for differing capabilities and conditions among Parties and include consideration of: efficacy and efficiency of control measures in meeting risk reduction goals, including their technical feasibility and cost; alternative products and processes, including their cost, efficacy, risk and availability; positive or negative impacts (or both) of a number of different aspects on society of implementing control measures; and waste and disposal implications.

Regarding the five listed positive or negative impacts of implementing control measures (health control, agriculture, biota, trade and economy), FINLAND proposed substituting public health for health control and food production for agriculture, but AUSTRALIA cautioned that this could exclude relevant factors. The Plenary agreed to reference health as "*inter alia*, public, environmental and occupational health" and agriculture as "*inter alia*, aquaculture and forestry."

Delegates agreed that trade and economy, both bracketed by the contact group, were legitimate factors for consideration, but several delegations, including the NETHERLANDS, the US and the EC, expressed concern over the contextual meaning and scope of these terms. A subsequent proposal by the contact group to subsume trade and economy within a reference to "sustainable development," as

reflected in the Rio Declaration, was objected to by several delegations, including SRI LANKA, CAMEROON and INDIA, as being too broad. Delegates accepted the terms "economic aspects" and "movement to sustainable development."

On waste and disposal implications, CAMEROON, supported by ICELAND, called for inclusion of a specific reference to obsolete stocks of pesticides. The Plenary agreed. The agreed text regarding information on socio-economic considerations is contained in Annex III to the report of CEG-1 (UNEP/POPS/INC/CEG/1/L.3).

DEVELOPMENT OF A PROCEDURE FOR IDENTIFYING ADDITIONAL POPS AS CANDIDATES FOR FUTURE INTERNATIONAL ACTION

On Tuesday, 27 October, delegates began discussion on the establishment of a procedure for identifying additional POPs as candidates for future international action. Bo Wahlström (UNEP Chemicals) introduced the Secretariat discussion paper that outlines two possible procedures for identifying additional POPs as candidates for future international action (Annex of UNEP/POPS/INC/CEG/1/2). Under option one, Parties nominate a chemical for possible inclusion in the convention, which is then reviewed by a subsidiary, and the COP determines whether to add the chemical. Under option two, a permanent subsidiary body reviews and nominates a chemical for possible inclusion and the COP determines whether to add the chemical.

A number of delegations, including AUSTRALIA, the US, SWITZERLAND, CUBA and the NETHERLANDS, preferred that nominations for new POPs come from Parties. Other delegations, such as FIJI, CÔTE D'IVOIRE, CHAD and ANTIGUA AND BARBUDA favored the second option of establishing a subsidiary body that would nominate new POPs, as developing country Parties may not have the capacity to identify new POPs. The RUSSIAN FEDERATION and UKRAINE suggested that both Parties and a subsidiary body could nominate new POPs.

INFORMATION REQUIREMENTS FOR A PROCEDURE:

On Tuesday, 27 October, Co-Chair Arndt noted to delegates that they would need to determine what information would be required in a nomination stage, as well as in a screening or in-depth analysis stage of a procedure for identifying additional POPs. FRANCE suggested that a prioritization stage take place between the nomination and the screening stage and that a certain number of substances should be nominated before they are screened.

CANADA, supported by several delegations including AUSTRALIA, ICELAND and CHILE, suggested that the information required when nominating a chemical should not be too onerous, as no country should be at a disadvantage in its ability to nominate a substance. CANADA also outlined the procedure used in NAFTA for nominating chemicals for regulation, which is that the information be contained in 5-10 pages and include specific information such as the chemical name and structure, information on persistence, toxicity, transportability and bioaccumulation, as well as the inclusion of a risk assessment document if one exists. He also noted that the LRTAP POPs Protocol provides that other information, such as quantities being used, amounts detected in various areas and socio-economic considerations, may be included "as available." ICELAND suggested that the later screening stage should look at and require more detailed information.

The US noted there should be enough information in the nomination to allow for an informed decision as to whether further consideration of a substance was necessary. This additional information could include the regulatory status of the chemical, its PIC status, control options and information on alternatives. He suggested the goal is to do as good a job as possible in the nomination phase so that if further resources are required, they will be allocated appropriately.

With respect to the information required in an in-depth assessment of a nominated chemical, the ICCA noted that all of the attributes of a substance must be considered in this stage and that there must also be



information that clearly indicates that the substance is of global concern. The ICCA further suggested that global exposure data could be used to confirm the substance is of global concern. FINLAND, supported by CANADA, cautioned that the in-depth assessment must not be too complicated and that a global risk assessment would be a difficult task. The NETHERLANDS said that evidence of a substance in one remote area is enough to consider the substance to be of global concern, while CANADA added that most of the substances that will likely be considered for inclusion in the convention would already have completed risk assessments. A subsidiary body conducting an in-depth assessment would not conduct a risk assessment but would review existing information to ensure that international regulation is warranted. INDIA noted that some existing assessments were quite old and could need revision. He suggested that existing assessments may not represent a balanced view of all the regions of the world. GREENPEACE INTERNATIONAL requested that NGOs as well as governments make submissions to the assessment process. Co-Chair Arndt established a contact group, chaired by Ian Coleman (Australia), to discuss the information requirements of the nomination stage, the screening stage and the in-depth assessment stage of a possible procedure.

Report of the Contact Group on Information Requirements:

On Wednesday, 28 October, delegates considered the contact group's report on information requirements for the nomination, screening and evaluation stages of a possible procedure (UNEP/POPS/INC/CEG/1/CRP.15/Rev.2). For the nomination and screening stage, the contact group suggested that a nomination provide sufficient information to enable a determination of whether the substance warrants consideration by the Parties for inclusion in the convention. The information need not be exhaustive and must include: substance identity, persistence, bioaccumulation, potential for long-range transport and reasons for concern (such as toxicity). Additional information should also be provided to the extent possible and, if it is decided that Parties shall nominate substances, then they may draw on technical expertise from any source. The purpose of the evaluation stage is to determine whether the substance is likely to lead to significant adverse human health and/or environmental effects as a result of its long-range environmental transport such that global action is warranted. For this purpose a risk profile and relevant socio-economic information should be developed that further elaborates on and evaluates the information provided in a proposal at the nomination stage and also includes, *inter alia*: sources; hazard assessment for endpoint(s) of concern; environmental fate; monitoring data; information regarding exposure; any national or regional control actions taken; national, regional and international risk evaluations, assessments or profiles; and PIC status. The report states that information considered to be relevant at subsequent stages was available information on control actions taken, alternatives, and any other risk management information.

Co-Chair Arndt stressed that the report of the contact group was a draft document that may be refined at the next CEG meeting. On substance identity information to be provided at the nomination/screening stage, the RUSSIAN FEDERATION stressed that the included items should encompass synonyms and JAPAN stressed the importance of isomers. The substance identity provision was therefore revised to include "name (trade names(s), commercial name(s) and synonyms, CAS number, IUPAC name, as appropriate) and structure, including specification of isomers, where applicable (or the structure of the chemical class)." Regarding information on reasons for concern to be provided at the nomination/screening stage, JAPAN called for reference to ecotoxicity as well as toxicity and the provision was redrafted to include "a statement(s) relating to toxicity and ecotoxicity and, where available, levels detected, environmental damage and substance transformation in the environment." For the nomination/screening stage information requirements, the RUSSIAN FEDERATION called for specific reference to aerosol density and dispersion. Contact group participants thought this could be captured under the

general items of potential for long-range transport and reasons for concern. Co-Chair Arndt said the issue could be reviewed at a later time. The RUSSIAN FEDERATION also stressed consideration of chronic toxicity. Co-Chair Arndt said the report of the meeting would record that toxicity and ecotoxicity encompass reference to chronic and acute toxicity.

On the list of items for inclusion in the risk profile at the evaluation stage, several delegations sought clarification on the meaning of "environmental fate" and, after clarification from the US, this reference was revised as "information on how the chemical and physical properties of the substance are linked to its transport and transfer within and between environmental compartments and its transformation to other substances." Exposure information was also clarified in the report as being "information regarding exposure, both in local areas and particularly as a result of long-range transport, and including information regarding bioavailability." After incorporating the above comments, document UNEP/POPS/INC/CEG/1/CRP.15/Rev.2 was used as the basis and framework for the work of the contact group on criteria which was then presented to the Plenary on Thursday, 29 October (UNEP/POPS/INC/CEG/1/CRP.15/Rev. 3).

NOMINATION OF A SUBSTANCE: On Thursday, 29 October, delegates considered the different options regarding the nomination of a substance to be included in the procedure for adding POPs to a future international legally binding instrument. Co-Chair Jallow Ndoye suggested the CEG discuss the advantages and disadvantages of both Party-based nomination and subsidiary body or standing committee-based nomination, and she stressed that the position of those Parties who might not be able to undertake nominations should be considered.

AUSTRALIA, supported by the US, reiterated that Parties should be responsible for the nomination of substances. FIJI noted that a decision on which nomination procedure to use is difficult until it is known what detailed information is required for the nomination and screening stages. CHINA generally supported a Party-based nomination and suggested that the Secretariat would screen a nomination. FINLAND noted that a standing committee would be able to help countries identify potential POPs candidates, while AUSTRALIA suggested that other countries could assist developing countries with identifying substances of concern. ICELAND proposed that an *ad hoc* group be established to assist a Party to compile the required information in order to submit a nomination.

The US envisioned a standing committee that is an intergovernmental body of experts that would review nominations and determine whether a more thorough evaluation should take place. He added that once a chemical is in the evaluation stage, risk evaluation and risk management options should be considered. The NETHERLANDS stressed that any country with a severe concern about a substance should be able to nominate it for inclusion in the convention, but that the convention itself will likely include language about providing assistance to countries in undertaking a nomination.

ZIMBABWE reiterated the main concern of developing countries that they do not have the resources to compile the minimum required information for nomination of a substance and proposed Party-based nomination if assistance was available for gathering the required information. JAPAN highlighted that they had many scientific reports about chemicals that might assist countries in compiling a nomination. Co-Chair Jallow Ndoye then asked a contact group, chaired by Trigg Talley (US), to consider elements that could be included in a procedure and report back to Plenary with recommendations.

Report of the Contact Group on Procedure: On Friday, 30 October, delegates in Plenary considered the report of the contact group on procedure (UNEP/POPS/INC/CEG/1/CRP.23). Ian Coleman (Australia) presented the report of the contact group and noted that guidelines had been developed in order to assist future discussions on this issue. The suggested principles to be followed in the development of a procedure were: scientific and technical robustness; openness and transparency; accountability; balance (including equitable geographic



representation and the possibility for participation of NGOs and IGOs); and administrative efficiency. Elements of a draft procedure for adding a substance were listed beginning with the idea that Parties are responsible for nomination. Parties not able to undertake a complete nomination are to be assisted by other Parties, the Secretariat, as well as IGOs and NGOs. Other elements of a possible procedure, such as screening of the nomination by a technical group or the Secretariat, risk evaluation of the chemical by a technical group and final decision by the COP, were also outlined.

FIJI, supported by ANTIGUA AND BARBUDA, CÔTE D'IVOIRE, CHAD and ZIMBABWE, agreed with the proposal on Party nomination but noted that the provision for assistance to be provided in preparing a nomination would need to be made explicit. Co-Chair Jallow Ndoye proposed the Secretariat draft explicit language about the provision for assistance to Parties in preparing a nomination. Co-Chair Arndt asked if this assistance would apply simply to accessing existing information and what would happen if new information was required. The US highlighted the ongoing OECD efforts regarding the generation of basic screening data such as basic toxicity, bioaccumulation, physical-chemical properties and health effects. He suggested the generation of this information will assist the convention in the provision of a wide range of basic data.

FINLAND stressed that the principle of administrative efficiency was very important and that the procedure envisioned here might be somewhat complicated, which would mean the procedure could be overly time consuming. She also expressed concern about the requirement for a "full" risk evaluation. AUSTRALIA responded that the word "full" was simply to reflect the fact that any risk evaluation undertaken as part of the procedure should be comprehensive or focused, not that it was to be overly complex. Supported by ANTIGUA AND BARBUDA and ZIMBABWE, he proposed the language of the text be redrafted by the Secretariat for the next meeting. GREENPEACE INTERNATIONAL noted that the draft procedure outlined in this document was illustrative rather than conclusive and the final language would likely be more streamlined and efficient. Delegates agreed that discussion about this item would continue at their next meeting.

CLOSING PLENARY

On Friday, 30 October, Co-Chair Jallow Ndoye convened the final Plenary of CEG-1 and introduced the draft work plan for the CEG (UNEP/POPS/INC/CEG/1/CRP.22). The draft work plan outlines the tasks required of the CEG regarding establishment of criteria and a procedure, and notes that the CEG will meet between sessions of the INC. The tentative schedule is for CEG-2 to be held in April or May 1999 and for the final meeting, CEG-3, to be held in November or December 1999. The US, supported by AUSTRALIA, asked if it would be useful to schedule CEG-3 immediately preceding INC-4 rather than somewhat in advance so that CEG experts could also attend the INC that would consider the completed work of the CEG. Co-Chair Arndt noted that at INC-1 it was agreed there needs to be enough time for the results of CEG meetings to be prepared and distributed to INC participants and to those who were not present at the CEG meetings. The Secretariat noted that translation and distribution of documents could be done if the meetings were held back to back. THE GAMBIA noted that some countries might not be able to send experts to a two-week meeting. ICELAND noted that CEG-3 would be "fine tuning" but that the decision with respect to meeting times would be for the INC. It was agreed that the discussion on the draft work plan would be reflected in the final report of the meeting.

Co-Chair Arndt then invited comments on the draft report of the meeting (UNEP/POPS/INC/CEG/1/L.1 and UNEP/POPS/INC/CEG/1/L.1/Add.1) and highlighted that the brevity of the document was because much of the detail on the outcomes of work would be in the Annexes to the report. The RUSSIAN FEDERATION stressed the need for information centers and focal points on POPs and suggested

the Secretariat assist in this regard. The Secretariat referred to the UNEP POPs World Wide Web site and said it would be pleased to distribute the information it has.

On a reference to the discussion about whether contamination due to river transport should be considered and whether a substance that could be transported by a river to the ocean and then into currents should be considered global, the NETHERLANDS, supported by SOUTH AFRICA and DENMARK, proposed adding text stating that if the same problem were to occur in more than one region, then it might be considered as global. AUSTRALIA stressed that this view was not unanimous and did not support the proposal. The US proposed inserting a statement into the meeting report noting that countries disagreed on this point and this was accepted by the Plenary.

Co-Chair Arndt then thanked the Secretariat, the Bureau and the delegates for their hard work and especially the Government of the Kingdom of Thailand for acting as generous hosts. On behalf of the Government of Thailand, Rapporteur Jarapong Boon Long adjourned the meeting at 12:30 pm.

A BRIEF ANALYSIS OF CEG-1

Having expected a relatively small meeting of around 40-60 experts, the Thai hosts of CEG-1 were not the only ones surprised when over 100 delegates arrived in Bangkok, forcing quick adjustments to the host government's reception on the first evening. Indeed, the high level of interest in the work of the CEG was clear evidence of the importance attached to its mandate of developing science-based criteria and a procedure for identifying additional POPs candidates for the future international convention. The unexpected size of the group may have been a factor in the slow start of the proceedings, but by the end of five days the CEG had made substantial headway on both the question of criteria and the establishment of a procedure.

THE CRITERIA FOR A SUCCESSFUL MEETING: Despite the unexpectedly large size of the CEG, many delegates were impressed with what had been achieved after only one meeting. In particular, the convening of contact groups on the key issues seemed to accelerate the work of what was seen by some as a surprisingly diverse group of delegates for a body that was labelled as an "expert group." In addition to the scientists who were expected to attend were a considerable number of delegates with policy backgrounds. Nevertheless, after only one meeting there was an impressive list of accomplishments and one observer noted that if this momentum was carried into CEG-2, the work of the Group may be finished well before the assigned deadline of INC-4.

First, delegates agreed to the method of initiating a possible procedure, that Parties would nominate substances for consideration, and a thorough presentation of options for the evolution of the rest of the process was also outlined. Importantly, developing countries that were concerned they might not have the capability to forward a nomination for a chemical about which they had concerns were accepting of the proposal that they could be provided assistance from other Parties, the Secretariat, IGOs and NGOs.

Second, regarding many of the important criteria, such as persistence, bioaccumulation and long-range transport, there was wide agreement about basic values to be used. As one delegate said, the values would be generally acceptable to all but those with the most extreme views. However, as is often the case, preliminary agreement on broad principles may encounter greater differences of opinion once there are concrete and specific proposals on the table.

Third, an item of particular concern to developing countries — the consideration of socio-economic factors — was discussed at length in Bangkok. An often-highlighted concern was the cost and efficacy of alternatives to POPs like DDT for the protection of populations against malaria. Once again, while more detail on how to address these types of concerns will be necessary at future meetings, there was little of the "great divide" that often exists between North and



South in international environmental meetings. This continued spirit of cooperation will be necessary as the CEG starts to narrow down its initial parameters for criteria and a procedure.

PROCEDURAL HICCUPS: Notwithstanding CEG-1's favorable start, there were several "hiccups" during the week that were not the result of spicy green curry. The previously mentioned diversity of the CEG members, as well as a mandate that is more complex than it appears on the surface, resulted in sometimes long silences in the meeting after one of the Co-Chairs initiated discussion on a particular topic.

Indeed, the diversity of the Group was mentioned by at least some delegates as reason for concern in that there were surprisingly few scientists in attendance and delegates with policy backgrounds are unlikely to be able to contribute to the debates on criteria. This situation highlights an element of complexity in the mandate of the CEG in that while the establishment of criteria may be mostly "scientific," the establishment of a procedure (that is, who will decide what at the different stages of the process), as well as the overall substance of the POPs negotiations, have important policy and political implications. The interdependence of criteria and procedure, and the challenges this presents to the CEG in achieving its mandate, became more evident as the week went on and a number of delegates expressed satisfaction over the interdisciplinary synergy evident during the week.

A second concern highlighted by some delegates was the lack of data on some of the criteria and the question of how the CEG will deal with this in the future. Moreover, determining exact values for some criteria may not always be possible. With respect to existing data, several delegates expressed concern that if data about a particular substance was obtained through tests in one climatic region, then the resulting data might not be applicable in other climatic regions where chemicals may react differently. Specifically, one delegate noted that much of the data on persistence was from the more northern and southern parts of the world, whereas there was little data from equatorial regions.

Many developing countries also highlighted that they were more concerned about identifying problems related to the initial 12 POPs, and obtaining assistance in managing them, than with adding new POPs to a convention. As one delegate stressed, it is the developing countries that often experience the real impacts of POPs.

BANGKOK, NAIROBI AND BEYOND: The next meeting of the INC, which will be held at UNEP Headquarters in Nairobi, will consider the report of the results of CEG-1. If the INC is as confident in the efficiency and capability of the CEG as many of its members, the INC may well assign to it additional tasks such as establishing a definition of a "POP" or the determination of how to differentiate regional POPs from global POPs. The intersessional work to be done by the CEG Bureau and the Secretariat on fine tuning the language regarding the criteria set out in Bangkok and on creating a clear and not too complex procedure to be followed once a substance has been nominated for consideration as a POP, will also be crucial to maintaining the momentum established at CEG-1.

For the moment, however, the focus of the POPs negotiations will swing back to the work of the INC on drafting the broader elements of a convention. At INC-2, CEG members will discover how their initial efforts are received and whether they are mandated with any new tasks for CEG-2. Ultimately, the work of the CEG in developing criteria and a procedure for additional POPs is crucial to determining the scope of the convention and its effectiveness in regulating harmful chemicals beyond the "dirty dozen."

THINGS TO LOOK FOR

PERSISTENT ORGANIC POLLUTANTS: The second session of the Persistent Organic Pollutants (POPs) Intergovernmental Negotiating Committee (INC-2) will take place from 25-29 January 1999 in Nairobi. The second meeting of the CEG is tentatively scheduled for April or May 1999, at a location to be determined. For more information contact: UNEP Chemicals (IRPTC); tel: +41 (22) 979-9190; fax: +41 (22) 797-3460; e-mail: dogden@unep.ch; bow@unep.ch; Internet: <http://irptc.unep.ch/pops/>.

EIGHTH MEETING OF THE PESTICIDE FORUM: This meeting will be held in Paris from 2-3 November 1998 jointly with the 28th Joint Meeting of the Chemicals Group and Management Committee. For information contact: Nicky Grandy, OECD; tel: +33 (1) 45 24 16 76; fax: +33 (1) 45 24 16 76; e-mail: nicola.grandy@oecd.org.

UNEP HIGH LEVEL COMMITTEE OF MINISTERS AND OFFICIALS: This meeting will be held in Buenos Aires, Argentina on 10 November 1998. For more information contact: UNEP; tel: +254 (2) 62-3411; fax: +254 (2) 62-3748; e-mail: millerb@unep.org

INTERGOVERNMENTAL FORUM ON CHEMICAL SAFETY: The Third Meeting of the Intersessional Group (ISG-3) will be held from 1-4 December 1998 in Yokohama, Japan. Brazil will host FORUM III in the latter part of 2000. For information on these meetings, contact: IFCS Secretariat, World Health Organization, CH-1211 Geneva 27, Switzerland; tel: +41 (22) 791-3588; fax: +41 (22) 791-4848; e-mail: ifcs@who.ch. All ISG-3 meeting documents are available on the Internet: <http://www.ifcs.ch>.

SEVENTH MEETING OF THE EXPERT GROUP ON CHEMICAL ACCIDENTS: This meeting will be held from 2-4 December 1998 in Paris. For information contact: Peter Kearns, OECD; tel: +33 (1) 45 24 16 77; fax: +33 (1) 45 24 16 75; e-mail: peter.kearns@oecd.org.

UNEP GOVERNING COUNCIL: The UNEP Governing Council will meet from 1-5 February 1999 in Nairobi. For more information contact: B. Miller, UNEP; tel: +254 (2) 62-3411; fax: +254 (2) 62-3748; e-mail: millerb@unep.org.

PIC INC MEETING: The next PIC INC meeting will be held in early 1999 to begin work during the interim period between the signing of the PIC Convention and its entry into force. For information contact: UNEP Chemicals (IRPTC), tel: +41 (22) 979-9111; fax: +41 (22) 797-3460; e-mail: jwillis@unep.ch; internet: <http://irptc.unep.ch/pic/>. Or contact: FAO, tel: +39 (6) 5705 3441; fax: +39 (6) 5705 6347; e-mail: Niek.Vandergraaff@fao.org; internet: <http://www.fao.org/ag/agp/agpp/pesticid/pic/pichome.htm>.

13TH SESSION OF THE FAO GROUP ON REGISTRATION REQUIREMENTS OF THE PANEL OF EXPERTS ON PESTICIDE SPECIFICATIONS, REGISTRATION REQUIREMENTS, APPLICATION STANDARDS AND PRIOR

INFORMED CONSENT: This meeting will be held from 7-11 June 1999 in Rome and will produce recommendations on procedures for the preparation and revision of guidelines and increased transparency and recommendations for the revision of the International Code of Conduct on the Distribution and Use of Pesticides. The 14th Session of the Panel of Experts on Pesticide Specifications, Registration Requirements, Application Standards and Prior Informed Consent will be held from 14-17 June 1999. For information contact: Gerold Wyrwal, FAO; tel: +39 (6) 5705 2753; fax: +39 (6) 5705 6347; e-mail: Gerold.Wyrwal@fao.org.

WMO/EMEP WORKSHOP ON MODELLING OF ATMOSPHERIC TRANSPORT AND DEPOSITION OF POPS AND MERCURY: This workshop will take place in November 1999 at the WMO Headquarters in Geneva. For information contact: Mrs. Marina Varygina, Meteorological Synthesizing Centre East, Kedrova Street 8, 117292 Moscow, Russian Federation; tel: +7 (95) 124 4758; fax: +7 (95) 310 7093; e-mail: msce@glasnet.ru.