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ECONOMIC COMMISSION FOR EUROPE

Executive Body for the Convention on Long-range Transboundary Air Pollution

The 1998 Protocol on Persistent Organic Pollutants, Including the Amendments Adopted by the Parties on 18 December 2009

Note by the secretariat

On 18 December 2009, the Parties to the 1998 Protocol on Persistent Organic Pollutants (the "POPs Protocol") meeting within the twenty-seventh session of the Executive Body (14–18 December 2009) adopted decisions to amend the POPs Protocol to the Convention on Long-range Transboundary Air Pollution and its annexes (ECE/EB.AIR/99/Add.1) as follows:

- Decision 2009/1 on amending the text of and annexes I, II, III, IV, VI and VIII to the POPs Protocol. This decision covered amendments to articles 1, 3, 13, 14 and 16 of the Protocol;
- Decision 2009/2 on listing of short-chain chlorinated paraffins and polychlorinated naphtalenes in annexes I and II to the POPs Protocol;
- Decision 2009/3 on amending annexes V and VII to the POPs Protocol;
- Decision 2009/4 on the guidance document on best available techniques to control emissions to the POPs Protocol.

The Parties to the Protocol invited the secretariat to deposit the adopted amendments to the Protocol on POPs with the Secretary-General of the United Nations by forwarding them to the Treaty Section of the United Nations Office of Legal Affairs (ECE/EB.AIR/99, para 53 (f)). The present document places the amendments decided by the Parties in the text of the Protocol currently in force (EB.AIR/1998/2) for the convenience of the Parties. Deleted text is presented in square brackets and new text is indicated in bold. Parts III, IV and V of annex V are deleted, as their contents were turned into the guidance document referred to in paragraph 1 of annex V (appended to ECE/EB.AIR/2009/14, and adopted through decision 2009/4). The document has no legal status as the amendments to the Protocol it presents have not entered into force.

The Treaty Section will invite Parties to deposit their instruments of acceptance for the entry into force of the amendments. In line with article 14, paragraph 4 of the Protocol, amendments to annexes V and VII will enter into force automatically for those Parties that have not indicated an objection upon notification to the Depositary. In line with article 14, paragraph 3, the entry into force of the amendments to the text of the Protocol and to its annexes I, II, III, IV, VI and VIII require ratifications of two thirds of the Parties.

Annex

PROTOCOL TO THE 1979 CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION ON PERSISTENT ORGANIC POLLUTANTS

The Parties,

Determined to implement the Convention on Long-range Transboundary Air Pollution,

Recognizing that emissions of many persistent organic pollutants are transported across international boundaries and are deposited in Europe, North America and the Arctic, far from their site of origin, and that the atmosphere is the dominant medium of transport,

Aware that persistent organic pollutants resist degradation under natural conditions and have been associated with adverse effects on human health and the environment,

Concerned that persistent organic pollutants can biomagnify in upper trophic levels to concentrations which might affect the health of exposed wildlife and humans,

Acknowledging that the Arctic ecosystems and especially its indigenous people, who subsist on Arctic fish and mammals, are particularly at risk because of the biomagnification of persistent organic pollutants,

Mindful that measures to control emissions of persistent organic pollutants would also contribute to the protection of the environment and human health in areas outside the United Nations Economic Commission for Europe's region, including the Arctic and international waters,

Resolved to take measures to anticipate, prevent or minimize emissions of persistent organic pollutants, taking into account the application of the precautionary approach, as set forth in principle 15 of the Rio Declaration on Environment and Development,

Reaffirming that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and development policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction,

Noting the need for global action on persistent organic pollutants and recalling the role envisaged in chapter 9 of Agenda 21 for regional agreements to reduce global transboundary air pollution and, in particular, for the United Nations Economic Commission for Europe to share its regional experience with other regions of the world,

Recognizing that there are subregional, regional and global regimes in place, including international instruments governing the management of hazardous wastes, their transboundary movement and disposal, in particular the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal,

Considering that the predominant sources of air pollution contributing to the accumulation of persistent organic pollutants are the use of certain pesticides, the manufacture and use of certain chemicals and the unintentional formation of certain substances in waste incineration, combustion, metal production and mobile sources,

Aware that techniques and management practices are available to reduce emissions of persistent organic pollutants into the air,

Conscious of the need for a cost-effective regional approach to combating air pollution,

Noting the important contribution of the private and non-governmental sectors to knowledge of the effects associated with persistent organic pollutants, available alternatives and abatement techniques, and their role in assisting in the reduction of emissions of persistent organic pollutants,

Bearing in mind that measures taken to reduce persistent organic pollutant emissions should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international competition and trade,

Taking into consideration existing scientific and technical data on emissions, atmospheric processes and effects on human health and the environment of persistent organic pollutants, as well as on abatement costs, and acknowledging the need to continue scientific and technical cooperation to further the understanding of these issues,

Recognizing the measures on persistent organic pollutants already taken by some of the Parties on a national level and/or under other international conventions,

Have agreed as follows:

Article 1: DEFINITIONS

For the purposes of the present Protocol,

1. "Convention" means the Convention on Long-range Transboundary Air Pollution, adopted in Geneva on 13 November 1979;

2. "EMEP" means the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe;

3. "Executive Body" means the Executive Body for the Convention constituted under article 10, paragraph 1, of the Convention;

4. "Commission" means the United Nations Economic Commission for Europe;

5. "Parties" means, unless the context otherwise requires, the Parties to the present Protocol;

6. "Geographical scope of EMEP" means the area defined in article 1, paragraph 4, of the Protocol to the 1979 Convention on Long-range Transboundary Air Pollution on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP), adopted in Geneva on 28 September 1984;

7. "Persistent organic pollutants" (POPs) are organic substances that: (a) possess toxic characteristics; (b) are persistent; (c) bioaccumulate; (d) are prone to long-range transboundary atmospheric transport and deposition; and (e) are likely to cause significant adverse human health or environmental effects near to and distant from their sources;

8. "Substance" means a single chemical species, or a number of chemical species which form a specific group by virtue of (a) having similar properties and being emitted together into the environment; or (b) forming a mixture normally marketed as a single article;

9. "Emission" means the release of a substance from a point or diffuse source into the atmosphere;

10. "Stationary source" means any fixed building, structure, facility, installation, or equipment that emits or may emit any persistent organic pollutant directly or indirectly into the atmosphere;

11. "Major stationary source category" means any stationary source category listed in annex VIII;

12. "New stationary source" means any stationary source of which the construction or substantial modification is commenced after the expiry of two years from the date of entry into force **for a Party** of: (a) [this – deleted] **the present** Protocol; or (b) an amendment to [annex III or VIII, where the stationary source becomes subject to the provisions of this Protocol only by virtue of that amendment. – deleted] **the present Protocol that, with respect to a stationary source, either introduces new limit values in part II of annex IV or introduces the category in annex VIII in which that source falls.** It shall be a matter for the competent national

authorities to decide whether a modification is substantial or not, taking into account such factors as the environmental benefits of the modification.

Article 2: **OBJECTIVE**

The objective of the present Protocol is to control, reduce or eliminate discharges, emissions and losses of persistent organic pollutants.

Article 3: **BASIC OBLIGATIONS**

1. Except where specifically exempted in accordance with article 4, each Party shall take effective measures:

(a) To eliminate the production and use of the substances listed in annex I in accordance with the implementation requirements specified therein;

(b) (i)To ensure that, when the substances listed in annex I are destroyed or disposed of, such destruction or disposal is undertaken in an environmentally sound manner, taking into account relevant subregional, regional and global regimes governing the management of hazardous wastes and their disposal, in particular the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;

(ii) To endeavour to ensure that the disposal of substances listed in annex I is carried out domestically, taking into account pertinent environmental considerations;

(iii) To ensure that the transboundary movement of the substances listed in annex I is conducted in an environmentally sound manner, taking into consideration applicable subregional, regional, and global regimes governing the transboundary movement of hazardous wastes, in particular the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;

(c) To restrict the substances listed in annex II to the uses described, in accordance with the implementation requirements specified therein.

2. The requirements specified in paragraph 1 (b) above shall become effective for each substance upon the date that production or use of that substance is eliminated, whichever is later.

3. For substances listed in annexes I, II, or III, each Party should develop appropriate strategies for identifying articles still in use and wastes containing such substances, and shall

take appropriate measures to ensure that such wastes and such articles, upon becoming wastes, are destroyed or disposed of in an environmentally sound manner.

4. For the purposes of paragraphs 1 to 3 above, the terms waste, disposal, and environmentally sound shall be interpreted in a manner consistent with the use of those terms under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

5. Each Party shall:

(a) Reduce its total annual emissions of each of the substances listed in annex III from the level of the emission in a reference year set in accordance with that annex by taking effective measures, appropriate in its particular circumstances;

(b) No later than the timescales specified in annex VI, apply:

(i) The best available techniques, taking into consideration annex V, to each new stationary source within a major stationary source category [for which annex V identifies best available techniques – deleted] **for which guidance adopted by the Parties at a session of the Executive Body identifies best available techniques**;

(ii) Limit values at least as stringent as those specified in annex IV to each new stationary source within a category mentioned in that annex, taking into consideration annex V. A Party may, as an alternative, apply different emission reduction strategies that achieve equivalent overall emission levels;

(iii) The best available techniques, taking into consideration annex V, to each existing stationary source within a major stationary source category [for which annex V identifies best available techniques – deleted] **for which guidance adopted by the Parties at a session of the Executive Body identifies best available techniques**, insofar as this is technically and economically feasible. A Party may, as an alternative, apply different emission reduction strategies that achieve equivalent overall emission reductions;

(iv) Limit values at least as stringent as those specified in annex IV to each existing stationary source within a category mentioned in that annex, insofar as this is technically and economically feasible, taking into consideration annex V. A Party may, as an alternative, apply different emission reduction strategies that achieve equivalent overall emission reductions [;– deleted]**.**

[(v) Effective measures to control emissions from mobile sources, taking into consideration annex VII. – deleted]

6. In the case of residential combustion sources, the obligations set out in paragraph 5 (b) (i) and (iii) above shall refer to all stationary sources in that category taken together.

7. Where a Party, after the application of paragraph 5 (b) above, cannot achieve the requirements of paragraph 5 (a) above for a substance specified in annex III, it shall be exempted from its obligations in paragraph 5 (a) above for that substance.

8. Each Party shall develop and maintain emission inventories for the substances listed in annex III, and shall collect available information relating to the production and sales of the substances listed in annexes I and II, for those Parties within the geographical scope of EMEP, using, as a minimum, the methodologies and the spatial and temporal resolution specified by the Steering Body of EMEP, and, for those Parties outside the geographical scope of EMEP, using as guidance the methodologies developed through the work plan of the Executive Body. It shall report this information in accordance with the reporting requirements set out in article 9 below.

Article 4: **EXEMPTIONS**

1. Article 3, paragraph 1, shall not apply to quantities of a substance to be used for laboratory-scale research or as a reference standard.

2. A Party may grant an exemption from article 3, paragraphs 1 (a) and (c), in respect of a particular substance, provided that the exemption is not granted or used in a manner that would undermine the objectives of the present Protocol, and only for the following purposes and under the following conditions:

(a) For research other than that referred to in paragraph 1 above, if:
  (i) No significant quantity of the substance is expected to reach the environment during the proposed use and subsequent disposal;
  (ii) The objectives and parameters of such research are subject to assessment and authorization by the Party;
  (iii) In the event of a significant release of a substance into the environment, the exemption will terminate immediately, measures will be taken to mitigate the release as appropriate, and an assessment of the containment measures will be conducted before research may resume;

(b) To manage as necessary a public health emergency, if:
  (i) No suitable alternative measures are available to the Party to address the situation;
  (ii) The measures taken are proportional to the magnitude and severity of the emergency;

(iii) Appropriate precautions are taken to protect human health and the environment and to ensure that the substance is not used outside the geographical area subject to the emergency;

(iv) The exemption is granted for a period of time that does not exceed the duration of the emergency;

(v) Upon termination of the emergency, any remaining stocks of the substance are subject to the provisions of article 3, paragraph 1 (b);

(c) For a minor application judged to be essential by the Party, if:

(i) The exemption is granted for a maximum of five years;

(ii) The exemption has not previously been granted by it under this article;

(iii) No suitable alternatives exist for the proposed use;

(iv) The Party has estimated the emissions of the substance resulting from the exemption and their contribution to the total emissions of the substance from the Parties;

(v) Adequate precautions are taken to ensure that the emissions to the environment are minimized;

(vi) Upon termination of the exemption, any remaining stocks of the substance are subject to the provisions of article 3, paragraph 1 (b).

3. Each Party shall, no later than ninety days after granting an exemption under paragraph 2 above, provide the secretariat with, as a minimum, the following information:

(a) The chemical name of the substance subject to the exemption;

(b) The purpose for which the exemption has been granted;

(c) The conditions under which the exemption has been granted;

(d) The length of time for which the exemption has been granted;

(e) Those to whom, or the organization to which, the exemption applies;

(f) For an exemption granted under paragraphs 2 (a) and (c) above, the estimated emissions of the substance as a result of the exemption and an assessment of their contribution to the total emissions of the substance from the Parties.

4. The secretariat shall make available to all Parties the information received under paragraph 3 above.

Article 5: **EXCHANGE OF INFORMATION AND TECHNOLOGY**

The Parties shall, in a manner consistent with their laws, regulations and practices, create favourable conditions to facilitate the exchange of information and technology designed to

reduce the generation and emission of persistent organic pollutants and to develop cost-effective alternatives, by promoting, inter alia:

(a) Contacts and cooperation among appropriate organizations and individuals in the private and public sectors that are capable of providing technology, design and engineering services, equipment or finance;

(b) The exchange of and access to information on the development and use of alternatives to persistent organic pollutants as well as on the evaluation of the risks that such alternatives pose to human health and the environment, and information on the economic and social costs of such alternatives;

(c) The compilation and regular updating of lists of their designated authorities engaged in similar activities in other international forums;

(d) The exchange of information on activities conducted in other international forums.

***Article 6*: PUBLIC AWARENESS**

The Parties shall, consistent with their laws, regulations and practices, promote the provision of information to the general public, including individuals who are direct users of persistent organic pollutants. This information may include, inter alia:

(a) Information, including labelling, on risk assessment and hazard;

(b) Information on risk reduction;

(c) Information to encourage the elimination of persistent organic pollutants or a reduction in their use, including, where appropriate, information on integrated pest management, integrated crop management and the economic and social impacts of this elimination or reduction;

(d) Information on alternatives to persistent organic pollutants, as well as an evaluation of the risks that such alternatives pose to human health and the environment, and information on the economic and social impacts of such alternatives.

***Article 7:* STRATEGIES, POLICIES, PROGRAMMES, MEASURES AND INFORMATION**

1. Each Party shall, no later than six months after the date on which this Protocol enters into force for it, develop strategies, policies and programmes in order to discharge its obligations under the present Protocol.

2. Each Party shall:

(a) Encourage the use of economically feasible, environmentally sound management techniques, including best environmental practices, with respect to all aspects of the use, production, release, processing, distribution, handling, transport and reprocessing of substances subject to the present Protocol and manufactured articles, mixtures or solutions containing such substances;

(b) Encourage the implementation of other management programmes to reduce emissions of persistent organic pollutants, including voluntary programmes and the use of economic instruments;

(c) Consider the adoption of additional policies and measures as appropriate in its particular circumstances, which may include non-regulatory approaches;

(d) Make determined efforts that are economically feasible to reduce levels of substances subject to the present Protocol that are contained as contaminants in other substances, chemical products or manufactured articles, as soon as the relevance of the source has been established;

(e) Take into consideration in its programmes for evaluating substances, the characteristics specified in paragraph 1 of Executive Body decision 1998/2 on information to be submitted and the procedure for adding substances to annexes I, II or III including any amendments thereto.

3. The Parties may take more stringent measures than those required by the present Protocol.

Article 8: **RESEARCH, DEVELOPMENT AND MONITORING**

1. The Parties shall encourage research, development, monitoring and cooperation related, but not limited, to:

(a) Emissions, long-range transport and deposition levels and their modelling, existing levels in the biotic and abiotic environment, the elaboration of procedures for harmonizing relevant methodologies;

(b) Pollutant pathways and inventories in representative ecosystems;

(c) Relevant effects on human health and the environment, including quantification of those effects;

(d) Best available techniques and practices, including agricultural practices, and emission control techniques and practices currently employed by the Parties or under development;

(e) Methodologies permitting consideration of socio-economic factors in the evaluation of alternative control strategies;

(f) An effects-based approach which integrates appropriate information, including information obtained under subparagraphs (a) to (e) above, on measured or modelled

environmental levels, pathways, and effects on human health and the environment, for the purpose of formulating future control strategies which also take into account economic and technological factors;

(g) Methods for estimating national emissions and projecting future emissions of individual persistent organic pollutants and for evaluating how such estimates and projections can be used to structure future obligations;

(h) Levels of substances subject to the present Protocol that are contained as contaminants in other substances, chemical products or manufactured articles and the significance of these levels for long-range transport, as well as techniques to reduce levels of these contaminants, and, in addition, levels of persistent organic pollutants generated during the life cycle of timber treated with pentachlorophenol.

2. Priority should be given to research on substances considered to be the most likely to be submitted under the procedures specified in article 14, paragraph 6.

Article 9: **REPORTING**

1. Subject to its laws governing the confidentiality of commercial information:

(a) Each Party shall report, through the Executive Secretary of the Commission, to the Executive Body, on a periodic basis as determined by the Parties meeting within the Executive Body, information on the measures that it has taken to implement the present Protocol;

(b) Each Party within the geographical scope of EMEP shall report, through the Executive Secretary of the Commission, to EMEP, on a periodic basis to be determined by the Steering Body of EMEP and approved by the Parties at a session of the Executive Body, information on the levels of emissions of persistent organic pollutants using, as a minimum, the methodologies and the temporal and spatial resolution specified by the Steering Body of EMEP. Parties in areas outside the geographical scope of EMEP shall make available similar information to the Executive Body if requested to do so. Each Party shall also provide information on the levels of emissions of the substances listed in annex III for the reference year specified in that annex.

2. The information to be reported in accordance with paragraph 1 (a) above shall be in conformity with a decision regarding format and content to be adopted by the Parties at a session of the Executive Body. The terms of this decision shall be reviewed as necessary to identify any additional elements regarding the format or the content of the information that is to be included in the reports.

3. In good time before each annual session of the Executive Body, EMEP shall provide information on the long-range transport and deposition of persistent organic pollutants.

Article 10: REVIEWS BY THE PARTIES AT SESSIONS OF THE EXECUTIVE BODY

1. The Parties shall, at sessions of the Executive Body, pursuant to article 10, paragraph 2 (a), of the Convention, review the information supplied by the Parties, EMEP and other subsidiary bodies, and the reports of the Implementation Committee referred to in article 11 of the present Protocol.

2. The Parties shall, at sessions of the Executive Body, keep under review the progress made towards achieving the obligations set out in the present Protocol.

3. The Parties shall, at sessions of the Executive Body, review the sufficiency and effectiveness of the obligations set out in the present Protocol. Such reviews will take into account the best available scientific information on the effects of the deposition of persistent organic pollutants, assessments of technological developments, changing economic conditions and the fulfilment of the obligations on emission levels. The procedures, methods and timing for such reviews shall be specified by the Parties at a session of the Executive Body. The first such review shall be completed no later than three years after the present Protocol enters into force.

Article 11: COMPLIANCE

Compliance by each Party with its obligations under the present Protocol shall be reviewed regularly. The Implementation Committee established by decision 1997/2 of the Executive Body at its fifteenth session shall carry out such reviews and report to the Parties meeting within the Executive Body in accordance with the terms of the annex to that decision, including any amendments thereto.

Article 12: SETTLEMENT OF DISPUTES

1. In the event of a dispute between any two or more Parties concerning the interpretation or application of the present Protocol, the Parties concerned shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice. The parties to the dispute shall inform the Executive Body of their dispute.

2. When ratifying, accepting, approving or acceding to the present Protocol, or at anytime thereafter, a Party which is not a regional economic integration organization may declare in a

written instrument submitted to the Depositary that, in respect of any dispute concerning the interpretation or application of the Protocol, it recognizes one or both of the following means of dispute settlement as compulsory ipso facto and without special agreement, in relation to any Party accepting the same obligation:

(a) Submission of the dispute to the International Court of Justice;

(b) Arbitration in accordance with procedures to be adopted by the Parties at a session of the Executive Body, as soon as practicable, in an annex on arbitration.

A Party which is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with the procedures referred to in subparagraph (b) above.

3. A declaration made under paragraph 2 above shall remain in force until it expires in accordance with its terms or until three months after written notice of its revocation has been deposited with the Depositary.

4. A new declaration, a notice of revocation or the expiry of a declaration shall not in any way affect proceedings pending before the International Court of Justice or the arbitral tribunal, unless the parties to the dispute agree otherwise.

5. Except in a case where the parties to a dispute have accepted the same means of dispute settlement under paragraph 2, if after twelve months following notification by one Party to another that a dispute exists between them, the Parties concerned have not been able to settle their dispute through the means mentioned in paragraph 1 above, the dispute shall be submitted, at the request of any of the parties to the dispute, to conciliation.

6. For the purpose of paragraph 5, a conciliation commission shall be created. The commission shall be composed of equal numbers of members appointed by each Party concerned or, where the Parties in conciliation share the same interest, by the group sharing that interest, and a chairperson chosen jointly by the members so appointed. The commission shall render a recommendatory award, which the Parties shall consider in good faith.

Article 13: **ANNEXES**

The annexes to the present Protocol shall form an integral part of the Protocol. [Annexes V and VII are – deleted] **Annex V is** recommendatory in character.

Article 14: **AMENDMENTS**

1. Any Party may propose amendments to the present Protocol.

2. Proposed amendments shall be submitted in writing to the Executive Secretary of the Commission, who shall communicate them to all Parties. The Parties meeting within the Executive Body shall discuss the proposed amendments at its next session, provided that the proposals have been circulated by the Executive Secretary to the Parties at least ninety days in advance.

3. Amendments to the present Protocol and to annexes I to IV, VI and VIII shall be adopted by consensus of the Parties present at a session of the Executive Body, and shall enter into force for the Parties which have accepted them on the ninetieth day after the date on which two thirds of [the – deleted] **those that were** Parties **at the time of their adoption** have deposited with the Depositary their instruments of acceptance thereof. Amendments shall enter into force for any other Party on the ninetieth day after the date on which that Party has deposited its instrument of acceptance thereof. **This paragraph shall be subject to paragraphs 5 bis and 5 ter below.**

4. Amendments to [annexes V and VII – deleted] **annex V** shall be adopted by consensus of the Parties present at a session of the Executive Body. On the expiry of ninety days from the date of its communication to all Parties by the Executive Secretary of the Commission, an amendment to [any such annex – deleted] **annex V** shall become effective for those Parties which have not submitted to the Depositary a notification in accordance with the provisions of paragraph 5 below, provided that at least sixteen Parties have not submitted such a notification.

5. Any Party that is unable to approve an amendment to annex V [or VII – deleted] shall so notify the Depositary in writing within ninety days from the date of the communication of its adoption. The Depositary shall without delay notify all Parties of any such notification received. A Party may at any time substitute an acceptance for its previous notification and, upon deposit of an instrument of acceptance with the Depositary, the amendment to such an annex shall become effective for that Party.

5 bis. For those Parties having accepted it, the procedure set out in paragraph 5ter below shall supersede the procedure set out in paragraph 3 above in respect of amendments to annexes I to IV, VI and VIII.

5 ter.

(a) Amendments to annexes I to IV, VI and VIII shall be adopted by consensus of the Parties present at a session of the Executive Body. On the expiry of one year from the

date of its communication to all Parties by the Executive Secretary of the Commission, an amendment to any such annex shall become effective for those Parties which have not submitted to the Depositary a notification in accordance with the provisions of subparagraph (b) below;

(b) Any Party that is unable to approve an amendment to annexes I to IV, VI and VIII shall so notify the Depositary in writing within one year from the date of the communication of its adoption. The Depositary shall without delay notify all Parties of any such notification received. A Party may at any time substitute an acceptance for its previous notification and, upon deposit of an instrument of acceptance with the Depositary, the amendment to such an annex shall become effective for that Party;

(c) Any amendment to annexes I to IV, VI and VIII shall not enter into force if an aggregate number of sixteen or more Parties have either:

(i) Submitted a notification in accordance with the provisions of subparagraph (b) above; or

(ii) Not accepted the procedure set out in this paragraph and not yet deposited an instrument of acceptance in accordance with the provisions of paragraph 3 above.

6. In the case of a proposal to amend annexes I, II, or III by adding a substance to the present Protocol:

(a) The proposer shall provide the Executive Body with the information specified in Executive Body decision 1998/2, including any amendments thereto;

(b) The Parties shall evaluate the proposal in accordance with the procedures set forth in Executive Body decision 1998/2, including any amendments thereto.

7. Any decision to amend Executive Body decision 1998/2 shall be taken by consensus of the Parties meeting within the Executive Body and shall take effect sixty days after the date of adoption.

Article 15: **SIGNATURE**

1. The present Protocol shall be open for signature at Aarhus (Denmark) from 24 to 25 June 1998, then at United Nations Headquarters in New York until 21 December 1998, by States members of the Commission as well as States having consultative status with the Commission pursuant to paragraph 8 of Economic and Social Council resolution 36 (IV) of 28 March 1947, and by regional economic integration organizations, constituted by sovereign States members of the Commission, which have competence in respect of the negotiation,

conclusion and application of international agreements in matters covered by the Protocol, provided that the States and organizations concerned are Parties to the Convention.

2. In matters within their competence, such regional economic integration organizations shall, on their own behalf, exercise the rights and fulfil the responsibilities which the present Protocol attributes to their member States. In such cases, the member States of these organizations shall not be entitled to exercise such rights individually.

Article 16: **RATIFICATION, ACCEPTANCE, APPROVAL AND ACCESSION**

1. The present Protocol shall be subject to ratification, acceptance or approval by Signatories.

2. The present Protocol shall be open for accession as from 21 December 1998 by the States and organizations that meet the requirements of article 15, paragraph 1.

3. **A State or Regional Economic Integration Organization shall declare in its instrument of ratification, acceptance, approval or accession if it does not intend to be bound by the procedures set out in article 14, paragraph 5ter as regards the amendment of annexes I to IV, VI and VIII.**

Article 17: **DEPOSITARY**

The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations, who will perform the functions of Depositary.

Article 18: **ENTRY INTO FORCE**

1. The present Protocol shall enter into force on the ninetieth day following the date on which the sixteenth instrument of ratification, acceptance, approval or accession has been deposited with the Depositary.

2. For each State and organization referred to in article 15, paragraph 1, which ratifies, accepts or approves the present Protocol or accedes thereto after the deposit of the sixteenth instrument of ratification, acceptance, approval or accession, the Protocol shall enter into force on the ninetieth day following the date of deposit by such Party of its instrument of ratification, acceptance, approval or accession.

Article 19: **WITHDRAWAL**

At any time after five years from the date on which the present Protocol has come into force with respect to a Party, that Party may withdraw from it by giving written notification to the Depositary. Any such withdrawal shall take effect on the ninetieth day following the date of its receipt by the Depositary, or on such later date as may be specified in the notification of the withdrawal.

Article 20: **AUTHENTIC TEXTS**

The original of the present Protocol, of which the English, French and Russian texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.
IN WITNESS WHEREOF the undersigned, being duly authorized thereto, have signed the present Protocol.

Done at Aarhus (Denmark), this twenty-fourth day of June, one thousand nine hundred and ninety-eight.

Annex I

SUBSTANCES SCHEDULED FOR ELIMINATION

Unless otherwise specified in the present Protocol, this annex shall not apply to the substances listed below when they occur (a) as contaminants in products; or (b) in articles manufactured or in use by the implementation date; or (c) as site-limited chemical intermediates in the manufacture of one or more different substances and are thus chemically transformed. Unless otherwise specified, each obligation below is effective upon the date of entry into force of the Protocol.

Substance	**Implementation requirements**	
	Elimination of	**Conditions**
Aldrin CAS: 309-00-2	Production	None
	Use	None
Chlordane CAS: 57-74-9	Production	None
	Use	None
Chlordecone CAS: 143-50-0	Production	None
	Use	None
DDT CAS: 50-29-3	Production	**None** [1. Eliminate production within one year of consensus by the Parties that suitable alternatives to DDT are available for public health protection from diseases such as malaria and encephalitis. 2. With a view to eliminating the production of DDT at the earliest opportunity, the Parties shall, no later than one year after the date of entry into force of the present Protocol and periodically thereafter as necessary, and in consultation with the World Health Organization, the Food and Agriculture Organization of the United Nations and the United Nations Environment Programme, review the availability and feasibility of alternatives and, as appropriate, promote the commercialization of safer and economically viable alternatives to DDT. – deleted]
	Use	**None** [, except as identified in annex II. – deleted]
Dieldrin CAS: 60-57-1	Production	None
	Use	None

Substance	Implementation requirements	
	Elimination of	**Conditions**
Endrin CAS: 72-20-8	Production	None
	Use	None
Heptachlor CAS:76-44-8	Production	None
	Use	**None** [, except for use by certified personnel for the control of fire ants in closed industrial electrical junction boxes. Such use shall be re-evaluated under this Protocol no later than two years after the date of entry into force. – deleted]
Hexabromobiphenyl CAS: 36355-01-8	Production	None
	Use	None
Hexachlorobenzene CAS: 118-74-1	Production	**None** [, except for production for a limited purpose as specified in a statement deposited by a country with an economy in transition upon signature or accession. – deleted]
	Use	**None** [, except for a limited use as specified in a statement deposited by a country with an economy in transition upon signature or accession. – deleted]
Hexachlorobutadiene **CAS: 87-68-3**	**Production**	**None**
	Use	**None**
Hexachlorocyclohexanes (HCH) **(CAS: 608-73-1), including lindane** **(CAS: 58-89-9)**	**Production**	**None**
	Use	**None, except for the gamma isomer of HCH (lindane), used as topical insecticide for public health purposes. Such uses shall be re-evaluated under this Protocol in 2012 or one year after the amendment enters into force, whichever is later.**
Hexabromodiphenyl ether[a/] and heptabromodiphenyl ether[a/]	**Production**	**None**
	Use	**1. A Party may allow recycling of articles that contain or may contain any of these substances, and the use and final disposal of articles manufactured from recycled materials that contain or may contain any of these substances, provided that the recycling and final disposal is carried out in an environmentally sound manner and does not lead to recovery of any of these substances for the purpose of their reuse.** **2. Commencing in 2013 and every four years subsequently until the above condition is removed or otherwise expires,**

Substance	Implementation requirements	
	Elimination of	**Conditions**
		the Executive Body shall evaluate the progress that Parties have made towards achieving their ultimate objective of elimination of these substances contained in articles and review the continued need for the condition, which shall in any case expire at the latest in 2030.
Mirex CAS: 2385-85-5	Production	None
	Use	None
Tetrabromodiphenyl ether[b/] and pentabromodiphenyl ether[b/]	**Production**	**None**
	Use	**1. A Party may allow recycling of articles that contain or may contain any of these substances, and the use and final disposal of articles manufactured from recycled materials that contain or may contain any of these substances, provided that the recycling and final disposal is carried out in an environmentally sound manner and does not lead to recovery of any of these substances for the purpose of their reuse.** **2. Commencing in 2013 and every four years subsequently until the above condition is removed or otherwise expires, the Executive Body shall evaluate the progress that Parties have made towards achieving their ultimate objective of elimination of these substances contained in articles and review the continued need for the condition, which shall in any case expire at the latest in 2030.**
Pentachlorobenzene **CAS : 608-93-5**	**Production**	**None**
	Use	**None**
Perfluorooctane sulfonate (PFOS)[c/]	**Production**	**None, except for production for the uses (a) to (c) below, and (a) to (e) in annex II.**
	Use	**None, except for the following uses and uses (a) to (e) in annex II:** **(a) Chromium electroplating, chromium anodizing and reverse etching until 2014;**

Substance	Implementation requirements	
	Elimination of	**Conditions**
		(b) Electroless nickel-polytetrafluoroethylene plating until 2014; **(c) Etching of plastic substrates prior to their metalization until 2014;** **(d) Firefighting foams, but only if they have been manufactured or were in use by 18 December 2009;** **With respect to firefighting foams:** **(i) Parties should endeavour to eliminate by 2014 firefighting foams containing PFOS that were manufactured or in use by 18 December 2009 and shall report on their progress to the Executive Body in 2014;** **(ii) Based on the reports of the Parties and paragraph (i), the Executive Body shall in 2015 assess whether the use of firefighting foams containing PFOS that were manufactured or in use by 18 December 2009 should be subject to additional restrictions.**
Polychlorinated biphenyls (PCBs)[d/]	Production	None [, except for countries with economies in transition which shall eliminate production as soon as possible and no later than 31 December 2005 and which state in a declaration to be deposited together with their instrument of ratification, acceptance, approval or accession, their intention to do so. – deleted]
	Use	None [, except as identified in annex II. – deleted] **Concerning PCBs in use by the implementation date, Parties shall:** **1. Make determined efforts designed to lead to:** **(a) The elimination of the use of identifiable PCBs in equipment (i.e. transformers, capacitors or other receptacles containing residual liquid stocks) containing PCBs in volumes greater than 5 dm^3 and having a**

Substance	Implementation requirements	
	Elimination of	**Conditions**
		concentration of 0.05% PCBs or greater, as soon as possible but no later than 3 December 2010, or 31 December 2015 for countries with economies in transition; **(b) The destruction or decontamination in an environmentally sound manner of:** **(i) All liquid PCBs referred to in subparagraph (a) and other liquid PCBs containing more than 0.005% PCBs not in equipment, as soon as possible but no later than 31 December 2015, or 31 December 2020 for countries with economies in transition;** **(ii) All liquid PCBs referred to in paragraph 2(a) no later than 31 December 2029;** **(c) The decontamination or disposal of equipment referred in subparagraphs 1 (a) and 2 (a) in an environmentally sound manner.** **2. Endeavour to:** **(a) Identify and remove from use equipment (e.g. transformers, capacitors or other receptacles containing liquid stocks) containing more than 0.005% PCBs and volumes greater than 0.05 dm^3, as soon as possible but no later than 31 December 2025;** **(b) Identify other articles containing more than 0.005% PCBs (e.g. cable sheaths, cured caulk and painted objects) and manage them in accordance with article 3, paragraph 3.** **3. Ensure that the equipment described in subparagraphs 1 (a) and 2 (a) is not exported or imported other than for the purpose of environmentally sound waste management.** **4. Promote the following to reduce exposure and risk to control the use of**

Substance	Implementation requirements	
	Elimination of	**Conditions**
		PCBs: **(a) Use PCBs only in intact and non-leaking equipment and only in areas where the risk from environmental release can be minimized and quickly remedied;** **(b) Not use PCBs in equipment in areas associated with the production or processing of food or feed.** **5. When PCBs are used in populated areas, including schools and hospitals, take all reasonable measures to prevent electrical failures that could result in a fire, and regularly inspect equipment for leaks.**
Polychlorinated naphthalenes (PCN)	**Production**	**None**
	Use	**None**
Short-chain chlorinated paraffins[e/]	**Production**	**None, except for production for the uses specified in annex II.**
	Use	**None, except for the uses specified in annex II.**
Toxaphene CAS: 8001-35-2	**Production**	**None**
	Use	**None**

[a/ The Parties agree to reassess under the Protocol by 31 December 2004 the production and use of polychlorinated terphenyls and "ugilec". – deleted]

[a/] **"Hexabromodiphenyl ether and heptabromodiphenyl ether" mean 2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153, CAS No: 68631-49-2), 2,2',4,4',5,6'-hexabromodiphenyl ether (BDE-154, CAS No: 207122-15-4), 2,2',3,3',4,5',6 heptabromodiphenyl ether (BDE-175, CAS No: 446255-22-7), 2,2',3,4,4',5',6-heptabromodiphenyl ether (BDE-183, CAS No: 207122-16-5) and other hexa- and heptabromodiphenyl ethers present in commercial octabromodiphenyl ether.**

[b/] **"Tetrabromodiphenyl ether and pentabromodiphenyl ether" means 2,2',4,4'-tetrabromodiphenyl ether (BDE-47, CAS No: 40088-47-9) and 2,2',4,4',5-pentabromodiphenyl ether (BDE-99, CAS No: 32534-81-9) and other tetra- and pentabromodiphenyl ethers present in commercial pentabromodiphenyl ether.**

[c/] **"Perfluorooctane sulfonate (PFOS)" means substances defined by the molecular formula C8F17SO2X, where X=OH, metal salt, halide, amide or other derivatives including polymers.**

[d/] **"Polychlorinated biphenyls" means aromatic compounds formed in such a manner that the hydrogen atoms on the biphenyl molecule (two benzene rings bonded together by a single carbon-carbon bond) may be replaced by up to 10 chlorine atoms.**

[e/] **"Short-chain chlorinated paraffins" means chlorinated alkanes with a carbon chain length of 10 to 13 carbon atoms and the degree of chlorination of more than 48% by weight.**

ANNEX II

SUBSTANCES SCHEDULED FOR RESTRICTIONS ON USE

Unless otherwise specified in the present Protocol, this annex shall not apply to the substances listed below when they occur: (a) as contaminants in products; or (b) in articles manufactured or in use by the implementation date; or (c) as site-limited chemical intermediates in the manufacture of one or more different substances and are thus chemically transformed. Unless otherwise specified, each obligation below is effective upon the date of entry into force of the Protocol.

Substance	**Implementation requirements**	
	Restricted to uses	**Conditions**
[DDT CAS: 50-29-3 – deleted]	[1. For public health protection from diseases such as malaria and encephalitis. 2. As a chemical intermediate to produce Dicofol. – deleted]	[1. Use allowed only as a component of an integrated pest management strategy and only to the extent necessary and only until one year after the date of the elimination of production in accordance with annex I. 2. Such use shall be reassessed no later than two years after the date of entry into force of the present Protocol. – deleted]
[HCH CAS: 608-73-1 – deleted]	[Technical HCH (i.e. HCH mixed isomers) is restricted to use as an intermediate in chemical manufacturing. Products in which at least 99% of the HCH isomer is in the gamma form (i.e. lindane, CAS: 58-89-9) are restricted to the following uses: 1. Seed treatment. 2. Soil applications directly followed by incorporation into the topsoil surface layer. 3. Professional remedial and industrial treatment of lumber, timber and logs. 4. Public health and veterinary topical insecticide. 5. Non-aerial application to tree seedlings, small-scale lawn use, and	[All restricted uses of lindane shall be reassessed under the Protocol no later than two years after the date of entry into force. – deleted]

Substance	Implementation requirements	
	Restricted to uses	**Conditions**
	indoor and outdoor use for nursery stock and ornamentals. 6. Indoor industrial and residential applications. – deleted]	
[PCBs [a/] – deleted]	[PCBs in use as of the date of entry into force or produced up to 31 December 2005 in accordance with the provisions of annex I – deleted]	[Parties shall make determined efforts designed to lead to: (a) The elimination of the use of identifiable PCBs in equipment (i.e. transformers, capacitors or other receptacles containing residual liquid stocks) containing PCBs in volumes greater than 5 dm^3 and having a concentration of 0.05% PCBs or greater, as soon as possible, but no later than 31 December 2010, or 31 December 2015 for countries with economies in transition; (b) The destruction or decontamination in an environmentally sound manner of all liquid PCBs referred to in subparagraph (a) and other liquid PCBs containing more than 0.005% PCBs not in equipment, as soon as possible, but no later than 31 December 2015, or 31 December 2020 for countries with economies in transition; (c) The decontamination or disposal of equipment referred to in subparagraph (a) in an environmentally sound manner – deleted]

Substance	Implementation requirements	
	Restricted to uses	**Conditions**
Perfluorooctane sulfonate (PFOS)[a/]	**(a) Photo-resist or anti-reflective coatings for photolithography processes;** **(b) Photographic coatings applied to films, papers or printing plates;** **(c) Mist suppressants for non-decorative hard chromium (VI) plating and wetting agents for use in controlled electroplating systems;** **(d) Hydraulic fluids for aviation;** **(e) Certain medical devices (such as ethylene tetrafluoroethylene copolymer (ETFE) layers and radio-opaque ETFE production, in vitro diagnostic medical devices, and CCD colour filters).**	**1**. Parties should take action to eliminate these uses once suitable alternatives are available. **2.** No later than 2015 and every four years thereafter, each Party that uses these substances shall report on progress made to eliminate them and submit information on such progress to the Executive Body. Based on these reports, these restricted uses shall be reassessed.
Short-chain chlorinated paraffins[b/]	**(a) Fire retardants in rubber used in conveyor belts in the mining industry;** **(b) Fire retardants in dam sealants.**	Parties should take action to eliminate these uses once suitable alternatives are available. No later than 2015 and every four years thereafter, each Party that uses these substances shall report on progress made to eliminate them and submit information on such progress to the Executive Body. Based on these reports, these restricted uses shall be reassessed.

[a/ The Parties agree to reassess under the Protocol by 31 December 2004 the production and use of polychlorinated terphenyls and "ugilec". – deleted]

[a/] "Perfluorooctane sulfonate (PFOS)" means substances defined by the molecular formula C8F17SO2X, where X=OH, metal salt, halide, amide or other derivatives including polymers.

[b/] "Short-chain chlorinated paraffins" means chlorinated alkanes with a carbon chain length of 10 to 13 carbon atoms and the degree of chlorination of more than 48% by weight.

Annex III

SUBSTANCES REFERRED TO IN ARTICLE 3, PARAGRAPH 5 (a), AND THE REFERENCE YEAR FOR THE OBLIGATION

Substance	**Reference year**
PAHs[a/]	1990; or an alternative year from 1985 to 1995 inclusive, **or for countries with economies in transition, an alternative year from 1985 to the year of the entry into force of the Protocol for a Party and as** specified by [a – deleted] **that** Party upon ratification, acceptance, approval or accession.
Dioxins/furans[b/]	1990; or an alternative year from 1985 to 1995 inclusive, **or for countries with economies in transition, an alternative year from 1985 to the year of the entry into force of the Protocol for a Party and as** specified by [a – deleted] **that** Party upon ratification, acceptance, approval or accession.
Hexachlorobenzene **CAS: 118-74-1**	1990; or an alternative year from 1985 to 1995 inclusive, **or for countries with economies in transition, an alternative year from 1985 to the year of the entry into force of the Protocol for a Party and as** specified by [a – deleted] **that** Party upon ratification, acceptance, approval or accession.
PCBs[c/]	**2005; or an alternative year from 1995 to 2010 inclusive, or for countries with economies in transition, an alternative year from 1995 to the year of the entry into force of the Protocol for a Party, and as specified by that Party upon ratification, acceptance, approval or accession.**

[a/]Polycyclic aromatic hydrocarbons (PAHs): For the purposes of emission inventories, the following four indicator compounds shall be used: benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, and indeno(1,2,3_cd)pyrene.

[b/]Dioxins and furans (PCDD/F): Polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF) are tricyclic, aromatic compounds formed by two benzene rings which are connected by two oxygen atoms in PCDD and by one oxygen atom in PCDF and the hydrogen atoms of which may be replaced by up to eight chlorine atoms.

[c/]Polychlorinated biphenyls, as defined in annex I, when formed and released unintentionally from anthropogenic sources

Annex IV

LIMIT VALUES FOR DIOXINS AND FURANS FROM MAJOR STATIONARY SOURCES

I. INTRODUCTION

1. A definition of dioxins and furans (PCDD/F) is provided in annex III to the present Protocol.

2. Limit values are expressed as ng/m^3 or mg/m^3 under standard conditions (273.15 K, 101.3 kPa, [and – deleted] dry gas, **and for a given oxygen content**).

3. Limit values relate to the normal operating situation. [, including start-up and shutdown procedures, unless specific limit values have been defined for those situations**.** – deleted] **For batch operations, limit values relate to average levels as recorded during the whole batch process–including, for example, pre-heating, heating and cooling.**

4. Sampling and analysis of all pollutants shall be carried out according to the **applicable** standards laid down by, **for example,** the Comité européen de normalisation (CEN), the International Organization for Standardization (ISO), or the corresponding United States or Canadian reference methods.

5. For verification purposes, the interpretation of measurement results in relation to the limit value must also take into account the inaccuracy of the measurement method. A limit value is considered to be met if the result of the measurement, from which the inaccuracy of the measurement method is subtracted, does not exceed it.

6. [Emissions of different congeners of PCDD/F are given in toxicity equivalents (TE) in comparison to 2,3,7,8-TCDD using the system proposed by the NATO Committee on the Challenges of Modern Society (NATO-CCMS) in 1988. – deleted] **Emissions of PCDD/F are given in total toxic equivalents (TEQ).[1] The toxic equivalence factor values to be used for the purposes of this Protocol shall be consistent with applicable international standards, including the World Health Organization 2005 mammalian toxic equivalence factor values for PCDD/F.**

[1] The total toxic equivalent (TEQ) is operationally defined by the sum of the products of the concentration of each compound multiplied by its toxic equivalence factor (TEF) value and is an estimate of the total 2-, 3-,7-, and 8-TCDD-like activity of the mixture. Total toxic equivalent was previously abbreviated as TE.

7. The following limit values, which refer to 11% O_2 concentration in flue gas, apply to the following incinerator types:

Municipal solid waste [(burning more than 3 tonnes per hour) – deleted] **(existing stationary source burning more than 3 tonnes per hour and every new stationary source)**

0.1 ng TE**Q**/m^3

Medical solid waste [(burning more than 1 tonne per hour) – deleted] **(existing stationary source burning more than 1 tonne per hour and every new stationary source)**

New stationary source: 0.1 ng TEQ/m^3
Existing stationary source: 0.5 ng TE**Q**/m^3

Hazardous waste [(burning more than 1 tonne per hour) – deleted] **(existing stationary source burning more than 1 tonne per hour and every new stationary source)**

New stationary source: 0.1 ng TEQ/m^3
Existing stationary source: 0.2 ng TE**Q**/m^3

Non hazardous industrial waste[2] [3]

New stationary source: 0.1 ng TEQ/m3
Existing stationary source: 0.5 ng TEQ/m3

[2] Including incinerators treating biomass waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating, and which includes in particular biomass waste originating from construction and demolition waste, but excluding incinerators only treating other biomass waste.

[3] Countries with economies in transition may exclude co-combustion of non-hazardous industrial waste in industrial processes where such waste is used as an additional fuel contributing up to 10% of the energy.

Annex V

BEST AVAILABLE TECHNIQUES TO CONTROL EMISSIONS OF PERSISTENT ORGANIC POLLUTANTS FROM MAJOR STATIONARY SOURCES

I. INTRODUCTION

1. The purpose of this annex is to provide the Parties to the Convention with guidance in identifying best available techniques to allow them to meet the obligations in article 3, paragraph 5, of the Protocol. **Further description of, and guidance regarding, such best available techniques is provided in a guidance document adopted by the Parties at a session of the Executive Body and may be updated as necessary by a consensus of the Parties meeting within the Executive Body.**

2. "Best available techniques" (BAT) means the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and their impact on the environment as a whole:

- ‘Techniques' includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned;
- ‘Available' techniques means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the territory of the Party in question, as long as they are reasonably accessible to the operator;
- ‘Best' means most effective in achieving a high general level of protection of the environment as a whole.

In determining the best available techniques, special consideration should be given, generally or in specific cases, to the factors below, bearing in mind the likely costs and benefits of a measure and the principles of precaution and prevention:

- The use of low-waste technology;
- The use of less hazardous substances;
- The furthering of recovery and recycling of substances generated and used in the process and of waste;
- Comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;
- Technological advances and changes in scientific knowledge and understanding;
- The nature, effects and volume of the emissions concerned;
- The commissioning dates for new or existing installations;
- The time needed to introduce the best available technique;
- The consumption and nature of raw materials (including water) used in the process and its energy efficiency;

- The need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it;
- The need to prevent accidents and to minimize their consequences for the environment.

The concept of best available techniques is not aimed at the prescription of any specific technique or technology, but at taking into account the technical characteristics of the installation concerned, its geographical location and the local environmental conditions.

3. Information regarding the effectiveness and costs of control measures is based on documents received and reviewed by the Task Force and the Preparatory Working Group on POPs. Unless otherwise indicated, the techniques listed are considered to be well established on the basis of operational experience.

4 Experience with new plants incorporating low-emission techniques, as well as with retrofitting of existing plants, is continuously growing. The regular elaboration and amendment of [the annex– deleted] **the guidance document referred to in paragraph 1 above** will therefore be necessary. Best available techniques (BAT) identified for new plants can usually be applied to existing plants provided there is an adequate transition period and they are adapted.

5. [The annex– deleted] **The guidance document referred to in paragraph 1 above** lists a number of control measures which span a range of costs and efficiencies. The choice of measures for any particular case will depend on a number of factors, including economic circumstances, technological infrastructure and capacity, and any existing air pollution control measures.

6. The most important POPs emitted from stationary sources are:

(a) Polychlorinated dibenzo-p-dioxins/furans (PCDD/F);
(b) Hexachlorobenzene (HCB);
(c) Polycyclic aromatic hydrocarbons (PAHs).

Relevant definitions are provided in annex III to the present Protocol.

II. MAJOR STATIONARY SOURCES OF POP EMISSIONS

7. PCDD/F are emitted from thermal processes involving organic matter and chlorine as a result of incomplete combustion or chemical reactions. Major stationary sources of PCDD/F may be as follows:

(a) Waste incineration, including co-incineration;
(b) Thermal metallurgical processes, e.g. production of aluminium and other non-ferrous metals, iron and steel;
(c) Combustion plants providing energy;
(d) Residential combustion;
(e) Specific chemical production processes releasing intermediates and by-products.

8. Major stationary sources of PAH emissions may be as follows:

(a) Domestic wood and coal heating;
(b) Open fires such as refuse burning, forest fires and after-crop burning;
(c) Coke and anode production;
(d) Aluminium production (via Soederberg process);
(e) Wood preservation installations, except for a Party for which this category does not make a significant contribution to its total emissions of PAH (as defined in annex III).

9. Emissions of HCB result from the same type of thermal and chemical processes as those emitting PCDD/F, and HCB is formed by a similar mechanism. Major sources of HCB emissions may be as follows:

(a) Waste incineration plants, including co-incineration;
(b) Thermal sources of metallurgical industries;
(c) Use of chlorinated fuels in furnace installations.

[III.GENERAL APPROACHES TO CONTROLLING EMISSIONS OF POPS – part III is deleted; its contents moved into the guidance document referred to in paragraph 1 above].

[IV.CONTROL TECHNIQUES FOR THE REDUCTION OF PCDD/F EMISSIONS – part IV is deleted; its contents moved into the guidance document referred to in paragraph 1 above].

[V.CONTROL TECHNIQUES FOR THE REDUCTION OF PAH EMISSIONS – part IV is deleted; its contents moved into the guidance document referred to in paragraph 1 above].

Annex VI

TIMESCALES FOR THE APPLICATION OF LIMIT VALUES AND BEST AVAILABLE TECHNIQUES TO NEW AND EXISTING STATIONARY SOURCES

1. The timescales for the application of limit values and best available techniques are:

(a) For new stationary sources: two years after the date of entry into force of the present Protocol **for a Party**;

(b) For existing stationary sources:

(i) Eight years after the date of entry into force of the present Protocol **for a Party**. If necessary, this period may be extended for specific existing stationary sources in accordance with the amortization period provided for by national legislation [. – deleted]**; or**

(ii) For a Party that is a country with an economy in transition, up to fifteen years after the date of entry into force of the present Protocol for that Party.

2. The timescales for the application of limit values and best available techniques that have been updated or introduced as a result of amendment of this Protocol shall be:

(a) For new stationary sources, two years after the date of entry into force of the relevant amendment for a Party;

(b) For existing stationary sources:

(i) Eight years after the date of entry into force of the relevant amendment for a Party; or

(ii) For a Party that is a country with an economy in transition, up to fifteen years after the date of entry into force of the relevant amendment for that Party.

[Annex VII

RECOMMENDED CONTROL MEASURES FOR REDUCING EMISSIONS OF PERSISTENT ORGANIC POLLUTANTS FROM MOBILE SOURCES – Annex VII is deleted]

Annex VIII

MAJOR STATIONARY SOURCES

I. INTRODUCTION

Installations or parts of installations for research, development and the testing of new products are not covered by this list. A more complete description of the categories may be found **in the guidance document referred to** in annex V.

II. LIST OF CATEGORIES

Category	Description of the category
1	[Incineration, including co-incineration, of municipal, hazardous or medical waste, or of sewage sludge. – deleted] **Waste incineration, including co-incineration, of municipal, hazardous, non-hazardous and medical wastes and sewage sludge.**
2	Sinter plants.
3	Primary and secondary production of copper.
4	Production of steel.
5	Smelting plants in the secondary aluminium industry.
6	Combustion of fossil fuels in utility and industrial boilers with a thermal capacity above 50 MW_{th}.
7	Residential combustion.
8	Firing installations for wood with a thermal capacity below 50 MW_{th}.
9	Coke production.
10	Anode production.
11	Aluminium production using the Soederberg process.
12	Wood preservation installations, except for a Party for which this category does not make a significant contribution to its total emissions of PAH (as defined in annex III).
13	**Specific chemical production processes releasing unintentionally formed persistent organic pollutants, especially the production of chlorophenols and chloranil.**
14	**Thermal processes in the metallurgical industry, chlorine-based methods.**
