



Dioxin, PCB and Waste Working Group

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Comments on
Presentation on
Study to facilitate the implementation of certain waste related provisions of
the Regulation on Persistent Organic Pollutants (POPs)
Workshop on May 11, 2005
Brussels

By Pat Costner
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We wish to express our appreciation to the European Commission Directorate-General, Environment, Directorate G – Sustainable Development and Integration, Env.G.4 – Sustainable Production & Consumption for the invitation to attend this workshop. We also appreciate the presentation by representatives from BiPRO, the consulting firm, which reflects what must be a monumental compilation of information.

General Comments

The core of the workshop was a series of presentations based on a report that, to our knowledge, was not available to any of the workshop participants, although the draft executive summary and draft conclusions and recommendations were provided. As described by the consultants, the not-yet-available report is a very detailed, data-rich document some 400 pages in length. Given the importance of the topic and its detailed and technical nature, we suggest that holding this workshop before making available to participants the draft report that provides the factual and scientific foundations of the methodologies and proposed limit values was premature and seriously constrained meaningful input.

Without access to the report, which, it is hoped, provides thorough documentation of information sources, it is not possible to follow the derivation of estimates of POPs in different wastes or to validate the sources of such basic data. For example, the mass of dioxin released in incinerator ashes in 2000 for one country alone, the Netherlands,¹ was estimated to be larger than the estimate given in slide 19 for the entire EU25. Certainly, the upper range of dioxin concentrations in MSW incinerator APC residues shown in slide 24 is markedly lower than those that have been reported for EU incinerators.²

Comments on Workshop Minutes: “Outcome and Comments”

1. Mass flow for POPs

We agree that BiPRO presented an overview of the pollutant and waste related mass flows and we do not argue against the utility of such mass flows. However, to our knowledge, workshop participants were not polled to determine their opinions on the latter point so that it is inaccurate to infer that workshop participants expressed a general agreement.

2. Method: assessment methodology for definition of limit values

Similarly, we agree that a “method was presented by BiPRO,” and we do not argue that this method may have utility. However, to our knowledge, workshop participants were not polled to determine their opinions, so it is not accurate to say that workshop participants gave “basic consent that it was a feasible and well structured tool for the assessment of impacts of possible limit values and the guidance of the decision process.” Indeed, on reflection, we find that the method suffers from fundamental flaws that result in recommended limit values that not only conflict with the goals of the Stockholm Convention but also greatly exceed the provisional limit values established in the Basel Convention guidelines for POPs wastes.

On this point, there appears to have been some misunderstanding by the BiPRO consultants as to the meaning of the “low POPs content” levels that are described and called for in the Stockholm Convention on POPs and established provisionally in the Basel guidelines for POPs wastes.³

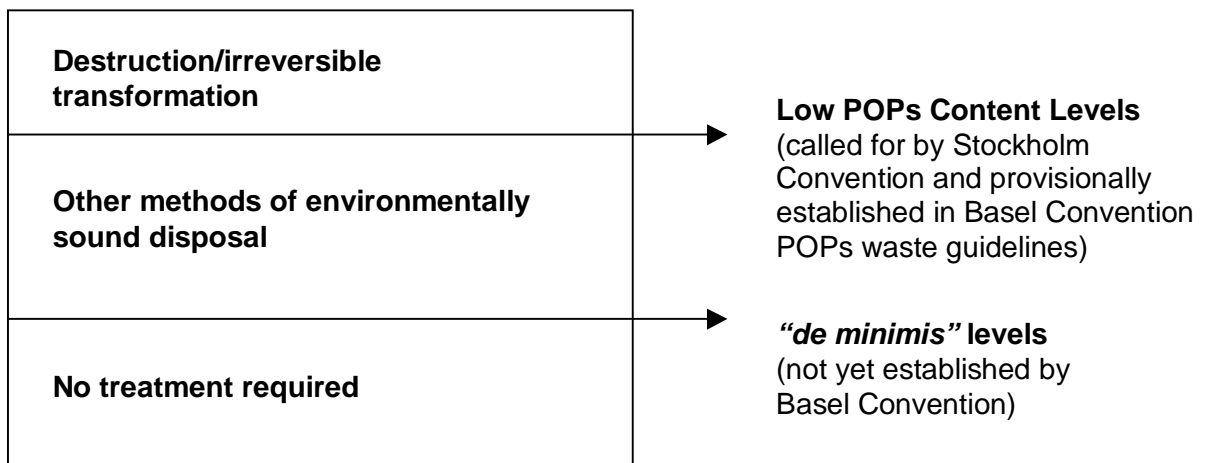
POPs stockpiles and wastes are addressed in Article 6 of the Stockholm Convention, which instructs the Stockholm Conference of Parties to cooperate closely with the appropriate bodies of the Basel Convention toward several ends, including to “work to establish, as appropriate the concentration levels of the chemicals listed in Annexes A, B and C in order to define the low persistent organic pollutant content referred to in paragraph 1 (d)(ii).” Paragraph 1 (d)(ii) specifies that wastes are to be “[d]isposed of in such a way that the persistent organic pollutant content is destroyed or irreversibly transformed so that they do not exhibit the characteristics of persistent organic pollutants or otherwise disposed of in an environmentally sound manner when destruction or irreversible transformation does not represent the environmentally preferable option or the persistent organic pollutant content is low ...”

Based on the above text from the Stockholm Convention, waste containing POPs at concentrations above the “low POPs content” concentrations must undergo destruction or irreversible transformation unless this is not the environmentally preferable option. Provisional values for “low POPs content” are established in the “General Technical Guidelines for Environmentally Sound Management of Wastes Consisting of, Containing or Contaminated with Persistent Organic Pollutants,” recently adopted by the seventh Conference of Parties of the Basel Convention. It is important to note that the Stockholm Convention does not address so-called “de minimis” concentrations -- concentrations of POPs below which wastes are no longer regarded as POPs wastes and so no treatment is required. While such limits are under consideration by the Basel Convention as part of the determination of H11 characteristics, no limit values have been established yet.

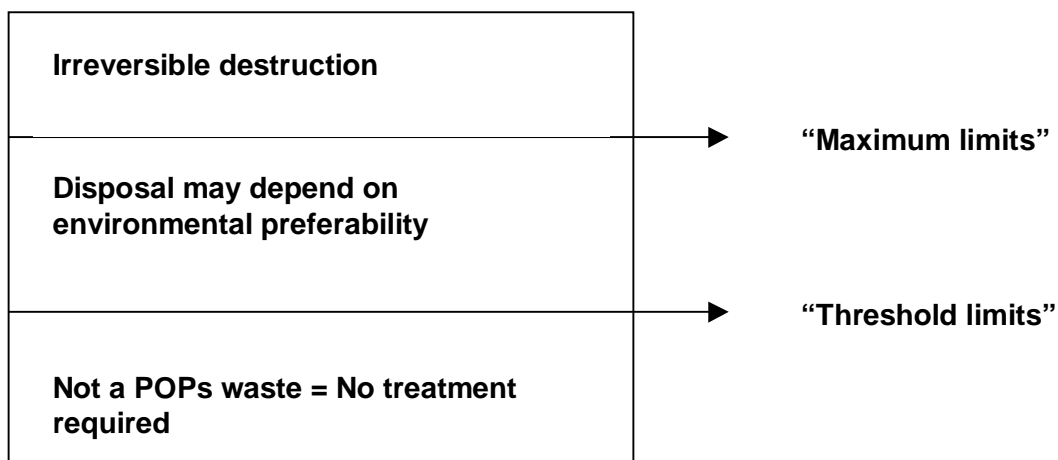
As indicated in slide 10 of the BiPRO presentations and explained on page 7 of the draft executive summary, the proposal for EC regulation on POPs is that wastes containing POPs that are present at concentrations above the “*maximum limit*” concentrations are to undergo irreversible destruction, while wastes containing POPs that are present at concentrations below the “*threshold limit*” are no longer regarded as POPs wastes so that no treatment is required.

The figures below compare the limits called for by the Stockholm Convention, established and/or to be considered by the Basel Conventions and those set forth in the BiPRO presentation and proposed for use in the waste-related provisions of the EC regulation on POPs:

POPs Levels called for by Stockholm Convention, established and/or to be considered by Basel Convention



POPs limits proposed for waste-related provisions of EC regulation on POPs (e.g., see slides 4 and 6 of BiPRO presentation and page 7 of the draft executive summary)



As these figures indicate, the “*maximum limits*” proposed for use in the EC regulation on POPs are functionally equivalent to the “*low POPs content*” levels called for in the Stockholm Convention and provisionally established by the Basel Convention, while the “*threshold limits*” are functionally equivalent to the “*de minimis*” levels that have not yet been established by the Basel Convention.

Basel Convention Guidelines for POPs Wastes		Proposed EC Regulation on POPs (e.g., see Executive Summary Fig. 0-5 and presentation slides 88, 89, 90, and 109)
<p>⇔ “Low POPs Content Levels”*</p> <p>PCDD/Fs: 15 ppb TEQ</p> <p>PCBs: 50 ppm</p> <p>POP pesticides: 50 ppm</p>		<p>“Maximum limits”</p> <p>(for non-hazardous and hazardous landfills)</p> <p>PCDD/Fs: 5,000 ppb</p> <p>PCBs: 2,000 ppm</p> <p>POP pesticides: 5,000 ppm</p> <p>Other POPs: 5,000 ppm</p>
<p>⇔ “<i>de minimis</i>” levels</p> <p>(to be established by Basel Convention as part of H11 characteristics)</p>		<p>“Threshold limits” **</p> <p>PCDD/Fs: 10 – 15 ppb TEQ</p> <p>PCBs : 30-50 ppm</p> <p>POP pesticides and other POPs: 10-50 ppm</p>
		<p>Appropriate storage in salt mines, safe deep hard rock formation</p> <p>No restrictions for wastes containing dioxins, PCBs, POP pesticides or other POPs.</p>

* Provisional levels.

** Recommended values.

As can be seen above, the recommended “*maximum limits*” values are orders of magnitude greater than the provisional “*low POPs content*” levels established in the Basel guidelines for POPs wastes, while the recommended “*threshold limits*” values are quite similar to the provisional “*low POPs content*” levels. We suggest that it is necessary to review and revise the terms, “*maximum limits*” and “*threshold limits*”, so that they are in agreement with similar terms used in the Stockholm and Basel

Conventions. Further, we suggest that the limit values recommended in this study may not be sufficiently protective of human health and the environment and propose that, following the necessary revisions of the key terms and the availability of the full draft report, that the limit values are reassessed and revised so that they support this objective of the Stockholm Convention and are also at least as stringent as the provisional “low POPs content” levels established in the Basel guidelines for POPs wastes.

Further, we suggest that regulations allowing the storage of wastes containing POPs at concentrations above “low POPs content” levels “in salt mines, safe deep hard rock formation” may not comply with the requirements of the Stockholm Convention unless such storage is determined to be a method of disposal that is environmentally preferable to destruction or irreversible transformation, as specified in Article 6, paragraph 1 (d)(ii) of the Convention.

3. *Method 2: assessment methodology for decision on environmental preferability/testing approach*

Once again, while acknowledging the potential usefulness of this methodology, we do not find it accurate to conclude that “there was a basic consent that the method could be a feasible tool for a harmonised reporting by member state authorities,” since there was no poll to determine participants’ opinions on this matter.

Additional Comments

There are many sites in Europe that have historic dioxin contamination, e.g., Rheinfelden in Germany, Spolana in the Czech Republic, Seveso wastes, etc. However it is not apparent from the workshop presentation how or to what extent these sites were taken into consideration in this study.

As reflected in the minutes, the issue of dioxin-like PCBs was raised during workshop discussions. However, it should be emphasized that this is an important gap in the study that requires careful and thorough elaboration.

In the draft executive summary, the following is noted: “HCB is known to be formed in thermal processes like PCDD/Fs and during chemical processes. However to date the importance of these sources is quite low .” While there is a notable lack of data describing HCB releases, limited available information does not support the conclusion that HCB sources are of low importance.^{4,5}

Establishing dioxin levels of 1 or 15 ppb TEQ as those for which unacceptable risks can be excluded (see slide 76), is in conflict with current EU legislation. In one of the more notorious examples, Newcastle, U.K., ashes containing 0.020 ppb to 4.224 ppb I-TEQ of dioxins were associated with unacceptable risks via transfer to chickens, uptake in eggs and subsequent ingestion, with eggs from exposed chickens exceeding the EU limit of 3 ppt WHO-TEQ.^a In this case, ash containing 0.9 ppb I-TEQ was associated with

^a The European Union (EU) Council Regulation 2375/2001 established this threshold limit value for eggs and egg products. There is even more strict limit at level of 2.0 pg WHO-TEQ/g of fat for

concentrations in eggs of exposed chickens of 7.5 pg/g WHO-TEQ, lipid-based, as well as 27 pg/g WHO-TEQ in the eggs of chickens exposed to ash having a dioxin concentration of 0.02 pg/g I-TEQ.^{6, 7}

References

¹ Schoevers, A. 2004: Environmental pollution by dispersion of solid residues from waste incineration; the legacy of ignorance. Case study of persistent hazardous pollutants in fly ash and bottom ash in the Netherlands. Report prepared for IPEN Dioxins, PCBs and Wastes Working Group by Waste & Environment, Rijswijk, Netherlands, February 2004.

² Petrlik, J., Ryder, R. A. 2005: After Incineration the Toxic Ash Problem. IPEN Dioxin, PCBs and Waste WG, Prague - Manchester 2005.

³ General technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants, Basel Convention Report on the implementation of the decisions adopted by the Conference of the Parties at its sixth meeting UNEP/CHW. 7/8/Add.1/Rev.1, 26 October 2004

⁴ Fara, M., Mitera, J., Bureš, V., 1999. Realizace měření emisí látek POP, stanovení hmotnostních toků a koncentrací látek POP na určených zdrojích. POPs emissions measurements, emissions default factors set up for specific sources - Final Report of Research Project VaV/520/1/97. Ministry of the Environment of the Czech Republic.

⁵ Grochowalski A., Sprawozdanie z przeprowadzonych pomiarów i oznaczenia stezenia PCDDs/PCDFs, HCB i PCBs, 30.09.2002; <http://ks.ios.edu.pl/gef/doc/GF-POL-INV-R1.PDF>

⁶ Pless-Mulloli, T., Air, V., Schilling, B., Paepke, O., Foster, K. 2003: Follow-up Assessment of PCDD/F in Eggs from Newcastle Allotments. University of Newcastle, Ergo, Newcastle City Council, July 2003.

⁷ Pless-Mulloli T, Edwards R, Paepke O, Schilling B., 2001. Full technical report. PCDD/PCDF and heavy metals in soil and egg samples taken from Newcastle allotments: assessment of the role of the Byker incinerator. Newcastle upon Tyne: University of Newcastle.