

**Comments on the guidance document (draft) on
BAT/BEP for atmospheric mercury emission control
(CHINA)**

1. Recommendations to the introduction and summary

- 1) The central issue currently concerned by the technical experts group is how to identify the standard of using BAT , which means what techniques can be identified as BAT or in which way one nation should use the techniques in the guidance document. We suggest that the domestic or international emission value standard could be considered as the requirements of using BAT.
- 2) We suggest adding “ It should be noted that the techniques described in this chapter should be updated along with the further development or improvement of technologies ” in Introduction and Summary, so as to keep this document an open one that can be revised or updated with the development of technologies.
- 3) The definition of emerging techniques should be clarified in the guidance to make it clear that what a technique emerging in experiments or applications could be determined as an emerging technique.

- 4) In Table 1 on page 6, China cannot fully achieve the same dust concentration after cleaning yet (1-10mg/m³ can be achieved but not 1-5mg/m³). We suggest adding specific conditions to achieve those cleaning results in Table 1.
- 5) There are still some technologies can be added in 1.7.2 “Common techniques for emission reduction”. The related contents will be submitted to BAT/BEP expert group by Chinese expert representative.
- 6) In 1.7.3, secondary pollution issue of fly ash and other solid wastes should be concerned and added.

2. Recommendations to the guidance on all sectors

1) Coal-fired power plants and coal-fired industrial boilers

- A. We suggest adding the Supercritical and Ultra Supercritical techniques which are the main trend and high efficiency in China into the contents of “Different combustion or firing methods of coal are used in power plants and industrial boilers” on page 9.
- B. In the last paragraph on page 12, we suggest that the value of mercury removal efficiency achieved by co-benefit techniques should be presented as the range value instead of the average value.

C. On page 28, the value units in table 4 need to be further researched and confirmed and all the cost calculation units in the guidance should keep consistent.

2) Non-ferrous metal smelting

We suggest adding an emerging technique with intellectual property right owned by China in this area. The relevant technical papers are being drafted now and will be submitted by Chinese experts to BAT/BEP expert group for consideration.

3) Waste incineration

A. The contents of the guidance are abundant but not clear enough.

For example, BAT and BEP are mixed up in some part of the document as well as the technical terminology is not consistent, bringing about the confusion. Anywhere in the text referring to the technical guidance on sound management of mercury contained wastes drafted by the Basel convention should present the latest version of the document.

B. We suggest deleting the last paragraph of summary, which indicates that both the emission standard and the emission level should not exceed 1-10 $\mu\text{g}/\text{m}^3$, anticipating that the emission level would be even lower in the condition of normal operation in the future. We propose that the expert group should demonstrate the removal efficiency of different techniques or

technique combination in the guidance rather than just mention the general emission level.

- C. The classification of the wastes in 2.1.2 is not scientific enough, so we suggest adding the common industrial wastes into the category of others, and moving 2.1.2.3 and 2.1.2.6 into the category of others.
- D. In 3.6.5 (Final Disposal of residues), it is inappropriate to say “ Any residues containing or contaminated with mercury should not be recycled”. It should be pointed out what conditions the recycle would be impossible. In fact, some wastes can be recycled in many countries
- E. We suggest removing the third paragraph of 5.1, and avoiding putting the emission level in the guidance as well as should pay attention to the mercury removal efficiency in different techniques or technique combination.
- F. The applicable incineration techniques should be stressed in 5.4, while some contents are about the company management or regulation which should be included in the contents of BEP. So does 5.5. As to 5.4.1, the efficiency and applicability of mercury control should be considered as the important factor for achieving the optimal combustion. The existing contents in this part are effective for dioxins rather than mercury.

- G. The contents of 5.6 should be more targeted and lay stress on the BEP of reducing mercury emission during the waste combustion process.
- H. The contents of the mercury contained waste (especially the medical waste) sorting techniques from the source should be added in the guidance, rather than just pay attention to the combustion techniques after the sorting process.
- I. An emerging technique with intellectual property right owned by China should be added in this area. The relevant technical papers are being drafted now and will be submitted by Chinese expert to BAT/BEP expert group for consideration.

4) Cement clinker production

The contents of 4.2 and 4.3 are all blank, so they should be supplemented in time.

3. Recommendations to the case study

- 1) We suggest case studies from different sectors to be composed follow the same length, style and structure.
- 2) We suggest adding case study of China's own technologies. In the current version of document, there are only case studies from cement clinker sector, non-ferrous metal smelting sector and waste incineration sector, coal-fired sector needs to be added. In the case studies of the existing three sectors, there are

no cases of China's own technology. It is necessary to add application cases of the technologies with independent intellectual property rights by China. Relevant technical details of these cases will be submitted by Chinese experts to BAT/BEP expert group for consideration.