



## ZMWG Comments on the Guidance on BAT/BEP for Waste Incinerator facilities

### 1 August 2015

#### **Introduction:**

In the introduction it is mentioned that open burning is considered as bad environmental practice. We note that in the first Global Mercury Assessment (UNEP 2002), it was emphasized: “Special attention should be paid to diffuse emissions from ... household and uncontrolled waste incineration, as well as improvement of data from main point source categories ... [including] waste incinerators and power plants using fossil fuel.” Since that time, there has been virtually no progress in our understanding of mercury emissions from landfill fires and open burning. Also, as written by the Nordic Council of Ministers (Norden 2007), waste treatment is a major mercury release source. Some countries have waste management systems that reduce releases from mercury containing waste, but many countries worldwide do not have such waste management systems, and practices like open waste burning and informal dumpsites are not uncommon. Accordingly, it should be explained a little bit more about what open burning is.

Our proposal is to modify this paragraph as follows:

**The burning of any type of waste in the open air, in open dumps, and in simply constructed incineration devices range from "drum incinerators" to locally-constructed incinerators with no pollution control to burning of medical waste in small ovens and do not allow for complete combustion. Open burning of waste mercury and mercury-added products contribute significantly to releases of mercury from products. Therefore, burning is considered ‘bad environmental practice’ and should be discouraged as it can lead to emissions of toxic substances into the environment. Open burning and burning in simply constructed incineration devices isn’t covered further in this guidance.**

#### **BEP:**

- Behavior under abnormal operating conditions

#### Rationale:

Both, in case of operating under abnormal operating conditions and in case of accidents and incidents increased amounts of mercury can be emitted into air and water. A fire in the waste bunker of a waste incineration plant is one of the most important incidents can cause emissions of mercury into the air as well as of other pollutants. Therefore measures have to be described in the BEP chapter to avoid or minimize emissions in the case of accidents or incidents.

## Summary:

In the summary the following wording is mentioned:

“With a suitable combination of primary and secondary measures, mercury emission levels in air emissions not higher than 1-10  $\mu\text{g}/\text{m}^3$  (at 11 per cent  $\text{O}_2$ ) are associated with best available techniques.”

Figure 8 in section 5.5.2 of the waste paper shows that the mean of all combinations of flue gas treatment systems considered in the figure is not higher than 3  $\mu\text{g}/\text{m}^3$ . This means that a majority of the considered plants have mercury emission values below 3  $\mu\text{g}/\text{m}^3$  despite the flue gas cleaning techniques. Therefore the mentioned range in the summary should be changed from 1-10  $\mu\text{g}/\text{m}^3$  (at 11 per cent  $\text{O}_2$ ) to **1- 3  $\mu\text{g}/\text{m}^3$**  (at 11 per cent  $\text{O}_2$ ) as emission levels associated with BAT. Note we believe both new and existing facilities can and should be upgraded to meet these emission limits, but assuming arguendo issues are raised regarding existing facilities, there can be little doubt new facilities should meet this standard.

## Waste water releases:

Add a section on waste water releases:

**Emission levels of mercury to water <0.05  $\mu\text{g}/\text{l}$  (yearly) and 0.2-0.3 $\mu\text{g}/\text{l}$  (daily averaged) after the wastewater treatment plant from flue gas cleaning is achieved, such as by membrane filtration. The values are based on 24-hour flow-proportional composite samples. Mercury emission to water should be prevented e.g. through Zero Liquid Discharge Techniques due to environmental quality standards and compliance with the OSPAR Convention.**

Rationale:

This issue of mercury sinks / release to water needs to be further developed in this section. WetFGD are the common  $\text{SO}_2$  abatement in the EU and there are techniques to ensure Hg capture in the wastewater of the FGD unit e.g. membrane filtration or ion exchange. Simple transfers of mercury release from air to water should not be prevented. The levels are based on evidence provided by the EEB showing that emission levels of mercury < 0.05 $\mu\text{g}/\text{l}$  (yearly average) prior to wastewater release are achieved. Significant emission reductions are necessary for the compliance to the OSPAR Convention.