EUROPEAN ENVIRONMENTAL BUREAU

RE: Revision of Best Available Techniques Reference Documents (BREF) for Large Combustion Plants
- **EEB preliminary comments on Background Paper and request for additional item for discussion-**

Brussels, 21/05/2015

Dear LCP BREF review team, Dear LCP BREF experts,

First of all thanks to the EIPPCB for having elaborated the Background Paper and managed to overcome the massive amount of comments on the D1.

The EEB provides as a separate document its **position on the Background Paper [G1]** for the specific sections of the updated BAT conclusions with a short rationale, in the same order as the Background Paper setup. Parts left in blank mean we will take a position on this item at the Final TWG meeting.

The comments made to the graphs and reference plants as provided to BATIS are "major" for us but will not be repeated here. We look forward to consideration by the European Commission on certain fundamental points made therein.

General comments (major concerns) + additional backup:

1. **Peak load / emergency load derogations**

The EEB, RAP and Greenpeace have objections to the introduction of peak load and emergency load derogations for the power generation installations. The following remaining questions should be addressed in advance to the meeting:

a) What is the detailed rationale for the definition and application of the peak mode and emergency mode derogation on power generation installations?
b) Why was the EEB not consulted or asked for a view on such a significant derogation?
c) Has DG ENER, DG COMP or ACER been consulted and if so what are their views?

In the supporting information package, please refer to document "G2 Load mode derogation LCP BREF" prepared by RAP.

2. **BAT-AELs (upper range) for solid fossil fuels, all parameters and in particular concerning the >300MWth category**

We cannot accept the upper ranges proposed for coal/lignite, in particular for existing plants, on almost all the parameters (in particular NOx, SOx, dust and mercury) but also energy efficiency since these fail to present levels achieved with BAT in line with the best performers. The credibility of the Sevilla Process is at serious risk if these are not tightened up. We expect some proportionality in terms of "ambition level" to be applied in a rigorous manner to the worst air pollution impacting IED sector.

Greenpeace and EEB have published (yesterday) a technical report which also sheds light on the public health benefits angle of setting the upper BAT-AEL range in line with what performance levels reached with best techniques already judged economically viable to the sector can actually deliver.
See document G3 Technical report and G4 country split results.[1]

We cannot accept that the Article 15(4) of the IED procedure, allowing derogations based on a disproportionate cost compared to the benefit assessment -but based on a robust assessment subject to public scrutiny - is sidelined / undermined through negotiations at the meeting were solely potential cost

[1] http://www.eeb.org/index.cfm/news-events/news/report-weak-eu-coal-pollution-standards-could-cause-71-000-avoidable-deaths/

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figures to operators are presented. We would consider a high amount of derogation applications in later permitting stage as an indicator for ambitious upper BAT-AEL which could indeed make a difference.
If the dis-proportionality justification of the operator is robust, the operator has nothing to fear that this derogation would not be granted by the permitting authority, but this needs to be in accordance to the agreed procedures of the IED. *A contrario*, it is not possible to change back to tighter BAT-AELs or remove specific footnotes claiming economic restrictions that proven as unfounded in the BAT Conclusions.

We also appeal in particular to the decision makers to take decisions as closest as possible to the interest of the citizens and not just consider the economic concerns of the polluters. In this respect it is worth citing the provisions of the Treaty of the European Union (TEU) which establishes a fundamental EU objective, stating in Article 1(2): "*This Treaty marks a new stage in the process of creating an ever closer union among the peoples of Europe, in which* **decisions are taken as openly as possible and as closely as possible to the citizen**." (own emphasis added)

The rationales for significant tightening have also been set out in the EEB Technical Annex dating back to End of March (prior to the revised BAT conclusions). *See document "G5 EEB Technical Annex".*

3. Mercury specific issues

a) The evolution of mercury abatement over the course of the revision of the LCPB BREF

Low levels of mercury abatement is both attainable and justified for EU plants, based on a case that we have progressively build up for the EU situation through the application of available techniques to the operational data of EU plants. The EEB therefore updated its position to support the following levels:

i.e. for coal-fired plants > 300 MWth:

- **new: </= 0,5 µg/Nm3**
- **existing: 1- 1.5 µg/Nm3**

for lignite fired plants >300 MWth:

- **new: </= 1 µg/Nm3**
- **existing: 1 – 3 µg/Nm3 (EU reference plants)**

See document H1 The Evolution of mercury abatement over the course of the revision of the LCP BREF

b) Dedicated mercury controls already in operation at 107 coal fired LCPs in US totalling about 179,6 GW of capacity

As a further evidence for a high penetration rate of specific mercury controls in LCPs for coal combustion, we attach a list of reference plants in the EU for which search queries "Electric utility " "small power producer" combined with "hg controls" (any entry) for coal only in the US EPA database http://ampd.epa.gov/ampd/ . 107 entries (LCPs) are provided. The specific hg controls techniques are listed in column S, with a start date of the use of these controls. Column T indicates that these are applied for plants in operation as far back as 1954 with a size range going down to Max hourly HI rate of 600 MMBtu/hr ~175MW.
See filtered excel list in HG US LCP overview as of 20 May 2015 with dedicated mercury controls

c) We received additional facts by a technique provider as a backup that the proposed hg to air levels of 1µg/Nm³ can be met through another technique which is not yet listed

The mercury abatement technique developed by GORE is based on a fluoropolymer-based Sorbent Polymer Composite (SPC) material which removes both elemental and oxidized mercury from the flue gas stream. As such, it is insensitive to fuel or process changes that affect mercury speciation. According

to the provider "*Mercury is strongly bound within the SPC which has a high capacity for mercury storage allowing for long life without the need for regeneration. The SPC can operate even in very wet gas streams, making it ideal for location above the mist eliminators in a wet FGD system. The removal of SO2 is a co-benefit as it is converted to sulfuric acid which is expelled out of the hydrophobic SPC material into the absorber vessel below. When installed in a scrubber the GMCS serves as a barrier to mercury reemissions, since it is located at the outlet of the scrubber and effectively removes elemental mercury. This allows a plant to avoid the need for re-emissions additives, and focus the scrubber operation on avoiding other unwanted problems like selenate formation. Unlike many activated carbon sorbents, the presence of SO3 does not inhibit mercury capture by the SPC, making it a very effective solution for high sulfur coals or units with SO3 gas conditioning*."

A technical paper to be used for complementing the Chapter 5.1.4.4.3 Section has been provided.

Further information see "HG_2_2015-04-22 BAT Candidate description Gore mercury Control System rev2"

What we find interesting is that since October 2014, a full-scale commercial 160 MW system was installed at Cayuga Operating Company's Cayuga plant in New York. This (hardcoal) plant is subject to a more stringent state limit of 0.6 lb Hg /TBtu = **0.5µg/Nm3** which took effect on January 1, 2015.

Typical uncontrolled Hg levels at the stack (prior to installation of the GMCS) are in excess of 2 lb/TBtu. The plant has been in compliance since start-up of the GMCS, with typical outlet mercury readings around 0.3 lb Hg/TBtu. **~ 0.1µg/Nm3**

These facts are important to take into account, as they correspond to factor 10 tighter levels on what the EEB proposes as the upper hg range for table 10.8 and 10.9. Further the HG specific techniques description (section 5.1.4.4.3) is not up to date

Further input on the Cayuga plant see "HG_4 EUEC Conference 2015 GMCS Cayuga Presentation FINAL"

d) As a backup for tightening the emissions to water hg (daily) upper range to 1µg/l we provide the raw monitoring data for ref plant #132 (HEYDEN) for which a wrong (higher) number has been reported in the Questionnaire

As a further backup to our position in regards to upper range of hg emissions to water in BAT Table 10.1 (EEB comments on Background paper page 28) we would like to provide the following additional supporting information:

The EEB has received through an ATD request the raw data on the hg emissions to water for this plant suggesting that there is an error in the reported mean value (reported in the questionnaire as 0,5µg/l). In fact this is the max value only, with a mean below 0.3µg/l.

4 values were below a detection limit of 0,2 ug/l, one at 0,4 and one at 0,5. However the Excel programme produced a mean of 0,5 (=0,45) instead of the correct mean of 0,3 (=0,28). Considering all values below the detection limit (with the conservative approach setting the detection limit). The correct max value is 0,5 ug/l, the minimum value and the mean at <0,2 ug/l.

See dataset "HG 6 ref plant 132 corrected Wasseranalysen 2010"

Request for addressing the following issues on the agenda)

The EEB would like to address the "new" and "existing" plants definition at the meeting and to include this item on the agenda of the Final TWG. The current wording of the definition of a "new plant" is of major concern to us.

We will also raise this issue at IEF Forum level if no satisfactory outcome can be made on this point.

Proposal: Change in Section VII Glossary, Acronyms and Definitions: "new plant"

> Change in Section VII: "new plant": "*a combustion plant first permitted* ***after 7 January 2013 or that submitted a complete permit application provided it went into operation after 7 January 2014*** *or a* ~~*complete*~~ *replacement of a combustion plant on the existing foundations of the installation****, or replacement of an installation on the same site which has a technical connection and which could have an effect on emissions and pollution*** *following the publication of these BAT conclusions,* ***or obtained a construction permit following the publication of these BAT conclusions."***

Rationale:
As it stands, the standards for "new plants" will only apply as from 2020 to combustion plants that have been permitted after the publication of the BAT conclusions i.e. not likely prior to 2016 or even later if further delays would occur.

Yet the data basis for these installations date back to combustion plants built and that started operation in 2008-2010 in many cases, meaning that currently projected plants or those that went into operation prior to the publication would be subject to the "existing" plants standards.

The legal definition of the IED with a clear cut off date of 7 January 2013 should be used instead. This is also necessary for consistency and legal certainty reasons. One must assume that the Member States have correctly transposed the IED which specified this cut off date for differentiating "new" from "existing" plants.

Significant emission reductions can also be achieved without boiler change e.g. in case of replacement of abatement installations such as FGD units / new dust filter types which are not themselves defined as a "combustion plant" according to the currently used definition but significantly affect environmental performance of the LCP. In order to prevent legal uncertainty and potential abuses in permit conditions updates and to promote a level playing field as well as uptake of innovation within the sector, the cases on when the "new plant" standards should be considered by permit writers need to be clearly specified.

Best wishes,

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(For the E.NGO delegation)