

## EUROFER Comments to the proposals for the revision of Annexes IV and V to the Protocol on POPs

Comments refer to the Informal document No. 2 - Working document - Prepared by the Ad-hoc Tech Exp Group POPs in parallel to the 42<sup>nd</sup> session of WGSR

EUROFER would like contribute to the revision of the Protocol on POPs with the following comments and suggestions to the Informal document No.2. The comments refer to the text in the boxes and in blue that we have extracted from the mentioned document.

### Annex IV Point 6:

6. Emissions of PCDD/F are given in toxicity equivalents (TE). The toxic equivalent factor values to be used for the purposes of this Convention shall be consistent with accepted international standards, commencing with the World Health Organization 2005 mammalian toxic equivalent factor values for polychlorinated dibenzo-pdioxins and dibenzofurans and coplanar polychlorinated biphenyls.

EUROFER proposes to delete this point or to add I-TEQ units as an alternative reference unit since it is widely use, at least in the iron and steel sector in Europe. We do not support that WHO TEQ is the only unit to evaluate PCDD/F emissions. Instead, the very common I-TEQ was introduced on international basis about 20 years ago. In the Iron and Steel BREF all the BAT-AEL's (Best Available Techniques Associated Emission Levels) are defined as I-TEQ (e.g. see chapter 4, point 3, page 86 and chapter 9, point 3, page 315) and also in the Executive Summary the unit used for PCDD/F emissions at sinter plants and Electric Arc Furnaces (EAF's) is the I-TEQ. The BAT-AEL's ranges presented in the Iron and Steel BREF can therefore not be used referred to a different unit.

### Annex IV, Point 7:

7. The following limit values, which refer to 11% O<sub>2</sub> concentration in flue gas, apply to the following incinerator types:

(...)

Plenary WGSR:

Consider ELVs for Electric Arc Furnaces, Non-hazardous industrial waste, Sinterplants, Secondary production of copper and aluminium.

Based on Annex V it is technically possible to reduce emissions to:

Electric Arc Furnaces: <0.1 - 0.5 ng TEQ / m<sup>3</sup>

Sinterplants: <0.1 - 0.5 ng TEQ / m<sup>3</sup>

- 1) Reference O<sub>2</sub> concentration: EUROFER proposes to delete the value of 11% O<sub>2</sub> concentration or not to use it as a reference value for sinter plants and EAFs since these are not typical combustion processes. The 11% O<sub>2</sub> value has been defined only for incineration plants. At EAFs there is a normal atmosphere, thus an oxygen concentration close to 21%. Typical O<sub>2</sub> concentrations in the off-gas of sintering plants are around 16%.
- 2) Sinter plants and EAFs are not incinerators. EUROFER asks not to classify sinter plants and EAFs under the same category as incinerators, nowhere in Europe are they considered as such.

- 3) The values proposed for sinter plants and EAFs are the same as the Best Available Techniques Associated Emission Levels (BAT-AELs) described in the Iron and Steel BREF. However, BREFs (BAT Reference Documents) do NOT propose ELVs but suggest emission and/or consumption levels that are associated with the use of BAT. BAT-AELs as described in the BREFs represent average emission levels achievable during a substantial period of time in normal operating conditions. In a separate document an explanation of the differences between ELVs and BAT-AELs is given.

Annex V, Point 24:

24. Specific processes in the metallurgical industry may be important remaining sources of PCDD/F emissions. These are:

- (a) Primary iron and steel industry (e.g. blast furnaces, basic oxygen furnaces, sinter plants, iron pelletizing);
- (b) Secondary iron and steel industry; and
- (c) Primary and secondary non-ferrous metal industry (production of copper and aluminium).

EUROFER Proposal: Delete reference to blast furnaces (BF), basic oxygen furnaces (BOF) and iron pelletizing plants.

Justification: Blast furnaces have a closed system for the blast furnace gas until its utilization in the power plant where it is combusted at high temperatures so there are no PCDD/F's in the flue gas. The same situation is valid for the BOF gas. Several investigations carried out in the iron and steel industry showed that PCDD/F emissions are not relevant at these installations. This is well documented also in the conclusions and in the summary of the Iron and Steel BREF: In the conclusions and in the summary for BF, BOF, coke oven, pellet plants there are no measures for the reduction of PCDD/F's emissions defined neither BAT-AEL's for PCDD/F emissions because these plants do not have any relevant PCDD/F emissions.

Annex V, Table 2:

Options for emission reduction of PCDD/F from thermal processes in the metallurgical industry.

The techniques/control measures included in this table are not updated and do not take into account the existing Iron and Steel BREF. In particular, the following

*- "Waste gas recirculation e.g. emission optimized sintering (EOS) reducing waste gas flow by ca. 35% (reduced costs of further secondary measures by the reduced waste gas flow), cap. 1 million Nm<sup>3</sup>/h;"*

For this technique the estimated costs are considered low cost. EUROFER disagrees with this assessment and considers that it should be considered as a high cost measure. The Iron and Steel BREFs evaluates the costs to apply this technique and concludes that it can only be installed in an existing plant in the case of a big revamping.

There is also no reference to the decrease of production when this technique is installed. Depending upon the sinter basicity produced, the sinter plant performance in terms of productivity could be reduced by up to 10%.

*-Addition of limestone/activated carbon mixtures;*

In the management risk column it is reported "Followed by dust separation preferably by fabric filters". That is not correct, because that has nothing to do with risk but it refers to a preferred use.

*“Addition of limestone/activated carbon mixture”* is applicable both in the case of using only electro-filters and fabric filters. Among the risks of this technique it should be reported: the risk of burning and, if fabric filters are used the risk of increased emissions in case of breaking of filters and in relation to the need for by-pass fabric filters, especially during starting and stopping of the plant. By-passing fabric filter is a normal and usual condition rather than a risk. This should be properly underlined because it could influence the choice of the reduction technique.

Also in the *“Emission levels and/ or reduction”* column there is only the performance value of 0,1 ng TE/m<sup>3</sup>, while the European BREF shows the value of 0,1-0,5 TE/m<sup>3</sup>;

*- Cleaning of the scrap from oil prior to charging of production vessels; Cleaning solvents have to be used*

EUROFER is not aware that there is a plant, at industrial scale, cleaning scrap with solvents.

EUROFER believes that this provision should be deleted, as the primary measure on the scrap should be the one already mentioned in the existing document: *“Pre-sorting of scrap, avoidance of feed material like plastics and PVC contaminated scrap, stripping of coatings and use of chlorine-free insulating materials”*.

Reference to de-oiling should be reported only to the mill scales before their introduction into the sinter plant, as already indicated in point 27 of the document under consideration.

*- Lowering of the specific high waste gas volumes;*

In the column risk it is improperly added the note *“But maximum capture of potentially PCDD / F contaminated waste gases is desirable”*, which does not represent a risk and therefore should be removed from the document.

#### Annex V, Point 28:

The most effective PCDD/F emission reduction can be achieved using a combination of different secondary measures, as follows:

- a) Recirculating waste gas significantly reduces PCDD/F emissions. Furthermore, the waste gas flow is reduced significantly, thereby reducing the cost of installing any additional end-of-pipe control systems;
- (b) Installing fabric filters (in combination with electrostatic precipitators in some cases) or electrostatic precipitators with the injection of activated carbon/open-hearth coal/limestone mixtures into the waste gas;
- c) Scrubbing methods have been developed which include pre-quenching of the waste gas, leaching by high-performance scrubbing and separation by drip deposition. Emissions of 0.2 to 0.4 ng TE/m<sup>3</sup> can be achieved.
- [(d) Advanced ESPs should be recommended (eg. moving electrode ESP, ESP pulse system, high voltage operation of ESP)]*

EUROFER supports the inclusion of measure d). It should also be included in Table 2 in Annex V. This technique is well documented in the Iron and Steel BREF.