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**EXPLANATORY & GUIDANCE
document (E&G-d)
on IED-based (draft)
Waste Incineration BREF
and BAT conclusions**

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ANNEX 7

FAQ

(Frequently Asked Questions)

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ANNEX 7 – FAQ

Abbreviations

Please see **Annex 1** to this E&G-d.

Foreword

The answers provided on Frequently Asked Questions in this chapter, as well as the other pieces of information and the proposals in this Explanatory and Guidance document (E&G-d) are given in order to help the stakeholders but accepts no responsibility or liability whatsoever of the authors.

1 Permitting

1.1 When is it expected that the BAT conclusions are transposed into National legislation?

The IED was addressed to Member States (see IED Article 84) and Member States had to bring into force laws, regulations and administrative provisions necessary to comply with most of its articles by 7 January 2013 (see IED Article 80, Transposition). Therefore, they do not have to transpose the BREFs BAT conclusions since the obligation to implement the Best Available Techniques and to set ELVs based on BATAELs was stated in the IED.

However, the Member States may transpose the BAT conclusions in National rules if they want. The requirements cannot be less stringent than the BAT conclusions ones and the start of the period of 4 years for implementation of the BATs remains the date of publication of the BAT conclusions in the Official Journal of the E.U. (See IED, Article 21.3).

The Member States can set general binding rules (see IED, articles 6 and 17). This simplifies the administrative procedures since *“Where general binding rules are adopted, the permit may simply include a reference to such rules.”* (IED Article 6).

The Member States shall take the measures necessary to ensure that the conditions of, and the procedures, for the granting of the permit are fulfilled by the Competent authority. (IED Article 5) Member States shall also take the necessary measures to ensure that the permit conditions are complied with. (IED Article 8).

1.2 Who is the “competent authority”?

The IED does not provide a definition of the competent authority. From the 100 occurrences of the term in the IED, it can be understood that it is the authority that, within each Member State, is competent:

- to receive operators’ applications for permit, to set permit conditions, to grant the permit,
- to receive operators’ reports, to check that the permit conditions are complied with, to be notified if operators plan changes, to undertake site visits, to grant derogations if necessary.

1.3 Is it mandatory to hold a permit?

Yes. *“Member States shall take the necessary measures to ensure that no installation or combustion plant, waste incineration plant or waste co-incineration plant is operated without a permit.”* (IED Article 4).

“Permit’ means a written authorisation to operate all or part of an installation or combustion plant, waste incineration plant or waste co-incineration plant;” (IED Article 3(7)).

1.4 Who is the permit holder?

According to the IED *“operator’ means any natural or legal person who operates or controls in whole or in part the installation or combustion plant, waste incineration plant or waste co-incineration plant or, where this is provided for in national law, to whom decisive economic power over the technical functioning of the installation or plant has been delegated;” (IED Article 3(15)).*

In practice, according to this definition, the ‘operator’ is the holder of the permit to operate. He can be the legal person who actually operates the installation or for instance the plant owner who subcontracts operation.

1.5 What is an “installation”?

‘Installation’ means a stationary technical unit within which one or more activities listed in Annex I or in Part 1 of Annex VII are carried out, and any other directly associated activities on the same site which have a technical connection with the activities listed in those Annexes and which could have an effect on emissions and pollution; (IED Article 3(3)).

1.6 “Is it possible that a permit covers more than one installation and/or several parts of an installation operated by different operators?”

Yes. See IED, Articles 4 and 5.

“Member States may opt to provide that a permit cover two or more installations or parts of installations operated by the same operator on the same site”

“Member States may opt to provide that a permit cover several parts of an installation operated by different operators. In such cases, the permit shall specify the responsibilities of each operator.”

1.7 Is it necessary to reconsider the permit if the BAT conclusions of a BREF that is secondary towards the installation activity are published?

No. The reconsideration of the permit is only requested within 4 years after publication of the BAT conclusions relating to the main activity of the installation (see IED Article 21.3).

1.8 What about an installation including for instance an incinerator, a sorting plant, a composting plant?

According to IED Article 21.3, the 4 years period starts with the publication of the BAT conclusions related to the main activity of the installation:

“3. Within 4 years of publication of decisions on BAT conclusions in accordance with Article 13(5) relating to the main activity of an installation, the competent authority shall ensure that:

(a) all the permit conditions for the installation concerned are reconsidered and, if necessary, updated to ensure compliance with this Directive, in particular, with Article 15(3) and (4), where applicable;

(b) the installation complies with those permit conditions.

The reconsideration shall take into account all the new or updated BAT conclusions applicable to the installation and adopted in accordance with Article 13(5) since the permit was granted or last reconsidered.”

Some industrial sectors complain because BREFs BAT conclusions that are secondary towards the main activity of their installations are published during the 4 years of implementation of their main BREF BAT conclusions thus postponing the finalisation of their permit reconsideration.

Waste-to-Energy plants are often included in permits also covering other waste treatment plants, such as sorting or composting facilities. In such cases, the incineration plant is usually recognised as the main activity of the installation and therefore it is the publication of the WI BAT conclusions that starts the 4 year clock. Fortunately, the Waste treatment BAT conclusions were published on 17th August 2018 and therefore will not delay the reconsideration process for incineration plants.

1.9 a reconsideration of the permit?

Yes. The operator (the permit holder) must apply for a reconsideration of the conditions of the permit in order to ensure he will be authorised to operate the plant in accordance with the requirements of the IED by four years after the publication of the Waste Incineration BREF BAT conclusion (i.e. the Commission Implementing Decision where these conclusions are as a stand-alone document)

1.10 Is it necessary that existing installations apply for a new permit?

No. A new permit is not necessary. The existing permits should be reconsidered, but not necessarily modified.

According to IED Article 21, the permit conditions should be reconsidered and, where necessary to ensure compliance with the IED, updated.

Article 21.5 indicates 3 cases where update is certainly necessary:

“The permit conditions shall be reconsidered and, where necessary, updated at least in the following cases:

- a) the pollution caused by the installation is of such significance that the existing emission limit values of the permit need to be revised or new such values need to be included in the permit;*
- b) the operational safety requires other techniques to be used;*
- c) where it is necessary to comply with a new or revised environmental quality standard in accordance with Article 18.”*

1.11 When is ‘a plant permitted’? (in respect of the definition of ‘New plant’)?

According to IED Article 3 (7), “ ‘permit’ means a written authorisation to operate all or part of an installation or combustion plant, waste incineration plant or waste co-incineration plant”

According to the definitions in the WI BAT conclusions, a ‘New plant’ is “A plant first permitted following the publication of these BAT conclusions or a complete replacement of a plant following the publication of these BAT conclusions “

From that, we can conclude that the date written in the permit is the one to be compared to the date of publication of the WI BAT conclusions in the Official Journal of EU, i.e. **XX/XX/2019**.

1.12 How to consider a new line in an existing plant?

According to BAT conclusions:

“New plant: A plant first permitted following the publication of these BAT conclusions or a complete replacement of a plant following the publication of these BAT conclusions.”

“ Existing plant: A plant that is not a new plant”

If the new line is included in a revision of the permit of the existing plant, it is a part of an existing plant.

However in some Member States, it is considered that in such a case, the existing lines have to comply with the requirements for existing plants and the new lines have to comply with the requirements for new plants.

1.13 What happens if an existing plant receives a new permit further to reconsideration?

An existing plant may be given a new permit, but that doesn't in itself change the plant status to New Plant. According to the BAT conclusions definition: *“New plant: A plant **first** permitted following the publication of these BAT conclusions or a complete replacement of a plant...”*

1.14 How to consider plants in which for instance the furnace, the boiler or the FGC have been entirely retrofitted?

The mentioned works are not a *“complete replacement of a plant.”* (See question before).

Therefore, it is an existing plant.

2 WI BREF scope

2.1 Are sewage sludge incinerators in the scope of the WI BREF?

Yes dedicated sewage sludge incinerators are in the scope of the WI BREF if their capacity is at least 3 t/hr

Sewage sludge incineration in MSW or ONHW incinerators is also covered. In such case the requirements, if not otherwise specified, are the ones for MSW and ONHW, (e.g. the BATAEELs value).

2.2 Are clinical waste incinerators in the scope of the WI BREF?

Yes, dedicated clinical incinerators are in the scope of the WI BREF if their capacity is at least 10 t/day.

Indeed *‘Clinical waste’* are defined in the WI BAT conclusions as *“Infectious or otherwise hazardous waste arising from healthcare institutions (e.g. hospitals).”* And, the scope of the WI BAT conclusions includes *“Disposal or recovery of waste in waste incineration plants (...) (b) for hazardous waste with a capacity exceeding 10 tonnes per day.”*

2.3 Are gasification, pyrolysis and plasma installations in the WI BREF scope?

Yes *“if the substances resulting from the treatment are subsequently incinerated”*.

Indeed, the definitions of incineration and co-incineration in WI BREF BAT conclusions refer to definitions in IED Article 3(40) and 3(41) which says that incineration and co-incineration include “pyrolysis, gasification or plasma process, if the substances resulting from the treatment are subsequently incinerated.”

Two waste gasification installations participated to the data collection and filled in the questionnaire.

2.4 Is the pre-treatment of waste prior to incineration in WI BREF scope?

No. This is covered by the WT BREF. However, the consumptions and emissions of pre-treatment can be considered in the frame of an integrated approach.

2.5 Is the treatment of incineration fly ashes and other residues resulting from flue-gas cleaning in WI BREF scope?

No. This is covered by the WT BREF.

2.6 Is the Incineration or co-incineration of exclusively gaseous waste in WI BREF scope?

No. The scope of the WI BAT conclusions specifically excludes “Incineration or co-incineration of exclusively gaseous waste other than resulting from the thermal treatment of waste.”

2.7 Is the incineration of all kinds of waste in WI BREF scope?

No. there are a number of exclusions. See the scope at the beginning of the WI BREF BAT conclusions.

Co-incineration plants with the main purpose of material production are excluded. They may be covered by the CLM BREF (Production of Cement, Lime and Magnesium Oxide).

Some co-incinerators burning RDF/SRF partially composed of non-municipal biomass (e.g. some wood waste) may be under LCP BREF or not covered in any BREF (although they are covered by IED provisions).

A question was raised on this issue by a MS at the Article 13 Forum on 27/2/2019. The Commission’s response, in letter dated on 4 June 2019, clarified that, based on Article 14(6) of the IED¹, since these plants, although excluded from the scopes of both the WI BREF and the LCP BREF, are in the scope of the IED, when faced with permitting of such plant, “the competent authority should assess whether the design of the plant allows it to combust 100% waste. Should this be the case, it can be concluded that the plant is similar to the plants taken into account in the information exchange process. In such cases, the WI BAT Conclusions would clearly represent valid information on BAT for the plant. (...)”

¹ Article 14(6) of the IED reads: “Where an activity or a type of production process carried out within an installation is not covered by any of the BAT conclusions or where those conclusions do not address all the potential environmental effects of the activity or process, the competent authority shall, after prior consultations with the operator, set the permit conditions on the basis of the best available techniques that it has determined for the activities or processes concerned, by giving special consideration to the criteria listed in Annex III” [of the IED].

3 Preparing the application form

3.1 When to begin to prepare the application for permit reconsideration?

There are between 1000 and 1500 incineration lines in the scope of the WI BREF within the E.U. They all will have to comply with the WI BREF BAT conclusions on the same day, 4 years after publication of the BAT conclusions. Therefore, there is a risk of bottleneck. Competent authorities are often also in charge of permitting other industries. Supply chains cannot deliver equipment everywhere at the same time. It is therefore recommended to prepare the application form as soon as possible.

3.2 Do the BAT conclusions replace the requirements and ELVs of IED Chapter 4 and Annex VI?

No. They are complementary. The BATAEL-based ELVs must be applied in NOC. For continuously monitored substances, BATAEL-based ELVs are only on daily averages. The requirements and IED Annex VI ELVs remain valid and must still be complied with. These ELVs must be complied with during the R-EOT (relevant part of Effective Operating Time), i.e. as soon as and as long as waste is burning in the furnace. R-EOT includes some OTNOC situations. Moreover, IED Annex VI includes ½-hr ELVs that complement the daily BATAEL-based ELVs. See [Annex 2.a](#) to this E&G-d.

3.3 Is it possible to have/set more stringent conditions than what is associated to the use of BATs, e.g. due to local conditions?

Yes. The IED says that this may occur if required by an Environmental quality standards. IED Article 18 says:

“Where an environmental quality standard requires stricter conditions than those achievable by the use of the best available techniques, additional measures shall be included in the permit, without prejudice to other measures which may be taken to comply with environmental quality standards.”

3.4 Are the local conditions important?

Yes. The criteria for determining the BATs are related to the local conditions. See [below](#).

3.5 What is an integrated approach, taking into account environment as a whole?

The integrated approach assumes an overview of the installation in its local context by taking into account multiple criteria. The weight of each criterion depends upon the local conditions.

Annex III to the IED provides a list of criteria for determining the Best Available Techniques taking into account different environmental aspects: emissions to air, water and land, the use of resources, the production of waste, the risks of accident, the availability of the technique, the ability to be used at industrial scale, etc.

The definition of ‘available techniques’ (see IED Article 3 (10) (b)) makes clear that this should be appreciated “under economically and technically viable conditions, taking into consideration the costs and advantages”.

3.6 Is it possible, in compliance with the IED, to set ELVs higher than the upper end of the BATAELs range?

Yes.

1/ Without derogation: Article 15.3(b) indicates that ELVs can be set above the BATAEL values if at least annually it is checked that the emissions in NOC did not exceed the BATAEL values. (See IED Articles 15.3 (b), 14.1 (c) (ii) and 14.1 (d) (ii); and also E&G-d [main document, section 5.2.4](#))

2/ By way of derogation See Article 15.4: if “(...) *the achievement of [BATAELs] as described in BAT conclusions would lead to disproportionately higher costs compared to the environmental benefits due to:*

- (a) the geographical location or the local environmental conditions of the installation concerned;
- or
- (b) the technical characteristics of the installation concerned

3.7 Should the installation be optimised alone or taking also into account what is upstream and downstream?

The scope of the IED is the installation covered by the permit. What is outside the installation (waste preparation, use of the energy exported etc.) is out of the scope. However, the effects of the choices made for the installation on outside are useful to assess the pros and cons of a technique. For instance, two techniques may be equivalent in terms of environment and cost when considered within the boundary of the plant. However, if one allows to generate less pollution outside in the production of a reagent used by the plant, then it should be preferred, if there is no other cross-effect.

3.8 For a given installation, is it only one set of possible BATs?

No. What is requested is to achieve the objectives indicated in the BAT conclusions. This can be done either by using one or a combination of the techniques (BATs) listed in the BAT conclusion, that are neither prescriptive nor exhaustive, or by using non listed technique(s) reaching the same or better performances. For a same installation, several solutions can be BATs but each of them may be better in respect of some parameters and less performing in respect of others.

3.9 Is it mandatory to apply the same BATs to all the lines of a same installation?

No. It is not necessary. In particular, if the lines are different, e.g. because they were built and optimised at different dates, the optimal BATs applicable to each of them may as well be different

3.10 Are techniques only implemented outside E.U. applicable?

Yes. What is requested is to achieve the goals indicated in the BAT conclusions. But as said in the ‘General considerations’ (?) of the BAT conclusions the implementation of the techniques (BATs) listed in the BAT conclusions is neither prescriptive nor exhaustive. However, when a technique is not listed in the BAT conclusions, it is necessary to justify that a level of performance equal or higher to the ones achieved with the techniques listed in the BAT conclusion will be achieved with this technique; See [Main E&G document Sections 4.8 and 5.1.1](#)

3.11 What are the cross-media effects?

Cross-media effects are impacts on other media, e.g. an increase of emissions in water when an air emission is reduced. More generally, cross-effects, even within the same media, should be taken into account when considering the environment as a whole. For instance, the emissions of NH₃ vs. NO₂ or the increase of residues lowering the ELVs on acid gases with a dry process.

3.12 How to deal with costs?

IED clearly states that economics should be taken into account when determining the BATs. For instance:

IED Recital 2 says: *“In order to prevent, reduce and as far as possible eliminate pollution arising from industrial activities in compliance with the ‘polluter pays’ principle and the principle of pollution prevention, it is necessary to establish a general framework for the control of the main industrial activities, giving priority to intervention at source, ensuring prudent management of natural resources and taking into account, when necessary, the economic situation and specific local characteristics of the place in which the industrial activity is taking place.”*

IED Article 3 (10) (b) says: *“(b) ‘available techniques’ means those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, (...)”*

IED Article 15.4 allows, under conditions, derogation on BATAEL-based ELVs if their achievement “would lead to disproportionately higher costs compared to the environmental benefits (...)”

3.13 Is it the installation or its equipment that “is BAT”?

Neither one, nor the other. An installation is not BAT as such. It complies with the requirements of the IED. For that, it implements techniques identified as BATs for this particular installation.

The techniques themselves are not BAT as such in absolute. They are BAT for a particular installation, as far as associated with other techniques, they lead for this installation to an overall environmental and economic optimum.

3.14 How to set ELVs in NOC in case of long-term sampling (PCDD/F + possibly PCB-DL, possibly Hg)

The long-term sampling device can be automatically activated and deactivated. BAT-c 18 requires an OTNOC management plan including OTNOC situations recording. Therefore, the control system can, in general, deactivate the sample taking during OTNOC situations.

Alternatively, it may be of interest to collect the samples within the R-EOT to better assess the overall emissions as it is done for years in Belgium and France. In such case, the ELV should be adapted. See [Annex 5](#) to this E&G document.

4 Emissions

4.1 What are the differences between BATAELs and BATAEL-based ELVs?

BATAELs are emission values associated to BATs. They are the basis to set BATAEL-based ELVs. They are expressed:

- in NOC,
- either on daily average or on short term sampling average, or on long term sampling average,
- as ranges to take into account different conditions and different possible techniques,
- without information on uncertainty.

BATAEL-based ELVs are emission values that must not be exceeded:

- in NOC,
- on the same periods of time as BATAELs (daily averages, short term or long term sampling)
- as single values
- taking into account uncertainties in accordance with the requirements of standards on monitoring.

4.2 What are the differences between BATAEL-based ELVs and IED Annex VI ELVs?

BATAEL-based ELVs:

- must not be exceeded in NOC,
- are set on the periods of time as BATAELs (daily averages, short term or long term sampling)

IED Annex VI ELVs:

- must not be exceeded
 - for periodic ELVs, in NOC,
 - for continuous ELVs, in the R-EOT (relevant EOT), i.e. as soon as and as long as waste is burning in the furnace,
- on ½-hr averages, daily averages, short term sampling averages.

About NOC and R-EOT, see [Annex 2](#) to this E&G-d

4.3 How to deal with ranges? (BATAELs expressed as ranges)

BATAELs ranges express the variety of the data reported by the different lines that participated to the data collection using different processes and in different local conditions. BATAEL-based ELVs should be set taking into account that a margin is necessary between the operating values and ELVs, and that the relative uncertainty becomes very high when concentration decrease. (See [Annex 3](#) to this E&G-d). Compliance with the IED is achieved as soon as emissions in NOC do not exceed the upper end of the BATAELs ranges.

4.4 How to derive BATAEL-based ELVs on ½-hr average values since there are no ½-hr average BATAELs?

BATAEL-based ELVs on ½-hr average values are not foreseen. The JRC-EIPPCB did not set ½-hr BATAEL on purpose, saying that “*For half-hourly averages, the IED already includes half-hourly ELVs to provide a safety net against emission peaks*”. See [section 4.4](#) of the E&G-d main document.

4.5 What is the use of indicative values (see ½-hr average indicative values for Hg at the end of BAT n^o 31)

It can help to identify low and stable Hg contents, condition to replace continuous Hg monitoring by long-term sampling or periodic monitoring.

It is also an operating information for operators. The EIPPCB provided these values as indicative because the information available was not sufficient to set BATAELs to be used to set ELVs.

5 Energy efficiency

5.1 How to calculate the energy efficiency? By plant or by line?

In accordance with notes (2) and (4) to the table associated with BAT-c 20, the energy efficiency can be calculated at plant level or at the level of parts of plant, depending upon the plant configuration. See [Section 3 of Annex 4](#) to this E&G document.

5.2 Can I use the R1 criterion to check the energy efficiency against the BATAEELs?

No. The R1 criterion aims at assessing the energy recovered over a year. For heat and steam export, it depends upon the demand by a heating network or an industry. It cannot be taken into account as a condition for a permit, which cannot be dependent of the demand of 3rd parties.

BAT-c 20 aims at ensuring that the installation is able to generate and export energy. BAT-c 20 sets some reference values of energy efficiency which are intrinsically bound to the characteristics of the plant (or part of it), and not to the operating performance during a specific year. Therefore its assessment is done once during the performance test or based on the design values of the relevant equipment

5.3 Which BATAEELs should be applied to a municipal waste incineration plant in the scope of this BREF that co-incinerates sewage sludge or hazardous waste with MSW or ONHW?

The BATAEELs for Municipal solid waste, other non-hazardous waste and hazardous wood waste are applicable to all the waste incineration plants/part of plants which are in the scope of the WI BREF except the ones **dedicated** to sewage sludge or to hazardous waste (with the exception of hazardous wood waste). In case of co-incineration of sewage sludge or HW with MSW and/or ONHW, the BATAEELs for MSW and ONHW apply.

5.4 How to proceed if I do not have performance tests reports

A new performance test may be done or operating data can be used. See [Section 3 of Annex 4](#) to this E&G document. Alternatively, design nominal values can be used.

5.5 How to proceed if the performance tests data do not match, e.g. between the boilers steam output and turbine input?

If for instance, the steam flow rates are different or the steam pressure and temperature are slightly different between the boilers performance test and the turbine performance test e.g. because a line or a turbine generator set were added afterwards, the values must be adapted for a correct assessment. See [Section 3 of Annex 4](#) to this E&G document.

A correction should be done for the thermal power ratio between the output of the boiler and the input of the turbine. (See [section 3.1 to Annex 4](#) of this E&G document.) For example, if in a plant, during the performance test of the boiler has in output for the boiler 21 MW_{th} and, during the performance test of the turbine generator set made another time, the turbine input was 20 MW_{th}, then the result of the calculation should be corrected with a multiplicative factor of 21/20.

5.6 Is it possible that one plant is checked against both the gross electrical efficiency and the gross energy efficiency?

Every plant is to be checked against either the gross electrical efficiency or the gross heat efficiency. However, if this is not possible, the plant may be divided in “part(s) of a plant” (see definition under section 1.1 to Annex 4 of this E&G-d) and, in this case, each part has to be checked against one or the other BATAEEL.