



Commission Implementing Decision (CID) (2022/2427)

of 06 December 2022

**establishing the best available techniques (BAT) conclusions under
Directive 2010/75/EU of the European Parliament and of the
Council on industrial emissions for common waste gas management
and treatment systems in the chemical sector.**

FREQUENTLY ASKED QUESTIONS

Question

1. At what point from the BAT-AEL range will the EPA set an ELV?

Response:

In setting emission limit values (ELVs), under normal operating conditions, the EPA ensures that emissions do not exceed the BAT-AELs. In selecting the most appropriate, the EPA shall consider the applicant/licensee proposal comprising of:

- a. a reasoned proposed emission limit value (from BAT-AEL range),
- b. supporting evidence. The evidence may include compliance monitoring data, manufacturer specifications etc., and
- c. Abatement efficiency.

Where the applicant/ licensee provides a robust submission, subject to compliance with relevant environmental quality standards, the proposed ELV will be adopted as the ELV.

Across Europe there are general binding rules in certain Member States which have been applied to other sectors to date, in those cases the number used by the various environment agencies is the higher number of the BAT-AEL range listed. Licensing will recommend to the Board of the Agency, where appropriate, providing the points above are fulfilled, that the EPA allow the higher BAT-AEL limit. The EPA may add conditions to ensure CID footnotes requirements e.g. certain removal efficiencies are required on-site.

NOTE: In the updated Industrial Emissions Directive it is proposed that the lowest possible achievable BAT-AEL is applied. This policy is therefore likely to change in the future once the CIDs are reviewed.

Question:

2. Will the EPA apply the flexibility provided in the footnotes and conditions of application attached to BAT-AEL?

Response:

BAT-AELs often contain conditions of application or footnotes that give rise to exceptions under certain criteria. For example, the upper end of the BAT-AEL is extended where certain criteria are satisfied. Similarly, to the foregoing, the EPA will consider any reasoned proposed emission limit values that are based on such conditions or footnotes where it is clearly demonstrated, *with evidence*, that the criteria of the conditions/footnotes are met, unless there are overriding environmental concerns, e.g. breaches of EQS. It should be noted that in such circumstances a licence as well as an ELV may include additional requirements based on these conditions or footnotes.

Please note such ELVs are not derogations from BAT.

Question:

3. Do concentration limits apply exclusively when mass thresholds are exceeded?

Response:

The EPA will set ELVs based on the emission characterisation provided by the applicant/licensee and having regard to BAT and environmental quality standards. If the applicant/licensee is licensed to emit above the mass thresholds of the CID, then the BAT-AELs will be applied.

Often, an applicant/licensee requests the inclusion of a BAT-AEL even where they don't currently exceed the mass threshold, for that parameter, as they don't wish to have their activity limited to below mass thresholds levels.

Alternatively, if an applicant/ licensee wishes to have a higher concentration limit than the BAT-AEL stipulates because they operate sub the mass flow threshold, then the EPA will consider setting such an ELV but will also set a mass flow limit based on the BAT threshold.

Question:

4. How should a site calculate the mass flow for a parameter for example in the case of multiple stacks or HVAC emission points?

Response:

Mass flow is defined as the mass of a given substance or parameter which is emitted over a defined period of time.

The CID provides guidance in relation to multiple stacks it states that for the purpose of calculating the mass flows in relation to BAT 11 (Table 1.1), BAT 14 (Table 1.3), BAT 18 (Table 1.6), BAT 29 (Table 1.9) and BAT 36 (Table 1.15), where waste gases with similar characteristics, e.g. containing the same (type of) substances/parameters, and discharged through two or more separate stacks could, in the judgement of the competent authority, be discharged through a common stack, these stacks shall be considered as a single stack.

This assessment will be site specific in each case. The general principle of the minimisation of minor/diffuse emission points should form a fundamental aspect of all emission abatement planning at installations. Where multiple stacks which meet the criteria set out in BAT 11, 14 etc. occur on-site the installation will be required to make the case if they consider these *should not* be regarded as a single stack for assessment purposes.

Question:

5. As referred to in BAT 2, BAT 19 and BAT 22, what is considered an activity using a 'large' volume of organic substances or mixtures?

Response:

In order to ensure consistency between Chapter V of the Industrial Emissions Directive, the CID 2016/902 of 30 May 2016, establishing best available techniques (BAT) conclusions for common

waste water and waste gas treatment/management systems in the chemical sector and all BAT requirements of the WGC CID, for the purposes of the applicability of the BAT requirements, activities using large volumes of VOC can be considered to be those using 50 tonnes or greater of organic substances or mixtures per annum.

Question:

6. How can an installation determine when a substance/parameter is identified as *relevant* in the waste gas stream for the purposes of the inventory on BAT 2?

Response:

The CID provides guidance on what substances/parameters should be considered when establishing the inventory requirements of BAT 2. These are:

1. The inventory information about diffuse emissions to air is particularly relevant for activities using large amounts of organic substances or mixtures. (i.e. 50 tonnes or greater of VOC per annum).
2. All emission sources in contact with organic substances with a vapour pressure greater than 0.3 kPa at 293.15 K should be included in the inventory.
3. Sources of fugitive emissions connected to pipes whose diameter is small (e.g. smaller than 12.7 mm, i.e. 0.5 inch) may be excluded from the inventory.
4. Equipment operated under sub-atmospheric pressure may be excluded from the inventory.

All other relevant sources of diffuse should be considered as relevant.

Question:

7. What is meant by process furnaces and heaters (BAT 36)?

Response:

The BAT requirements for BAT 36 are only applicable to furnaces/heaters with a total rated thermal input equal to or greater than 1 MW used in production processes.

Process furnaces or heaters are:

- combustion units used for the treatment of objects or feed material through direct contact, e.g. in drying processes or chemical reactors; or
- combustion units where the radiant and/or conductive heat is transferred to objects or feed material through a solid wall without using an intermediary heat transfer fluid, e.g. furnaces or reactors heating a process stream used in the (petro-) chemical industry.

As a consequence of the application of good energy recovery practices, some of the process furnaces/heaters may have an associated steam/electricity generation system. This is an integral design feature of the process furnace/heater that cannot be considered in isolation.

Question:

8. What should an installation do if a substance/parameter is contained in the emission from the installation for which no BAT-AEL is provided in the CID; however, an ELV applied in the Agency's 2008 BAT Guidance notes for the sector?

Response:

The primary source for the determination of ELVs and whether the emission can be classified as a main or minor emission point should be the CID 2022/2427. However, there a small number of substances/parameters which are not mentioned in the CID but for which there are ELVs in the existing Agency BAT Guidance note i.e. *BAT Guidance Note on Best Available Techniques for the Pesticides, Pharmaceuticals & Speciality Organic Chemicals Sector, 2008*. If your installation emits a substance/parameter, not listed in the CID but which qualifies as main emissions (as per the 2008 document) they should be listed as emissions in your licence/review application and ELVs.

It should be noted that the European Commission have a [BAT-AEL tool](#) which collates all AELs that apply to a parameter from across all Commission Implementing Decisions. This is a useful tool if the CID/BAT for your sector does not address a parameter for concern.

Question:

9. Does the CID provide latitude for more lenient ELVs to be applied to backup abatement systems?

Response:

The Agency would not expect backup abatement system to be in use for any significant period and therefore does not set ELVs on these systems. ELVs are set in accordance with BAT and licences are expected to always comply with them.

In addition, failure of abatement equipment is regarded as an incident under Agency licences which would require reporting to the Agency's Office of Environmental Enforcement (OEE). Corrective action and any agreed alternative monitoring would be agreed by OEE. As required under the IED, licensees shall, without delay, take measures to restore compliance with the conditions of a licence in the shortest possible time.

Planned maintenance is controlled under the Environmental Management System requirements of the licence (Condition 2). Alternative monitoring requirements, for limited periods e.g. maintenance, must be agreed with the Agency under *Condition 6: Control and Monitoring* requirements of the licence.

The following Agency guidance may also be applicable in certain scenarios 'Agency Protocol for the Bypass of Air Emissions Abatement Equipment', available on the Agency's website at: [Note for clarification on by-passes of abatement equipment \(epa.ie\)](#)

Question:

10. When will the new BAT CID be applied to existing licences?

Response:

In accordance with Article 21 of the Industrial Emissions Directive, the competent authority is required, within 4 years of publication of the BAT conclusions, relating to the main activity of an installation, to reconsider and update as necessary, all necessary conditions of a licence to ensure compliance with the requirements of the BAT document.

The CID BAT document was published on the 06 December 2022; therefore, it requires licences to comply with its requirements by 06 December 2026, this deadline is set in legislation. Any installations who wish to extend this deadline will have to apply to the Agency for a derogation by means of a licence review.

All applications (new and review) currently on hand with the Agency, will be updated to include the requirements of this CID; however, installations have until 06 December 2026 to bring their systems, equipment, procedures etc. into compliance with the requirements of this BAT.

The Agency currently plans to bring the remaining licences in this sector into compliance with the CID through the issuing of Technical Amendments. Any changes to this plan will be communicated to licenses in advance.

Question:

11. There are various BAT AELs specified for a range of named organics in the new BAT CID. Can it be assumed that for future licences that these organics will be named (where applicable) with corresponding licence limits based on the specified BAT AELs, as opposed to the current approach of including limits for organics under broad organic classes?

Response:

The Agency intends to adopt the BAT CID approach to the classification of parameters and substances in licences and these will be named as appropriate (See also response to Qu 8 above). It should be noted however, that the CID also contains broad organics classes (See Table 1.1 of the CID), and these will also be included in licences where appropriate.

Question:

12. Are boilers excluded from the CID requirements?

Response:

The CID does not have any specific requirements in relation to on-site boilers. Applicants should review the requirements of the European Union (Medium Combustion Plant) Regulations 2017, in this regard and the existing licence application guidance notes to determine whether boilers are main and minor emissions. This is dependent on both the fuel type and thermal input of the boiler.

Question:

- 13.** Regarding large HVAC systems used to create multiple room air changes per minute (this is an issue for Biopharma mainly) one could consider these ‘channelled emissions’ as they may contain VOCs because of room IPA cleaning, etc. However, they may also be ‘non-fugitive’ diffuse emissions under the new CID. The Note within BAT 20 does though provide the opportunity to consider HVACs as diffuse emission (non-fugitive) emission sources given that it can be difficult to obtain accurate VOC measurements when concentrations are very low?

Response:

The requirements of BAT 20 state that for the purpose of the estimation, channelled emissions may be counted as non-fugitive emissions when the inherent characteristics of the waste gas stream (e.g. low velocities, variability of the flow rate and concentration) do not allow an accurate measurement according to BAT 8. This is often the case with HVAC systems. Licensees should however review the definitions of minor and main emissions points within the CID, to determine if the HVAC system meets the definition of a main emission point. This is a site-by-site assessment.

The Agency’s guidance document in regard to good practice for solvent mass balance and fugitive emission assessment [[air-advise-no-1.pdf \(epa.ie\)](#)] states that for outputs of organic solvent calculation, uncaptured emissions of organic solvents to air, which includes the general ventilation of rooms, where air is released to the outside environment via windows, doors, vents and similar openings, data on these emissions is generally derived via the mass balance calculation rather than being specifically calculated/measured.

Question:

- 14.** Regarding ‘other than normal operating conditions’ (OTNOC) in BAT3, is there a need to have back-up abatement systems or is a risk driven approach acceptable?

Response:

OTNOC is defined in the IED under Article 14(1)(f) as conditions such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages and definitive cessation of operations.

BAT 3 of the CID requires that in order to reduce the frequency of the occurrence of OTNOC and to reduce emissions to air during OTNOC, BAT is to set up and implement a risk based OTNOC management plan as part of the environmental management system (see BAT 1) that includes **all** of the following features:

- i.* identification of potential OTNOC (e.g. failure of equipment critical to the control of channelled emissions to air, or equipment critical to the prevention of accidents or incidents that could lead to emissions to air (‘critical equipment’)), of their root causes and of their potential consequences,
- ii.* appropriate design of critical equipment (e.g. equipment modularity and compartmentalisation, backup systems, techniques to obviate the need to bypass waste gas treatment during start-up and shutdown, high-integrity equipment, etc.),
- iii.* set-up and implementation of a preventive maintenance plan for critical equipment (see BAT 1 xii.),

- iv. monitoring (i.e. estimating or, where this is possible, measuring) and recording of emissions and associated circumstances during OTNOC,
- v. periodic assessment of the emissions occurring during OTNOC (e.g. frequency of events, duration, amount of pollutants emitted as recorded in point iv.) and implementation of corrective actions if necessary,
- vi. regular review and update of the list of identified OTNOC under point i. following the periodic assessment of point v.,
- vii. regular testing of backup systems.

The implication of the inclusion of point vii would be that should back-up systems be in place on-site they require regular testing. The requirement to have back-up abatement systems in place should be determined as part of the OTNOC management plan required under BAT 1 and should be risk based.

Actions required to be undertaken by the licensee in the case of failure/maintenance of abatement equipment are presented in Qu.9 above.

Question:

15. How will the EPA implement the BAT Conclusions on Diffuse Emissions (section 1.4.1 of the BATC) given the complexity of the BAT requirements, particularly around measurement (LDAR, OCG, etc.).

Response:

The CID requirements in relation to diffuse emissions are quite complex. All licensees/applicants should familiarise themselves with the definition in the CID in regard to the various types of diffuse emissions. All diffuse emission monitoring and management requirements applicable to an installation will be required to be complied with.

The following BATs have requirements in this regard:

a) BAT-AELs:	Table 1.7 Applicable only when total annual consumption of solvents is \geq 50 tonnes.
b) BAT 1 (xxi):	the requirement for an inventory of channel and diffuse emissions to air (see BAT 2). This is applicable to all sites.
c) BAT 2	An inventory of channelled and diffuse emissions to air. All features listed are required to form part of the inventory. This is applicable to all sites.
d) BAT 19	Implement a management system for diffuse VOC emissions, as part of the environmental management system (see BAT 1), that includes all of the following features: <ul style="list-style-type: none"> • Estimating (annually)(All) • Monitoring (Solvent mass balance) (If applicable, see BAT 21) • Leak detection & repair (LDAR – 1-5 yrs) (some features only applicable if BAT 22 is applicable)
e) BAT 20	Estimate fugitive and non-fugitive VOC emissions to air separately at least once every year. This is applicable to all sites.

f) BAT 21	To monitor diffuse VOC emissions from the use of solvents by compiling, at least once every year, a solvent mass balance Applicable only when total annual consumption of solvents is \geq 50 tonnes.
g) BAT 22	To monitor diffuse VOC emissions to air with at least the frequency given in the BAT and in accordance with EN standards Applicability complex depending on use which must be estimated using BAT 20, applicable to all sites
h) BAT 23	Reduce diffuse VOC emissions to air, BAT is to use a combination of the techniques in priority given. BAT – AELs Table 1.7 Applicable only when total annual consumption of solvents is \geq 50 tonnes.

Question:

16. What are the expectations regarding non-fugitive diffuse emissions and determination of minor emission points?

Response:

Non-fugitive emissions to air are defined in the CID as *diffuse emissions other than fugitive emissions*, these are for example tanks on opening, water treatment plants, loading and unloading systems. BAT-AELs and reference to minor emission points in the CID are applicable to channelled emission points only, not non-fugitive diffuse emissions.

The CID provides definitions of minor emissions in many cases, and these will be implemented by the Agency. Where minor emissions are not defined within the CID, the Agency will continue to use the current guidance on the determination of minor emissions (i.e. is mass emissions > mass emissions limit pre abatement).

Question:

17. On what basis will the mass flows set out in the BATC be interpreted? Mass flow from 3 x consecutive periodic measurements of 30 minutes each? or “the total mass discharged over a normal one-hour of operation” (the latter we have seen in some IE licences in the past and in the old 2008 EPA BAT guidance)? Or some other means?

How to interpret this is not entirely clear in the BATC and the definition of mass flow is open to interpretation:

Response:

The mass flow is defined in the CID as ‘*The mass of a given substance or parameter which is emitted over a defined period of time.*’ Interpretation of continuous versus periodic monitoring is also provided in the CID under general considerations. These will be applied by the Agency.

1. Will the EPA be updating the current general IE licence application attachments and guidance to account for the new BATC?

Response:

The Agency hope to update the application attachments and guidance once resources allow. A BAT assessment attachment will be available for download from the Agency' webpage.

Question:

18. Will the distinction between 'minor emission points' and 'main emission points' be determined by mass flow thresholds pre or post abatement?

Response:

Within the definitions provided by the CID, the 'mass flow' refers to 'the mass of a given substance or parameter which is emitted over a defined period of time'.

Hence, wherever an abatement system is in place, any substance/parameter mass flow threshold is referring to post-abatement values (response to Qu 16 should be read in conjunction with this response).

Question:

19. Table 1.1 sets out the BAT-AEL for organic compounds. There are ELVs for the Sum of VOCs classified as CMR 1A or 1B, and the Sum of VOCs classified as CMR 2, as well as separate ELVs for individual CMR compounds (e.g. Dichloromethane, Trichloromethane, Toluene, etc.).

The CID allows for higher ELVs for certain individual CMR compounds under certain conditions (e.g. Trichloromethane 20 mg/m³ which is higher than the Sum of VOCs classified as CMR 2 ELV range of <1-10 mg/m³).

Do the Sum of VOCs classed as CMR 1A & 1B/2 limits exclude the individual CMRs listed elsewhere in table 1.1?

Response:

The Agency has sought clarification on this matter from the Commission and they have clarified that Article 15(3) of the IED does not mandate emission limit values to be set at the upper end of BAT-AEL ranges. The Agency has the discretion to refer to the entire range of BAT-AELs for the relevant substances. However, these two principles should be applied and understood in conjunction.

The BAT-AEL range values provided in Table 1.1 of WGC BAT conclusions, if more than one CMR 1A/1B/2 substance is identified as relevant in the waste gas stream of the installation, the BAT-AEL range value for the "Sum of VOCs classified as CMR 1A/1B/2" applies in parallel to the BAT-AEL range values of the relevant individual CMR 1A/1B/2 substances. This is to take into account the potential synergistic effects associated to the relevant CMR substances emitted.

Moreover, the “Sum of VOCs classified as CMR 1A/1B/2” does not exclude any of the individual CMR 1A/1B/2 substances listed in Table 1.1 from the sum.

Therefore, the above implies that the emission limit value (ELV) for any relevant individual CMR 1A/1B/2 substance would need to be identified to ensure that the ELV associated to the “Sum of VOCs classified as CMR 2” is not exceeded.

If achieving the upper end of the range for the parameter "Sum of the VOCs classified as CMR 1A/1B/2" would lead to disproportionately higher costs compared to the environmental benefits, the application of Article 15(4) may be considered, provided that the conditions set out in this article are met.