Best Available Techniques
UK BAT

UK Best Available Techniques

Draft Interpretation Guidance and Supporting Information for the Common Waste Gas Management and Treatment Systems in the Chemical Sector

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Contents

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Supporting information and interpretation document

Following the review of the Common Waste Gas Management and Treatment Systems in the Chemical (WGC) Sector the Technical Working Group (TWG) has reached consensus on BAT for the UK, with no alternate positions.

This document is a summary of the process followed to develop Best Available Technique Conclusions (BATC) in the UK for the WGC sector. It includes supporting information discussed by the Technical Working Group (TWG) and interpretation on a number of matters raised as the TWG members discussed and agreed the Formal BATC.

The agreed BATC are based on the outputs from the EU BREF process, which UK representatives participated in up to 31 January 2020, along with comments and evidence provided by the TWG members. This includes evidence available from current industry practice, sector activities and regulatory submissions within a UK context. Original comments made by the UK Shadow TWG were also reviewed and reconsidered as part of the development of BAT for the UK.

Outcomes from the UK BAT process

Implementation of the BAT Conclusions for the WGC sector will help ensure that the UK meets global climate and environmental challenges through driving environmental improvements whilst allowing sustainable business development and a level playing field.

The BAT Conclusions will introduce updated techniques through which emissions can be reduced or minimised. They will also introduce new evidence based BAT-AEL's, reducing emissions from the sector, as part of the continuous process of improvement through the development and review of BAT in the UK.

UK BAT process

The process for developing BAT for the UK was set up in 2022. This involves the organisation of an information exchange between UK Government, Devolved Administrations, Regulators, industry and environmental non-governmental organisations on Best Available Techniques (BAT) used to control industrial pollution.

The process is mandated by the Environment and Wildlife (Legislative Functions) (EU Exit) Regulations 2019, specifically Part 3, with the power to make decisions on BAT Conclusions for the purposes of Directive 2010/75/EU as enabled by section 8(1) of, and paragraph 21(b) of Schedule 7 to, the European Union (Withdrawal) Act 2018(1).

The BAT conclusions cover large-scale agro-industrial activities included in Annex I to the Industrial Emissions Directive (2010/75/EU), or in Schedule 1 of the relevant national legislation in the UK. They comprise a short description of the best available techniques identified, their applicability and associated emission or consumption levels.

The definition of BAT in UK law remains unchanged following EU exit and it forms part of our retained EU law alongside all existing BATC that were developed at the EU level (largely on a sector-by-sector basis). The BAT regime operates on the same basis of a transparent, collaborative, flexible, evidence led process that safeguards and builds on the high levels of environmental protection already in place across the UK.

After publication as a Statutory Instrument in the UK, the BATC will provide the reference for setting emission limit values and issuing operating permits for in scope industrial installations in the UK.

The BATC associated with this paper are one of four carried out in tranche 1 of the UK BAT process.

Scope of review

The scope of the WGC BATC was based on the EU BREF review which the UK participated in initially. All the references to the relevant UK legislation, are set out in the Formal draft of the UK BAT Conclusions.

As the UK BATC are based on the outputs from a process in which the UK was included until 31 January 2020, the references to Directives and associated sections of the EU BATC in the EU BREF for the Common Waste Gas Management and Treatment Systems in the Chemical Sector have been retained. This is to ensure a clear link to the technical background developed from UK evidence. The EU BAT conclusions, published on the 6 December 2022, have no legal basis in UK law.

In the UK the activities for the chemicals sector are listed in Schedule 1, Part 2, Chapter 4 of the above legislation. Activities in England and Wales are listed in Part A(1), whereas in Scotland and Northern Ireland they are listed in Part A. The scope is detailed in the BATC and minor differences between national legislation are indicated. The UK WGC BATC therefore include all the activities covered by the EU WGC BREF scope. However, UK legislation includes some additional chemical activities that are not part of the IED. These are inorganic chemicals listed in Section 4.2, specifically: 4.2(a)(vi) and 4.2(b) to (f). The UK WGC BATC apply to these activities also.

It should be noted that BAT Conclusions apply without prejudice to other legislation, which may be relevant, for example on the registration, evaluation,

authorisation and restriction of chemicals (UK REACH), or on the classification, labelling and packaging (CLP) Regulation.

Overview of regulated installations in the UK

Based on the scope of the review, in 2023, the chemicals sector comprises approximately 460 permitted installations in the UK as follows:

- Scotland – 19 permitted installations.
- Northern Ireland – 4 permitted installations.
- England – 418 permitted installations.
- Wales – 19 permitted installations.

In addition, there are approximately 30 sites in the Chemicals Sector which are permitted as Part B installations, (Part C in Northern Ireland). These sites are outside the scope of these UK BAT conclusions.

These UK BAT conclusions apply to all Part A installations in Scotland and Northern Ireland and all Part A(1) installations in England and Wales, that come within the Chemicals Sector, which are not overwise covered by one or more of the BAT conclusions below, these are:

- CAK – EU BAT conclusions for the production of chlor-alkali.
- CWW – EU BAT conclusions for common waste water and waste gas treatment/ management systems in the chemical sector.
- LVOC – EU BAT conclusions for the production of large volume organic chemicals
- LVIC – EU BAT conclusions for the production of large volume inorganic chemicals

BAT conclusions on Large Combustion Plants and on Waste Incineration could also apply to some installations.

Where multiple BAT conclusions apply to a chemicals installation, the permit review and 4-year implementation process will be triggered by the set of BAT conclusions that is considered to represent the main or principal activity at the installation. Whilst in some cases, this may not be the WGC BAT conclusions, compliance with these BAT conclusions (and any others which have come into effect since the last permit review) will form part of any review subsequently triggered by the main or primary set of BAT conclusions or a substantial variation application, whichever comes first.

It is estimated that the WGC UK BAT conclusions will be the main or primary set of BAT conclusions at approximately 300 of the 460 chemicals installations, distributed across the UK as follows:

- Scotland – approximately 10 of the 19 permitted installations.
- Northern Ireland – all 4 permitted installations.
- England – up to 300 of the 418 permitted installations.
- Wales – approximately 10 of the 19 permitted installations.

Operators who are unsure which set of BAT conclusions should be considered as the main or primary activity should speak with their regulator to seek clarity.

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Key environmental and technical issues

The key environmental impacts were discussed and agreed as part of the EU process to develop BAT which included representatives from the UK. The published EU BREF contains full details of the processes and techniques used to minimise pollution from the activities in scope of this review. The evidence collected as part of the EU process was discussed in a UK context with additional data and information provided for specific issues in the subsequent development of BAT for the UK. A record of the main points is presented below to provide further context and interpretation guidance for the BAT conclusions agreed by the TWG.

The UK BATC for Common Waste Gas Management and Treatment Systems in the Chemical Sector is aimed at the whole of the chemicals sector. It is a companion document to the EU BAT conclusions for common waste water and waste gas treatment/management systems in the chemical sector (CWW). Parts of the CWW BATC are updated by the WGC BATC (For example, on diffuse emissions to air), but the focus of CWW is primarily on emissions to water and WGC on emissions to air. Taken together they describe a set of BAT conclusions which are intended to apply to all chemicals installations.

Where specific chemical processes are covered by other BAT conclusions, for example on chlor-alkali (CAK), large volume organic chemicals (LVOC) or large volume inorganic chemicals (LVIC), those BAT conclusions shall have precedence over the WGC BAT conclusions. In such cases, CAK, LVOC or LVIC processes are likely to be considered the main or primary activity for permit reviews. In all other cases, it is likely that the WGC BATC will be the primary activity triggering a permit review.

The TWG discussed specific chemicals and processes where further clarity was required to ensure the BATC review scope and any overlaps between other BATC were clear. The TWG discussed sodium bicarbonate as it was not clear if this was in scope or not. The current BREF for Large Volume Inorganic Chemicals – solids and other industries (LVIC -S), as well as the new LVIC BREF both clearly state that both sodium carbonate and sodium bicarbonate are included within their scope. It covers the large-scale, manufacturing processes of both sodium carbonate and sodium bicarbonate, indicating how the processes are typically connected. The TWG therefore concluded that on this basis, the UK BATC will exclude both sodium carbonate and sodium bicarbonate from the scope of the WGC.

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Interpretation and implementation

Climate change and circular economy

The outline draft UK BATC for Tranche 1 contained 3 examples of BAT to ensure operators of permitted installations were able to identify and operate in a manner which supported the move to a circular economy as well as adapting to and mitigating the effects of climate change. Following the review of the outline draft, these 3 draft BATC were removed.

The three example BATC were not part of the EU BAT conclusions, and their removal was a decision of the Standards Council. The Standards Council remains of the view that addressing circular economy and climate change are BAT and should be taken forward through the BAT system but accepted that these generic BAT proposals were not integrated into the evidence collection and subsequent BATC sufficiently and so instructed the TWG Chair to remove them from all Tranche 1 sectors BATC. The Standards Council will review the approach, consulting stakeholders with revised proposals for future tranches.

Clarification of scope

Applicability to Inorganic Chemicals

The activities listed in Section 4.2 a.vi. and b. to f., of the relevant Schedules of the UK Regulations are not listed in Annex I of the IED, paragraph 4.2 for the chemicals industry. However, the WGC UK BAT conclusions do apply to these activities.

The BAT conclusions on emissions to water for the Chemicals Sector are contained in the CWW BREF which was produced when the UK was a member of the EU. The activities listed in Section 4.2 a.vi. and b. to f., of the relevant Schedules of the UK Regulations were not therefore included within the scope of the EU CWW BAT conclusions, however, they would be considered part of any permit review. Where permit reviews are triggered by these UK BATC for WGC and installations are also covered by the CWW BATC appropriate BATC or BAT-AELs could be derived by the competent authority for the above listed activities based on the information in the CWW BREF using Article 14(6) of the IED.

Producing magnesium oxide using the dry process route is not in scope of the WGC UK BAT review. This may fall under the scope of the BAT Conclusions for producing cement, lime and magnesium oxide.

Interaction with other chemicals BAT conclusions

Where emissions from the production of specific chemicals are described in the BAT conclusions on chlor-alkali (CAK), large volume organic chemicals (LVOC) or large volume inorganic chemicals (LVIC), priority should be given to the BAT conclusions, BAT-AELs and BAT-AEPLs set out in these documents rather than the WGC and CWW BAT conclusions. Examples include, chlorine, hydrogen, lower

olefins, sodium carbonate and bicarbonate. This is because those BAT conclusions have been drawn from detailed study of the specific processes concerned whereas the WGC and CWW BAT conclusions are drawn more widely from the whole of the chemical sector. Some of these processes may have been excluded from the wider reviews because they form part of the more detailed and specific sets of BAT conclusions.

Chemicals storage

Emissions from chemicals storage are within scope of these BAT conclusions, where that storage is a directly associated activity to the chemical activity. This will include feed tanks, intermediate tanks and product collection tanks.

The bulk storage of chemicals as a standalone activity is outside the scope of these BATC. Such activities may come under other regulation, for example Part B, COMAH or Hazardous Substances Consents.

Capture of emissions of carbon dioxide

Carbon capture is a listed activity in both the IED and in UK Regulations, but only when it is combined with geological storage. However, the removal of carbon dioxide from emissions to air, for example by scrubbing is an abatement technique, and so can be within scope of any set of BATC to which the technique might be relevant. This is similar to any other abatement technique for any other pollutant.

The EU WGC BAT review did not include data on carbon dioxide emissions and so techniques for its removal and BAT-AELs for emissions are not included. The WGC UK BATC are based on a review of the EU WGC BATC, so similarly this is not included in the UK review.

The connections between the WGC, other sectoral-BATCs and guidance on emerging technologies (GET) for processes that may also be in scope were discussed. The specific example of carbon capture (amine-based and carbonate-based) was discussed. There is separate guidance for emerging technologies, such as the developing hydrogen-economy, and carbon-capture-and-storage. As these are emerging techniques it was agreed that were not in scope of the BATC review. BAT conclusions are neither prescriptive nor exhaustive and other techniques can be used which deliver an equivalent or better environmental performance. The IED, Article 15(5) includes a provision for temporary derogations for the testing of emerging techniques. Where an activity is carried out within an installation that is not covered by a BAT Conclusion the competent authority can set permit conditions on the basis of the best available techniques that can be locally established. Criteria is outlined in Article 14(6) of the IED and has been used as the basis for drafting Guidance for emerging techniques (GET).

Many chemicals installations are also regulated under the Emissions Trading Scheme (ETS) and setting emission limit values for carbon dioxide is not permitted in IED where this is the case. The WGC BATC also contain a number of measures aimed at improving energy efficiency, which will reduce carbon dioxide emissions.

Definitions

Minor emissions

In the EU BAT conclusions, reference is made in footnotes to some of the BAT-AEL tables to minor emissions, in each case an example threshold mass emission rate is given, which is different for different pollutants, below which the BAT-AEL does not apply. Minor emissions are not otherwise defined.

In the UK BATC, reference to minor emissions in these footnotes has been removed, to avoid the risk of such emissions being misinterpreted as unimportant. The mass thresholds for the applicability of the BAT-AELs have been retained. The thresholds are set as examples and should be discussed with the regulator for an installation where there is evidence that this may differ for the process or environmental impact.

Channelled, diffuse and fugitive emissions

The definitions of these terms were discussed by TWG members in the context of site operations to ensure the definitions reflected this and was consistent with terminology used across sectors. The definition of a channelled emission was refined to one that arises from an emission point such as a stack. All other emissions are therefore considered as diffuse emissions. Diffuse emissions include fugitive and non-fugitive emissions. A fugitive emission is caused by loss of tightness of equipment which is designed or assembled to be tight. Fugitive emissions can arise from:

- moving equipment, such as agitators, compressors, pumps, valves (manual and automatic);
- static equipment, such as flanges and other connections, open- ended lines, sampling points.

Non fugitive emissions arise from vents or tanks which are open to atmosphere.

Strategies for reducing non-fugitive diffuse emissions are to capture and treat them. This has the effect of turning the non-fugitive diffuse emission into a channelled emission.

Acronyms

CMR

The terminology used to describe the CMR acronym was updated during the development of the BATC. The previous terminology of carcinogenic, mutagenic

or toxic for reproduction was updated to carcinogenic, mutagenic or reprotoxic. The BATC definitions and acronyms reflect this.

General considerations

Oxygen correction

Emissions to air from combustion units are reported under standard conditions, i.e. dry gas at a temperature of 273.15 K, a pressure of 101.3 kPa, a reference oxygen level of 3 dry vol-% and expressed in mg/Nm^3.

Thermal and catalytic oxidisers are not considered combustion units in this context, their purpose is the destruction of waste gases, and emissions to air should be expressed with no correction for the oxygen level. The exception is when a waste incinerator is also used as a thermal oxidiser receiving both liquid/solid waste and waste gas, in these circumstances, a reference oxygen level of 11% dry vol-% should be used.

When lightly contaminated (dirty) air is routed to a combustion unit as part of the combustion air, the reference oxygen level of 3% dry-vol% must be used.

Consideration of cross media effects

The purpose of the BAT regime is to establish the techniques for industry which are best for preventing or minimising emissions and impacts on the environment as a whole. Discussions during the development of the UK BATC covered several examples where cross media effects were reconsidered from a UK perspective[1].

During discussions on the VOC BAT-AEL in BAT 11, the TWG discussed the potential need for a notable number of thermal oxidisers. A sector wide example was presented to the TWG. The presentation showed potential outcomes of a significant move to large scale use of thermal oxidisers to meet WGC BAT-AEL for VOC. High-level assumptions indicated that potentially 60 UK installations would require thermal oxidisers. A comparison was made of the estimated annual VOC tonnage reduction compared to the potential CO_2, NOx, particulate and dioxin production. A societal impact comparison was presented, as well as a cost benefit comparison of the two scenarios which utilised air quality damage costs for pollutants and the ETS cost per tonne of carbon release. The presentation also notes other techniques such as those identified by Dijkmans (2000) were identified as possible methodologies to adopt to understand the wider impacts. The potential for a notable number of derogation requests resulting from such a need was also highlighted as possible.

[1] The UK was involved in the early stages of development for the WGC BREF which the UK BATC are based on. This included consideration of cross media effects prior to the selection of appropriate techniques within the BAT conclusions, in line with the requirements of Commission Implementing Decision 2012/119/EU.

A presentation was then made to the TWG focussing on alternative techniques such as carbon absorption, it highlighted the improvements over the last 10 years in design and capability of absorbers.

The TWG author also provided a presentation on the development of tools to establish a common method to measure the environmental footprint of waste gas treatment techniques which concluded that it was not available yet. The Author also referenced the Dijkmans approach but highlighted issues with its adoption and related back to the EU process also indicating it was sub optimal. Differences in the sources of environmental impacts costs were also highlighted as CO_2 costs for carbon are linked to a traded price and impacts of VOC, NO_x and particulate are linked to health impact. The TWG discussed the issues raised by the presentations in detail.

Some consideration was given to cross media effects in the BREF developed by the EU TWG. Where cross media effects are significant the associated technique would typically not be selected as BAT. Remaining techniques therefore generally offer a high level of environmental protection overall, when applied in the correct context of the operations at an installation. The use of thermal oxidisers has sufficient evidence for them to be identified as a BAT technique.

UK BAT conclusions set out those techniques that are considered BAT to prevent or minimise emissions. The BAT-AELs describe the level of emissions that can be achieved using those techniques. BAT-AELs are set as ranges rather than as single numerical values. This range is to take account of applicability restrictions that may limit the use of some techniques, the use of different combinations of techniques and cross-media effects. The regulator takes all of this into account when setting the Emission Limit Values (ELVs) for an installation.

The TWG discussed the principles of BAT in terms of prevention first followed by minimisation and then abatement. It was highlighted that existing installations would need to demonstrate process approaches that reflect the above principles and, by consequence, the requirement for the use of thermal oxidisers would likely reduce due to compliance within the range of the BAT-AEL. Process optimisation combined with advances with absorber technology and site specific factors are an example of alternate abatement methods when compared to thermal oxidisers.

The TWG discussed specific examples of processes running small batches or with low/variable concentrations of emissions where an assessment may show that a specific technique would not be effective, or a technique may not be applicable. However, it may also mean that pre-concentration or smoothing of emissions may be required before appropriately scaled techniques are employed to reduce emissions below the BAT-AEL to ensure emissions and cross media effects are minimised.

The TWG discussed the importance of examples including correct equipment choice, design, capacity and operation in line with other BATC requirements to minimise emissions, such as those in BAT 4 and 5 or as described in Table 4, Techniques to reduce channelled emissions to air, including the "optimisation of catalytic or thermal oxidation", concentrating pollutants through the use of adsorption / desorption techniques.

The discussions concluded with the TWG acknowledging that the technique selection and any justification for this would be installation or process specific. Engagement and dialogue between operator and regulator of suitable ELVs based on techniques should ensure appropriate whole environment protection, through the correct selection of techniques.

The TWG recommend that the industry and regulators (through the Chemicals Industry Liaison Group) work together to review monitoring methods and options under Article 15(3) for alternative approaches to prove compliance with BAT-AEL based ELV's in permits.

The derogation process may be used by operators where this assessment and dialogue still requires them to need further support in achieving an ELV from within the BAT-AEL range. Part of the derogation process is to specifically look at the cost benefit analysis of techniques at an installation level.

Application of BAT-AELs to batch processes for emissions to air

Concerns over the variability of emissions from batch process were raised and how a BAT-AEL may be applied or monitored in an appropriate and were suitable consistent manner. As an implementation issue each regulator would need to consider their approach to this, and its application will be installation specific.

The averaging periods of BAT-AELs for emissions to air are described in the general considerations section of the BATC. These are defined for both continuous and periodic monitoring. The averaging period for periodic measurements is defined as the average value of three consecutive measurements of at least 30 minutes each for periodic monitoring. An associated footnote explains that for any parameter where, due to sampling or analytical limitations and/or due to operational conditions, a 30-minute sampling/measurement and/or an average of three consecutive measurements is inappropriate, a more representative sampling/measurement procedure may be employed. Article 15(3)(a) of IED does allow ELVs to be applied to averaging periods which are shorter than those in the BAT-AELs. This means that averaging periods could be amended for specific processes, where justified, to address the specific needs of batch processes. However, it should be noted that the shorter the averaging period, the higher the risk that the BAT-AEL might be exceeded.

In BAT 8, substances have monitoring frequencies set dependant on mass thresholds, expressed as kg/hr. Where the requirements are periodic rather than

continuous, footnotes are included to explain that measurements should be carried out at the highest expected emission state under normal operating conditions. This means that the threshold should also be derived from the highest emission state, i.e. the hour/time during which emissions are highest.

A practical way for operators and regulators to apply these to batch processes may be to measure the emissions profile across a full batch cycle. This will identify the profile and time period of the batch cycle which would then form the appropriate averaging period. This could then be used for assessing the mass emission threshold for monitoring or setting an ELV. This would require engagement and dialogue between operator and regulator. For multi-product batch plants, a profiling exercise would need to be undertaken for each product produced.

The TWG discussed alternatives to concentration-based BAT-AELs. These may be permitted under Article 14 of the IED and implemented through Article 15(3). Alternatives to concentration-based BAT-AELs may be acceptable if these provide for an equivalent degree of environmental protection. Such alternatives can include mass-based BAT-AELs, for example kg/hour for a regulated determinand. Applying a mass-based BAT-AEL is a decision for regulators, and would be determined on a case-by-case basis. This would need to ensure peaks in emissions pose acceptable risks to human health and the environment.

BAT-AELs for emissions to water

Some of the techniques for reducing emissions to air may produce a waste water stream requiring treatment and disposal, for example wet scrubbing. Other techniques may produce a waste, absorption or dry scrubbing. Whilst, emissions to water are not part of these BAT conclusions, it is highly likely that permit reviews triggered by these WGC BAT conclusions will also include a review of the CWW BAT conclusions as part of the same review.

BAT 1: Management systems and chemical management plans

In early drafts reviewed by the TWG there were separate BAT conclusions of Environmental Management Systems and Chemical Management Systems. These have been combined with the Chemical Management System made an element of the EMS. This was to reflect the manner in which such activity was managed across the sector.

Certification of an EMS to BS ISO 14001 is an example of an EMS consistent with this BAT. Where the standard is not used, operators should ensure they have similar or equivalent systems that support their compliance with this BAT appropriate to scale and complexity of operations.

Similarly, compliance with the requirements of UK REACH is something Regulators will take into account when assessing compliance with the Chemical Management aspects of this BAT conclusion.

BAT 2: Inventory of emissions

Early drafts of the BATC defined major and minor emissions. This was because some of the footnotes to tables of BAT-AELs referred to these with example mass emissions. Reference to major and minor were removed after discussion in the TWG to avoid any unintended misinterpretation regarding the importance of these emissions.

The use of mass thresholds for the applicability of different types of monitoring or for certain BAT-AELs, has however been retained.

BAT 3: Other than normal operating conditions (OTNOC)

The TWG discussed the definition of OTNOC. This is described in Article 14(f) of IED. A paraphrased version of this was included in an early draft of the UK BATC to assist in development. This text has been removed from the formal draft to ensure consistency with the definition in the IED.

BAT-AELs apply during normal operating conditions. The TWG discussed and recognised the importance of clarifying when activities are outside of normal operating conditions to allow appropriate regulation of installations and reduce any subsequent emissions to air. The TWG discussed the definition of OTNOC, which originates in the IED and includes the word 'momentary'.

When interpreting the word 'momentary', it is important to recognise that some level of interruption may be expected at complex installations where there is a high level of integration of different process across the site. Consistent with other sectors these will have been designed for in many cases and therefore should come within the scope of normal operation. Periods of operation considered as OTNOC may therefore depend on the circumstances at each installation.

The applicability of OTNOC should be discussed with the regulator depending on the circumstances for a given site.

BAT 5: Process design

The intent of this BATC is to get the optimum combination of abatement techniques by segregating streams with different characteristics or combining those streams with similar characteristics where it is practical to do so. The process description within the BAT conclusions contains a number of implied applicability statements which might limit operators' ability to combine all streams. Ideally this should be done at process design rather than through retrofit.

BAT 7: Monitoring

The TWG discussed monitoring requirements for dust and other parameters and sought to clarify why extra parameters were required as part of this. Emissions are typically standardised to specified conditions, i.e. for temperature, pressure, as a dry gas, and oxygen concentrations. These are known as peripheral determinands and their application for standardising emissions is well established over several decades.

BAT 8: Monitoring emissions from batch processes

In BAT 8, footnote 3 to table 9 says "to the extent possible, the measurements are carried out at the highest expected emission state under normal operating conditions". The TWG discussed this in the context of the section on emission levels associated with the BAT-AELs for emissions to air and how monitoring may need to be undertaken reflecting the limitations of some batch processes. See detailed comments above in the General Considerations section.

Table 8 (averaging periods of BAT-AELs for emissions to air) in the section on general considerations expresses BAT-AELs as daily averages for continuously monitored parameters and as averages over the sampling period for periodic monitoring. The averaging period here being a minimum of 30 minutes and 3 consecutive measurements.

The footnote to table 8 says "for any parameter where, due to sampling or analytical limitations and/or due to operational conditions, a 30-minute sampling/measurement and/or an average of three consecutive measurements is inappropriate, a more representative sampling/measurement procedure may be employed". The TWG discussed this is most likely to arise for batch processes where emissions will vary across the batch cycle.

The TWG also discussed the aspects of continuous monitoring requirements for parameters listed in table 9 such as NOx and TVOC where the site specific details will be important as part of any implementation plans.

As an implementation issue, discussion and agreement between regulator and operator may be required along with any appropriate verification steps included as part of implementing this BATC.

BAT 13 – Recovery of particulate emissions

The recovery of metals from captured dust emissions was discussed. In many cases this can be an economic decision based on the cost of recovery and the value and quality of the recovered material. Recovery could be onsite or offsite at a specialist contractor. These dusts could be classified as hazardous waste.

Applicability of this BATC should be agreed between regulator and operator with appropriate justification provided by the operator where required.

BAT 18 – Emissions – inorganic compounds

This BATC is focussed on substances referred to which are process emissions. The exclusions identified in the 'other than' clause at the beginning of the BATC are there because the excluded emissions are covered in other BATC.

BAT 19 to 23 Diffuse VOC emissions

The BATC in this section update and replace BAT conclusions 5 and 19 in the CWW BREF.

BAT 31 Techniques to reduce VCM emissions

The TWG discussed the requirements of this BATC. The discussion focussed on the BAT-AELs for the VCM concentration in PVC and explored an approach of using evidence from other regulatory activity to support compliance assessment. Data on the VCM content of products (for other regulatory purposes), was discussed as a potential option to support compliance assessment.

If operators of installations are required to provide data on the VCM content of products for other regulatory purposes, then these data may be acceptable as a means of demonstrating compliance. As an implementation issue this should be discussed between the operator and the appropriate regulator(s) such data is used as part of any compliance assessment with the BATC.

Implementation of the WGC BATC through permit reviews

The TWG briefly discussed the next steps of the process once the UK BATC had been approved and published. The discussion focussed on potential timings and the approach which may be undertaken when issuing Reg 61 notices at the start of the permit review process.

As this is a matter for implementation it will be for each of the national regulator to determine the timeframes and process to be followed and communicate this to operators of permitted installations.

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Consensus Agreement to the BATC

At the conclusion of the WGC Formal TWG, after a final review of the BATC text, no alternate positions were submitted by TWG members. The BATC were agreed by consensus supported by this supplementary information and interpretation guidance.

Public consultation

This is a place holder.

[A summary of any responses and the subsequent outcomes will be made here. This will support operators and regulators when implementing the final BATC and in the work of any future TWG]

Formal adoption

This is a place holder.

[A statement will be made here in line with the final adoption and publication of the SI for these BATC.]