

Natural Resources Wales permitting decisions

Variation and Consolidation of a bespoke Permit – Welsh Water Organic Energy (Cardiff) Limited

We have decided to issue a Natural Resources Wales initiated variation and consolidated permit for Lamby Way Open Windrow Composting Facility in Rumney, Cardiff operated by Welsh Water Organic Energy (Cardiff) Limited.

The permit number is EPR/AB3096CP.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

The permit has been varied following the publication of the revised Best Available Techniques (BAT) Reference Documents (BREF) for Waste Treatment. The associated BAT conclusions to this document were published on 17 August 2018 in the Official Journal of the European Union.

This variation incorporates the changes required by the Industrial Emissions Directive following a statutory review of permits in the Waste Treatment sector. These include the amendment of the wording of several permit conditions relating to notifications, changes to emissions limits and monitoring requirements.

We are satisfied that the operator will be compliant with the published BAT conclusions which will apply from 17 August 2022.

Purpose of this document

This decision document:

- explains how we have carried out our statutory review of the Operator's Permit;
- why we have decided to vary the Permit as a result of that review; and
- why we have included the specific conditions in the revised Permit through the variation notice we are issuing.

It is our record of our decision-making process, to show how we have taken into account all relevant factors in reaching our position.

Structure of this document

- Assessment of Lamby Way Open Windrow Composting Facility against the published BAT conclusions for Waste Treatment.
- Annex 1 – Decision Checklist regarding relevant BAT Conclusions

Assessment of Lamby Way Open Windrow Composting Facility against the published BAT conclusions for Waste Treatment

1. Our decision

We have issued a variation, which will allow Welsh Water Organic Energy (Cardiff) Limited to operate the installation, subject to the conditions in the varied permit.

The variation does three things:

- it consolidates the original permit to reflect changes made through earlier variations;
- it brings the permit into line with our modern regulatory template; and

- it varies the permit where appropriate to reflect the outcome of our statutory review and incorporate Best Available Techniques (BAT) and Associated Emission Limit Values (BAT-AELs).

We consider that, in reaching this decision, we have taken into account all relevant considerations and legal requirements and that the permit will continue to ensure that a high level of protection is provided for the environment and human health.

The composting facility was first permitted under the old Waste Management Licencing Regulations in 2005 under licence Reference WML/30338. The permit was subsequently split, with a partial transfer of the composting operations (as a waste activity) completed on the 29 February 2016. On the same day an application was received to upgrade the permit from a waste activity to a Tier 3 Installation Permit. This permit variation was issued on 24 June 2016, ensured that the installation, employed Best Available Techniques (BAT) and ensured a high level of protection for human health and the environment. We have altered the permit as a result of the statutory review, and we are confident that the new requirements will deliver a superior level of protection to that which was previously achieved. Where a site is not currently compliant with BAT, Improvement Conditions have been included to bring the site up standard by 17 August 2022.

2. The legal framework

The Variation and Consolidation Notice (which includes the consolidated permit as Schedule 2) will be issued under Regulation 20 of the Environmental Permitting (England and Wales) Regulations 2016 (EPR). The environmental permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the Industrial Emissions Directive (IED);
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that, in issuing the Variation and Consolidated Permit, it will ensure that the operation of the installation complies with all relevant legal requirements and that a high level of protection will be delivered for the environment and human health.

We explain how we have addressed specific statutory requirements more fully in the rest of this document.

3. How we reached our decision

Requesting information to demonstrate compliance with BAT Conclusion techniques

We issued a Notice under Regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 on 4 April 2019 requiring the operator to provide information to demonstrate how the operation of their installation currently meets, or will subsequently meet, the revised standards described in the relevant BAT Conclusions document.

The Regulation 61(1) Notice required the operator to:

- Describe the techniques that will be implemented before 17 August 2022, which will then ensure that operations meet the revised standard, or
- Justify why standards will not be met by 17 August 2022, and confirmation of the date when the operation of those processes will cease within the installation or an explanation of why the revised BAT standard is not applicable to those processes, or
- Justify why an alternative technique will achieve the same level of environmental protection equivalent to the revised standard described in the BAT Conclusions.
- Where their permitted activity involves the use, production or release of a hazardous substance, as defined in Article 3(18) of the Industrial Emissions Directive, Welsh Water Organic Energy (Cardiff) Limited were required to carry out a risk assessment considering the possibility of soil and groundwater contamination at the permitted installation with such substances. Where risk of such contamination is established prepare a baseline report containing information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definite cessation of the activity. Welsh Water Organic Energy (Cardiff) Limited have a copy of a consequent baseline report.

- Where their permitted activity involves the use, production, storage or release of priority hazardous substances and any other relevant substances., as defined by the Water Framework Directive, the Welsh Water Organic Energy (Cardiff) Limited were required to carry out a risk screening assessment considering the presence of priority hazardous substances at the permitted installation. Where a risk of these substances is established the operator is to sample the effluent and screen for the priority hazardous substances. If these substances are found to be present in the effluent stream, then assessment using the H1 tool and potential detailed modelling will be required to demonstrate that the effluent discharge will not have a significant impact to the receiving water.

Where the operator proposed that they were not intending to meet a BAT standard, that also included a BAT Associated Emission Level (BAT-AEL) described in the Waste Treatment BAT Conclusions Document, the Regulation 61(1) Notice requested that the operator make a formal request for derogation from compliance with that AEL (as provisioned by Article 15(4) of IED). In this circumstance, the Notice identified that any such request for derogation must be supported and justified by sufficient technical and commercial information that would enable us to determine acceptability of the derogation request.

The Regulation 61(1) Notice response from the operator was received on the 27 September 2019 with additional information received on the 2 March 2020.

We considered that the responses contained sufficient information for us to commence determination of the permit review. The operator made no claim for commercial confidentiality. We have not received any information in relation to the Regulation 61(1) Notice response that appears to be confidential in relation to any part.

4. Key issues/Regulation 61(1) Notice response

BAT Conclusions for the Waste Treatment were published as Commission Implementing Decision EU 2018/1447 in the Official Journal of the EU on 17 August 2018. There are 53 BAT Conclusions. Annex 1 provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This should be read in conjunction with the permit/variation notice issued.

A response was received from Welsh Water Organic Energy (Cardiff) Limited to Sections 1 to 4 of the Regulations 61(1) Notice. Following assessment of the Regulation 61(1) response, further information was requested from Welsh Water Organic Energy (Cardiff) Limited. Where the operator has concluded that they have achieved BAT, and we are in agreement, no further information/justification has been sought by Natural Resources Wales. Where the operator has not provided sufficient information or where the existing documentation does not achieve BAT, improvement conditions have been set to ensure compliance by 2022.

In response to Section 5 of the Regulation 61(1) Notice an update Opra profile was provided.

In response to Section 6 of the Regulation 61(1) Notice, Welsh Water Organic Energy (Cardiff) Limited did not provide the required information. The site does use hazardous substances as defined in Article 3(18) of the Industrial Emissions Directive, thus an improvement condition has been included within the permit to ensure any activities involving the use, production or release of relevant hazardous substances as defined in Article 3(18) of the Industrial Emissions Directive are fully assessed on site (IC3).

In response to Section 7 of the Regulation 61(1) Notice Welsh Water Organic Energy (Cardiff) Limited confirmed that there are no discharges to surface water or groundwater other than clean un-contaminated surface water rainfall run-off. Any leachate effluent run-off from the open windrow green waste composting process is contained on site or discharged into sewer under a Trade Effluent Consent. The daily volume of leachate is variable and largely weather dependant however the maximum daily volume permitted to sewer is 864m³/day. When considering that the maximum consented flow of the receiving Wastewater Treatment Works (WwTW) is 523,584m³/day, this would equate to over 600 times the Trade Effluent Consent

maximum permitted volume. The Operator advised that a review of the original H1 assessment dated February 2015, reference – 407.04012.00009/H1 was considered, however the Operator felt that it was unnecessary to undertake any further assessment. A copy of this review was not provided, nor was a copy of the original H1 assessment submitted. An Improvement Condition has thus been included within the permit (IC4) requiring the Operator to submit a phase 1 screening report, and where any substances are not screened out by the screening tests, the Operator will need to carry out modelling, as described in the risk assessment guidance.

5. Changes we have made

Improvement Conditions

Based on the information provided in the Regulation 61(1) response, we consider that we need to set improvement conditions. These conditions are set out below. We are using these conditions to require the operator to provide Natural Resources Wales with details that need to be established or confirmed during operations. The improvement conditions ensure compliance by 2022.

Improvement Condition 1 (IC1) regarding Fire Prevention and Mitigation Plan has been added in line with our Fire Prevention and Mitigation Plan guidance. As per NRW's Fire Prevention and Mitigation Guidance, if an operator has an environmental permit that authorises the storage of combustible waste, or an existing permit with a permit condition requiring you to have a Fire Prevention Mitigation Plan (FPMP), the operator must adhere to this guidance.

Improvement Condition 2 (IC2) has been imposed to ensure compliance with certain BAT Conclusions by 17 August 2022.

Improvement Condition 3 (IC3) has been imposed to ensure compliance with Section 6 of the Regulation 61(1) Notice.

Improvement Condition 4 (IC4) has been imposed to ensure compliance with Section 7 of the Regulation 61(1) Notice.

Improvement Condition 5 (IC5) requires the Operator to submit an updated Site Boundary and Layout Plan clearly illustrating all points source emissions from the site, including point source emission to sewer.

Reference	Requirement	Date
IC1	<p>The operator shall submit a written Fire prevention and mitigation plan to Natural Resources Wales.</p> <ul style="list-style-type: none"> • The Fire prevention and mitigation plan must be produced in line with the standards set out in Natural Resources Wales Fire prevention and mitigation plan guidance – Waste. 	3 months after permit issue or otherwise agreed in writing with Natural Resources Wales
IC2	<p>The operator shall submit to Natural Resources Wales for approval information to evidence compliance with the following BAT requirements in accordance with requirements specified within BAT Conclusions of the Waste Treatment BREF Document (EU 2018) in relation to:</p> <ul style="list-style-type: none"> • BAT 1 - Implement and adhere to an environmental management system (EMS) that incorporates all of the following features: <ul style="list-style-type: none"> ○ (VII) Following development of cleaner technologies; ○ (VIII) Whole life cycle considerations when designing a new plant; ○ (IX) Regular sectoral bench marking; ○ (X) Waste stream management; ○ (XI) Inventory of wastewater & waste gas streams; ○ (XII) Residues Management Plan; ○ (XIII) Accident Management Plan; and ○ (XIV) Odour Management Plan. • BAT 2 In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques described within BAT 2 Table. • BAT 3 In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of wastewater and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the following features: <ul style="list-style-type: none"> ○ information about the characteristics of the waste to be treated and the waste treatment processes; ○ information about the characteristics of the wastewater streams; and ○ information about the characteristics of the waste gas streams. • BAT 4 In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques described within BAT 4 Table. • BAT 5 In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures. 	17 February 2022 or otherwise agreed in writing with Natural Resources Wales

	<ul style="list-style-type: none"> • BAT 6 For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pre-treatment, at the inlet to the final treatment, at the point where the emission leaves the installation). • BAT 7 BAT is to monitor emissions to water with at least the frequency given within BAT 7 Table, and in accordance with EN standards. If EN standards are not available. • BAT 10 is to periodically monitor odour emissions. • BAT 12 In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the requirements specified within BAT 12 Table. • BAT 13 Techniques to prevent, or where not practicable reduce odour emissions. • BAT 14 In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques described within BAT 14 Table. • BAT 19 In order to optimise water consumption, to reduce the volume of wastewater generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques described within BAT 19 Table. • BAT 20 In order to reduce emissions to water, BAT is to treat wastewater using an appropriate combination of the techniques described within BAT 20 Table. • BAT 21 In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques described within BAT 21 Table. • BAT 22 In order to use materials efficiently, BAT is to substitute materials with waste. • BAT 23 Energy efficiency Plan and Energy Balance Record. • BAT 24 Maximise the reuse of packaging as part of a Residues Management Plan. • BAT 33 In order to reduce odour emissions and to improve the overall environmental performance, by selecting the waste input (to ensure its suitability for biological treatment). • BAT 35 In order to reduce the generation of wastewater and to reduce water usage, BAT is to use all of the techniques described within BAT 35 Table. • BAT 36 In order to reduce emissions to air and to improve the overall environmental performance, BAT is to monitor and/or control the key waste and process parameters. • BAT 37 In order to reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps, BAT is to use one or both of the techniques described within BAT 37 Table. 	
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IC3	<p>The Operator shall complete and submit for approval:</p> <ul style="list-style-type: none"> • a baseline report containing information necessary to determine the current state of soil and groundwater contamination; or • Provide a summary report referring to information previously submitted where you are satisfied that such information represents the current state of soil and groundwater contamination; <p>so as to enable a quantified comparison to be made with the state of soil and groundwater contamination upon definitive cessation of activity.</p>	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC4	<p>The Operator shall complete and submit for approval a Phase 1 screening test report for priority hazardous pollutants and any other relevant priority hazardous substances discharged to sewer. For any substance which is not screened out by the screening tests, further modelling (as described in the risk assessment guidance “Surface water pollution risk assessment for your environmental permit”) should be undertaken, and the results of the modelling submitted to NRW for approval. The Operator shall submit for written approval a methodology for the appropriate monitoring requirements for discharges to sewer. Where a process parameter cannot be monitored justification should be provided and/or a suitable alternative proposed. The methodology should include trigger levels for each of the parameters with associated procedures in place if trigger levels are exceeded.</p>	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC5	<p>The operator shall submit to Natural Resources Wales for approval an updated Site Boundary and Layout Plan clearly showing all points source emissions from the site.</p>	17 February 2022 or otherwise agreed in writing with Natural Resources Wales

IC2 BAT Conclusion 36 has been included in the permit in order to ensure the operator demonstrates that they have control over their aerobic treatment of waste process. BATc 36 of the Waste Treatment BREF requires the Operator to reduce emissions to air and to improve the overall environmental performance. BAT to is to monitor and/or control the key waste and process parameters. The approach taken by NRW is to have an improvement condition for the operator to submit a methodology for how they will address the requirements listed in Table S3.3 of the permit. The Operator will need to confirm how the information will be gathered, as well as the frequency this information will be recorded. Where the operator does not undertake certain monitoring parameters they must provide suitable justification and/or offer an alternative parameter.

This IC is for the operator to demonstrate control over their process. NRW need to understand trigger levels on site by the Operator as well as the frequency of the monitoring. This information will help inform NRW that the process is stable. The

monitored parameters may be submitted as part of the annual report, however, if there is an issue at the site the Schedule 5 Notification Form should be sent to NRW informing us of any issues or exceedances of trigger levels. This procedure should be reflected within the sites EMS with the site having appropriate backup of this information.

Monitoring parameters and limits for the point source emission to sewer (S1) as referenced within Table S3.2 will need to be agreed with NRW following completion of IC2 BAT conclusions 3 and 7.

Operational Changes

There are a number of additional changes which have been made to the permit. These are summarised below:

- The Registered Company Address as listed on Companies House was changed from Dŵr Cymru Welsh Water, Pentwyn Road, Nelson, Treharris, CF46 6LY Wales to Dŵr Cymru Welsh Water Linea, Fortran Road, St. Mellons, Cardiff, CF3 0LT on 12 February 2021. The permit has been updated to reflect the new address;
- Additional process data to report against generation of residues and wastewater has been included as part of the updated reporting parameters within Schedule 4 of the permit, in order to satisfy requirements of BAT Conclusion 11;
- Two pre-operational measures have been included within the permit. These relate to the future use of a building and associated biofilter(s). As neither the building nor biofilter(s) currently exist, compliance against relevant BAT conclusions associated with these operations cannot be assessed. The permit has been updated to include additional monitoring parameters for the point source emissions from the future biofilter(s) (Table S3.1). Compliance with these emissions along with standards specified within the BREF BAT conclusions 8 and 34, will not be required to be met until the biofilter(s) are installed and the operator has satisfied pre-operational measure 2;
- Monitoring parameters included within Schedule 3(b) for the future Biofilter(s) are in accordance with BAT Conclusion 8 & 34. The monitoring of NH₃ and H₂S can be used *as an alternative* to the monitoring of odour concentrations. Parameters are to be agreed with NRW following completion of pre-operational measure 2;

- In addition to NRW's statutory requirement to review and incorporate BAT and BAT-AELs following the publication of the revised BREF for Waste Treatment, NRW are also required to review the permit against any relevant newly published or updated Technical Guidance Notes. A Site Specific Bioaerosol Risk Assessment (SSBRA) was undertaken by the Operator in February 2015. This identified the nearest sensitive receptor as being >250m distance from the open windrow operations. Additional bioaerosol monitoring requirements have been included within Table S3.4 of the permit. The Operator will need to re-assess site activities (including the future installation of biofilter(s)) against the latest version of 'Technical Guidance Note M9 Environmental monitoring of bioaerosols at regulated facilities dated July 2018 Version 2'. The Operator will need to undertake a new screening assessment to consider all potential sources of bioaerosols (including the biofilters) against the relevant screening distance to nearby sensitive receptors. If sources are found to be within 250m of a nearby sensitive receptor, the Operator is required to undertake another SSBRA, as per pre-operational measure 2.

Emissions to Water

As part of our delivery of the Water Framework Directive requirements, we need to identify and assess the impact for all discharges to surface waters and/or sewer from the site for priority hazardous substances and any other relevant substances. The emissions monitoring for these substances should be carried out using the methods and standards described in the M18 guidance on "Monitoring of discharges to water and sewer".

With reference to the risk assessment guidance on the gov.uk website entitled "Surface water pollution risk assessment for your environmental permit" (accessible via: <https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit>) the Operator advised that a review of the original H1 assessment dated February 2015, reference – 407.04012.00009/H1 was considered, however the Operator felt that it was unnecessary to undertake any further assessment. A copy of this review was not provided, nor was a copy of the original H1 assessment submitted. An Improvement Condition has thus been included within the permit (IC4) requiring the Operator to submit a phase 1 screening report, and where any substances are not screened out by the screening tests, the Operator will need to carry out modelling, as described in the risk assessment guidance.

Emissions to Water – Article 15(4) Derogations

No derogations

Emissions to Air

There were changes to the Emission Limit Values (ELV's) for emissions to air taking into account BAT conclusions from the Waste Treatment BREF.

The tables below outline the parameters and limits set to implement the BAT-AELs:

Effective until 16 August 2022

Release point	Parameter	Limit/ BAT AEL	Effective until
A1	None specified	No limit set	16 August 2022

Effective from 17 August 2022

Release point	Parameter	Limit/ BAT AEL	Effective from
A1	Hydrogen Sulphide ¹	No limit set	17 August 2022
	Ammonia (NH ₃) ¹	20 mg/m ³	17 August 2022
	Odour ¹	1000 ouE/Nm ³	17 August 2022

Note 1: Emission parameter only applies following completion of pre-operational measure 2.

Where BAT associated emission levels are identified (BAT-AELs), limits may be prescribed at the top end of the range unless the proximity of sensitive receptors requires a tighter limit or if tighter limits are previously on the permit, this ensures no backsliding of emission limits.

Emissions to Air – Article 15(4) Derogations

No derogations.

Other IED BREFs relevant to the permit review

There are no specific listed activities within Table S1.1 of the permit that are within scope of other published BREFS.

6. Conclusion

We consider that the installation already employed what used to be BAT, and that the revised BREF and its BAT-AELs provide the opportunity to consider further environmental improvements.

Coupled with the consolidation and modernisation of the permit, we believe this variation provides a sound basis for ongoing regulation of the installation and we are satisfied that the operator is currently achieving or will be achieving all relevant BAT by 17 August 2022.

We believe that we have ensured compliance with all relevant legal requirements in carrying out this review and making our determination on the variation.

Annex 1: Decision checklist regarding relevant BAT Conclusions

BAT Conclusions for the Waste Treatment Bref were published as Commission Implementing Decision EU 2018/1147 in the Official Journal of the EU on 17 August 2018. There are 53 BAT Conclusions. This checklist provides a record of decisions made in relation to each relevant BAT Conclusion applicable to the installation. This annex should be read in conjunction with the consolidated variation notice.

All BAT Conclusions arising are listed by number in order below;

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
OVERALL ENVIRONMENTAL PERFORMANCE		
1	Environment Management System (EMS) – <u>ALL</u> of the following:	
	I.	Management commitment
	II.	Environmental policy development including CI of performance
	III.	Planning and implementing procedures & targets in conjunction with financial planning & investment
		Currently Compliant Site operates under an Environmental Management Systems (EMS). Operator achieved ISO14001:2015 standards in February 2019
		Currently Compliant: Implemented through site Management System Document Reference: Environmental Policy
		Currently Compliant Site operates under an Environmental Management Systems (EMS). Operator achieved ISO14001:2015 standards in February 2019. Document Reference: Annual KPIs

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
IV.	Implementation of procedures	
	(a) Structure & responsibility	Currently Compliant: Implemented through IMS on Intranet. Document Reference: EQMS Section 1(3)
	(b) Recruitment, training, awareness & competence	Currently Compliant: Implemented through IMS on Intranet. Document Reference: EQMS MP02
	(c) Communication	Currently Compliant: Implemented through IMS on Intranet. Document Reference: EQMS 04
	(d) Employee involvement	Currently Compliant: Implemented through IMS on Intranet. Employee engagement via training, toolbox talks and risk assessing
	(e) Documentation	Currently Compliant: Implemented through IMS on Intranet. Document Reference: EQMS MP 01
	(f) Effective process control	Currently Compliant: Implemented through IMS on Intranet. Document Reference: SOP/HACCAP/IRMS
	(g) Maintenance programmes	Currently Compliant: Implemented through IMS on Intranet. Document Reference: Annual Maintenance Plan, Daily/weekly/monthly checks
	(h) Emergency preparedness & response	Currently Compliant: Implemented in IMS on Intranet. Document Reference: Emergency Response Procedure
	(i) Safeguarding compliance with environmental legislation	Currently Compliant: Implemented through IMS on Intranet. Document Reference: Environmental Legal Register
V.	Checking performance and taking corrective action	
	(a) Monitoring & measurement	Currently Compliant: Plant performance monitored. Document Reference: Daily, weekly, monthly checks. Sampling

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	(b) Corrective and preventive action	Currently Compliant: Implemented through IMS on Intranet. Document Reference: Incident Logs
	(c) Maintenance of records	Currently Compliant: Implemented through IMS on Intranet. Document Reference: Scheduled Maintenance, Daily/Weekly/Monthly checks
	(d) Independent (where practicable) internal or external EMS auditing	Currently Compliant: Implemented through IMS. ISO annual audits carried out by third party contractor
VI.	Senior management review of EMS	Currently Compliant: Implemented through IMS. Document Reference: EQMS MMRA
VII.	Following development of cleaner technologies	Compliant in the Future: The Operator did not provide sufficient information in response to this BAT requirement. An Improvement Programme Condition will be included in the Permit to ensure compliance ahead of compliance deadline (IC2)
VIII.	Whole life cycle considerations when designing a new plant i.e. impacts from eventual decommissioning and throughout its operating life	Compliant in the Future: The Operator did not provide sufficient information in response to this BAT requirement. An Improvement Programme Condition will be included in the Permit to ensure compliance ahead of compliance deadline (IC2)
IX.	Regular sectoral bench marking	Compliant in the Future: The Operator did not provide sufficient information in response to this BAT requirement. An Improvement Programme Condition will be included in the Permit to ensure compliance ahead of compliance deadline (IC2)
X.	Waste stream management (BAT 2)	Compliant in the Future: Operator has stated N/a within their response; however, this BAT conclusion is relevant. An Improvement Condition has thus included in the Permit variation to

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		capture this BAT requirement and ensure compliance ahead of compliance deadline (IC2)
XI.	Inventory of wastewater & waste gas streams (BAT 3)	Compliant in the Future: Operator has stated N/a within their response; however, this BAT conclusion is relevant. An Improvement Condition has thus included in the Permit variation to capture this BAT requirement and ensure compliance ahead of compliance deadline (IC2)
XII.	Residues Management Plan – S6.5	Compliant in the Future: The Operator did not provide any information in response to this BAT requirement. An Improvement Condition has been included in the Permit variation to ensure compliance with BAT 1 (XII) prior to compliance deadline (IC2)
XIII.	Accident Management Plan – S6.5	Compliant in the Future The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. An improvement condition has been included within the permit for the Operator to submit an updated Accident Management Plan as part of compliance with BAT 21, which will also meet the requirements of BAT 1 (XIII) prior to the compliance deadline (IC2)
XIV.	Odour Management Plan (BAT 12)	Compliant in the Future: The Operator has confirmed an OMP in place however has not provided sufficient information to confirm full compliance with this BAT conclusion. An improvement condition has been included within the permit for the Operator to submit an updated Odour Management Plan as part of compliance

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
		with BAT 12, to ensure compliance with BAT 1 (XIV) and BAT 12 prior to compliance deadline (IC2)	
XV.	Noise & Vibration Management Plan (BAT 17)	Not applicable: Operations on site have not given rise to any substantiated noise or vibration nuisance at sensitive receptors therefore this BAT Conclusion is not applicable.	
2	Improving overall environmental performance – ALL of the following:		
	a.	Set up and implement waste characterisation & pre-acceptance procedures	Compliant in Future: The Operator has stated that the site is compliant with BAT 2 and overall environmental performance is captured within operational documentation (Document Reference: EQMS 01, PAS100, Site plan), however no further information has been provided. An Improvement Condition has been included within the permit to ensure site is compliant with BAT2 prior to compliance deadline (IC2)
	b.	Set up and implement waste acceptance procedures	As above
	c.	Set up and implement a waste tracking system & inventory	As above
	d.	Set up and implement an output quality management system	As above
	e.	Ensure waste segregation	As above
	f.	Ensure waste compatibility prior to mixing or blending	As above
g.	Sort solid incoming waste – S6.4	As above	
3	Establish and maintain a wastewater and waste gas inventory as part of the EMS - ALL of the following:		
	Information on characteristics of waste and waste treatment processes		

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	(i)(a)	simplified process flow sheets showing emission sources	Compliant in Future: The Operator has stated N/a in their response to this BAT conclusion however this BAT conclusion is relevant to site operations. An Improvement Condition has been included within the permit to ensure the site is compliant prior to compliance deadline (IC2)
	(i)(b)	Process-integrated and wastewater/waste gas treatment descriptions including performance	Compliant in Future: The Operator has stated N/a in their response to this BAT conclusion however this BAT conclusion is relevant to site operations. An Improvement Condition has been included within the permit to ensure the site is compliant prior to compliance deadline (IC2)
Information on characteristics of wastewater streams			
<i>Mean and variability of:</i>			
(ii)(a)	Flow		Currently Compliant: All wastewater streams are recycled for use on the open windrows. The Operator currently monitors flow of the wastewater discharge from the site which has a Trade Effluent Consent to discharge to sewer. Consent TE702. Permitted Flow is max 10l/s, max 864m3/day
	pH		Currently Compliant: All wastewater streams are recycled for use on the open windrows. The Operator currently monitors flow of the wastewater discharge from the site which has a Trade Effluent Consent to discharge to sewer. Consent TE702. Permitted range: pH6-pH11
	Temperature		Not Applicable: Not a condition of Trade Effluent Consent TE702
	Conductivity		Not Applicable: Not a condition of Trade Effluent Consent TE702
<i>Mean concentration, load and variability of:</i>			
(ii)(b)			
		Total suspended solids	Currently Compliant: All wastewater streams are recycled for use on the open windrows. The Operator currently monitors flow of the wastewater

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		discharge from the site which has a Trade Effluent Consent to discharge to sewer. Consent TE702. Permitted limit 500mg/l
	COD/TOC	Currently Compliant: All wastewater streams are recycled for use on the open windrows. The Operator currently monitors flow of the wastewater discharge from the site which has a Trade Effluent Consent to discharge to sewer. Consent TE702. Permitted limit COD max 500mg/l
	Nitrogen species	Currently Compliant: All wastewater streams are recycled for use on the open windrows. The Operator currently monitors flow of the wastewater discharge from the site which has a Trade Effluent Consent to discharge to sewer. Consent TE702.
	Phosphorous	Currently Compliant: All wastewater streams are recycled for use on the open windrows. The Operator currently monitors flow of the wastewater discharge from the site which has a Trade Effluent Consent to discharge to sewer. Consent TE702.
	Metals	Currently Compliant: All wastewater streams are recycled for use on the open windrows. The Operator currently monitors flow of the wastewater discharge from the site which has a Trade Effluent Consent to discharge to sewer. Consent TE702.
	Priority substances/micropollutants	Not Applicable: Not a condition of Trade Effluent Consent TE702
	Any other relevant compounds	Currently Compliant: All wastewater streams are recycled for use on the open windrows. The Operator currently monitors flow of the wastewater discharge from the site which has a Trade Effluent Consent to discharge to sewer. Consent TE702. Ammonia (as N) 20mg/l; Sulphate (as SO ₂) 1000mg/l; Total Sulphide 1mg/l; Chloride 1000 mg/l; Total Phosphate 10mg/l
(ii)(c)	<i>Bioeliminability data (see BAT 52):</i>	

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	BOD BOD to COD ratio Zahn-Wellens test Biological inhibition potential	Not Applicable: Not a condition of Trade Effluent Consent TE702
Information on characteristics of waste gas streams		
	<i>Mean and variability of:</i> Flow temperature	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 3 prior to compliance deadline (IC2)
	<i>Mean concentration, load and variability of relevant substances:</i> Organic compounds POPs e.g. PCBs Any other relevant compounds	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 3 prior to compliance deadline (IC2)
	Flammability Lower and Higher Explosive Limits Reactivity	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 3 prior to compliance deadline (IC2)
	<i>Presence of other substances that may affect the gas treatment system or plant safety:</i> O2 N2	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 3 prior to compliance deadline (IC2)

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		Water vapour	conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 3 prior to compliance deadline (IC2)
		Dust	
4	Reducing environmental risk associated with waste storage – <u>ALL</u> of the following:		<p>Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 4 prior to compliance deadline (IC2)</p> <p>Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 4 prior to compliance deadline (IC2)</p> <p>Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 4 prior to compliance deadline (IC2)</p>
	a.	Optimised storage location	
	b.	Adequate storage capacity	
	c.	Safe storage operation	

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	d.	Separate area for storage & handling of packaged hazardous waste	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 4 prior to compliance deadline (IC2)
5	Set up and implement procedures to reduce the environmental risk associated with handling and transfer of waste - include following elements:		Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 5 prior to compliance deadline (IC2)
	Carried out by competent staff		
	Duly documented, validated and verified		
	Spill prevention, detection and mitigation measures		
	Take precautions when mixing or blending wastes Procedures are risk-based and consider likelihood of accidents, incidents and their environmental impact		
MONITORING			
6	Relevant emissions to water: monitor key process parameters at key locations		Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion.
	Key process parameters		
	Wastewater flow		
	pH		
	Temperature Conductivity		

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	BOD	Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 6 prior to compliance deadline (IC2)
	Other process parameters	
	Key monitoring locations	
	Pre-treatment inlet and/or outlet	As above
	Final treatment inlet	
	Discharge point (to the environment)	
	Other location	
7 Monitoring emissions to water (refer to table) Monitoring parameters depend on waste treatment process(es) involved	Compliant in the Future: The Operator has stated N/a to this BAT conclusion; however, the site has a Trade Effluent Consent and discharge to sewer. As the Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 7 prior to compliance deadline (Refer to BAT 20) (IC2)	
	8 Monitoring emissions to air (refer to table) Monitoring parameters depend on waste treatment process(es) involved	Compliant in the Future: The Operator has stated N/a to this BAT conclusion however the permit does currently include a point source emission to air from the biofilter(s). However, the site does not currently have an operational biofilter. Until such time as a biofilter is installed, compliance against this BAT conclusion cannot be assessed. The permit has been updated to include additional monitoring parameters for the biofilter (Table S3.1). Compliance with these emissions along with standards specified within the BREF

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
		Table S6.1 will not be required to be met until the biofilter is installed and the operator has satisfied pre-operational measure 2 which has been included within the permit.	
9	Monitoring diffuse emissions of organic compounds to air from processes involving solvents. Use one or a combination of the following:		
	a	Measurement – S6.2 descriptions	Not applicable Operator has confirmed within their response that there are no activities involving solvents at the permitted facility
	b	Emissions factor calculation	
c	Mass balance calculation		
10	Periodically monitor odour emissions where nuisance is expected and/or has been substantiated (monitoring frequency is outlined in BAT 12)		
	<p>Use EN standards e.g. 13725 or 16841</p> <p>Use equivalent methods e.g. ISO / national / international monitoring standards</p>	Compliant in the Future: The site has received substantiated odour complaints. The operator has stated that odour emissions are monitored via implementation of: Odour Management Plan. The OMP submitted to NRW in October 2020 does not include details of periodic monitoring. The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. An improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 12 prior to compliance deadline (IC2)	
11	Annual monitoring for:		
	- Water, energy and raw materials	Compliant in Future: The permit sets out reporting parameters that will form part of the annual report submitted to the Regulator at the	

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	- Generation of residues and wastewater	end of January each year. Additional process data has been included as part of the updated reporting parameters and forms issued as part of permit variation
EMISSIONS TO AIR		
Set up, implement and review an Odour Management Plan (as part of the site EMS) where nuisance is expected and/or has been substantiated. Include <u>ALL</u> of the following:		
12	Protocol containing actions and timelines	Compliant in the Future: The site has received substantiated odour complaints. The operator has stated that odour emissions are monitored via implementation of: Odour Management Plan. However, the Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. An improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 12 prior to compliance deadline (IC2)
	Protocol for conducting odour monitoring (BAT 10)	
	Protocol for response to odour incidents/complaints	
	Odour prevention and reduction programme	
Techniques to prevent, or where not practicable reduce odour emissions. Use one or a combination of the following:		
13	a. Minimising residence times (open systems only)	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 13 prior to compliance deadline (IC2)

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	b.	Use chemical treatment (N/A if desired output is hampered)	Not applicable Site activities do not involve use of chemical treatment
	c.	Optimising aerobic treatment – see examples. Refer to BAT 36 for wastes other than water-based liquid waste.	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 13 prior to compliance deadline (IC2)
14	Techniques to prevent, or where not practicable reduce diffuse emissions to air, in particular of dust, organic compounds and odour. Use one or a combination of the following:		
	a.	Minimising potential diffuse emission sources – see examples	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 14 prior to compliance deadline (IC2)
	b.	Select and use high-integrity equipment – see examples	As above
	c.	Corrosion prevention – see examples	As above
	d.	Containment, collection and treatment of diffuse emissions – see examples	As above
	e.	Dampening (with water or fog)	As above
	f.	Maintenance – see examples	As above

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	g.	Cleaning of waste treatment and storage areas – see examples	As above
	h.	Leak Detection and Repair (LDAR) programme for organics – S6.2	As above
15	Use flaring only for safety reasons or non-routine operating conditions (OTNOC). Use <u>both</u> of the following:		
	a.	Correct plant design – see examples	Not applicable Site activities do not involve use of flaring
	b.	Plant management including gas system balancing and advanced process control	Not applicable Site activities do not involve use of flaring
16	Reduce emissions to air when flaring is unavoidable. Use <u>both</u> of the following:		
	a.	Correct design of flaring devices – see examples	Not applicable Site activities do not involve use of flaring
	b.	Monitoring and recording as part of flare management – see examples	Not applicable Site activities do not involve use of flaring
NOISE AND VIBRATIONS			
17	Set up, implement, and regularly review a Noise and Vibration Management Plan (as part of the EMS) where nuisance is expected and/or has been substantiated. Include <u>ALL</u> of the following:		
	I.	Protocol with actions and timelines	Not applicable: Operations on site have not given rise to any substantiated noise or vibration nuisance at sensitive receptors therefore this BAT Conclusion is not applicable.
	II.	Noise and vibration monitoring plan/protocol	
	III.	Noise & vibration complaint response plan/protocol	
	IV.	Noise and vibration reduction programme	

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
18	Techniques to prevent, or where not practicable reduce noise and vibration emissions. Use one or a combination of the following:		
	a.	Appropriate location of equipment and buildings	Not applicable: Operations on site have not given rise to any substantiated noise or vibration nuisance at sensitive receptors therefore this BAT Conclusion is not applicable
	b.	Operational measures – see examples	
	c.	Low-noise equipment – see examples	
	d.	Noise & vibration control equipment – see examples	
	e.	Noise attenuation – see examples	
EMISSIONS TO WATER			
19	Optimise water consumption, reduce wastewater generation and prevent or where not practicable reduce emissions to soil and water. Use one or a combination of the following:		
	a.	Water management – see examples	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 19 prior to compliance deadline (IC2)
	b.	Water recirculation	
	c.	Impermeable surface	
	d.	Reduce likelihood and impact of tank/vessel overflows and failures – see examples	
	e.	Roofing of waste storage and treatment areas	
	f.	Segregation of water streams (being mindful of existing plant constraints)	
	g.	Adequate drainage infrastructure	
	h.	Design and maintenance provisions to allow risk-based leak detection and repair. Minimise use of underground components.	

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	i.	Appropriate buffer storage capacity (being mindful of existing plant constraints)	
20	Treat wastewater using a combination of:		
	<i>Preliminary, primary and general treatment</i>		
	a.	Equalisation	Compliant in the Future: The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit to ensure compliance with BAT 20 prior to compliance deadline (IC2)
	b.	Neutralisation	
	c.	Physical separation	
	<i>Physico-chemical treatment</i>		
	d.	Adsorption	Not applicable: Operator has stated N/a within their response as there is no physico-chemical treatment of wastewater from the Facility
	e.	Distillation/rectification	
	f.	Precipitation	
	g.	Chemical oxidation	
	h.	Chemical reduction	
	i.	Evaporation	
	j.	Ion exchange	
	k.	Stripping	
<i>Biological treatment</i>			
l.	Activated sludge process	Not applicable Operator has stated N/a within response there is no biological treatment of wastewater from the Facility	
m.	Membrane bioreactor		
<i>Nitrogen removal</i>			

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	n.	Nitrification/denitrification (where biological treatment used)	Not applicable: Operator has stated N/a within their response as there is no Nitrogen removal treatment of wastewater from the Facility
Solids removal			Not applicable: Operator has stated N/a within their response as there is no solids removal of wastewater from the Facility.
	o.	Coagulation and flocculation	
	p.	Sedimentation	
	q.	Filtration (sand, micro, ultra)	
	r.	Flotation	
BAT-AELs for DIRECT discharges to a receiving waterbody (mg/l)			Not applicable: Operator has stated N/a within response as there are no DIRECT discharges from the Facility to a receiving waterbody
<i>Table 6.1 and its supporting notes. Monitoring requirements are outlined in BAT 7</i>			
TOC		10.0-60	
		10-100 for water-based liquid waste	
COD (TOC is preferred)		30-180	
		30-300 for water-based liquid waste	
Suspended solids		5.0-60	
HOI		0.5-10 applying to specific waste treatments	
Total N		1-25 for biological treatment and waste oil re-refining	
		10-60 for water-based liquid waste	
Total P		0.3-2 for biological treatment	

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		1-3 for water-based liquid waste	
	Phenol	0.05-0.2 for waste oil re-refining and physio-chemical treatment of waste with CV	
		0.05-0.3 for water-based liquid waste	
	Free CN-	0.02-0.1 for water-based liquid waste	
	AOX	0.2-1 for water-based liquid waste	
	Metals & Metalloids – specific waste treatments as listed in Table 6.1		<p>Not applicable: Operator has stated N/a within response as there are no DIRECT discharges from the Facility to a receiving waterbody</p>
	As	0.01-0.05	
	Cd	0.01-0.05	
	Cr	0.01-0.15	
	Cu	0.05-0.5	
	Pb	0.05-0.1	
	Ni	0.05-0.5	
	Hg	0.5-5	
	Zn	0.1-1	
	Metals & Metalloids – treatment of water-based liquid waste		
	As	0.01-0.1	<p>Not applicable: Operator has stated N/a within response as there are no DIRECT discharges from the Facility to a receiving waterbody</p>
	Cd	0.01-0.1	
	Cr	0.01-0.3	

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Hexavalent Cr [Cr(VI)]	0.01-0.1	
	Cu	0.05-0.5	
	Pb	0.05-0.3	
	Ni	0.05-1	
	Hg	1.0-10	
	Zn	0.1-2	
BAT-AELs for INDIRECT discharges to a receiving waterbody (mg/l)			
<i>Table 6.2 and its supporting notes. Monitoring requirements are outlined in BAT 7</i>			
	HOI	0.5-10 applying to specific waste treatments	Compliant in the Future: Operator has stated N/a within response there are no INDIRECT discharges from the Facility to a receiving waterbody, however the site does have a Trade Effluent Consent and discharges to site drainage to sewer. The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 20 prior to compliance deadline (IC2)
	Free CN-	0.02-0.1 for water-based liquid waste	
	AOX	0.2-1 for water-based liquid waste	
Metals & Metalloids – specific waste treatments as listed in Table 6.2			
	As	0.01-0.05	Compliant in the Future: Operator has stated N/a within response there are no INDIRECT discharges from the Facility to a receiving
	Cd	0.01-0.05	

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Cr	0.01-0.15	waterbody, however the site does have a Trade Effluent Consent and discharges to site drainage to sewer. The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 20 prior to compliance deadline (IC2)
	Cu	0.05-0.5	
	Pb	0.05-0.1	
	Ni	0.05-0.5	
	Hg	0.5-5	
	Zn	0.1-1	
	Metals & Metalloids – treatment of water-based liquid waste		
	As	0.01-0.1	Compliant in the Future: Operator has stated N/a within response there are no INDIRECT discharges from the Facility to a receiving waterbody, however the site does have a Trade Effluent Consent and discharges to site drainage to sewer. The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 20 prior to compliance deadline (IC2)
	Cd	0.01-0.1	
	Cr	0.01-0.3	
	Hexavalent Cr [Cr(VI)]	0.01-0.1	
	Cu	0.05-0.5	
	Pb	0.05-0.3	
	Ni	0.05-1	
	Hg	1.0-10	
	Zn	0.1-2	
EMISSIONS FROM ACCIDENTS AND INCIDENTS			

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
Techniques to prevent or limit the environmental consequences of accidents and incidents, as part of the Accident Management Plan. Use ALL of the following:		
21	a. Protection measures – see examples	Compliant in the Future: The Operator has stated within their response that their Emergency Procedures in place however there is no further evidence provided to confirm these procedures meet BAT standards. An improvement condition has thus been included within the permit to ensure compliance with BAT 21 prior to compliance deadline (IC2)
	b. Management of incidental or accidental emissions	
	c. Incident/accident registration and assessment system – see examples	
MATERIAL EFFICIENCY		
22	Use materials efficiently by substituting materials with waste e.g. waste acids/alkalis for pH adjustment, fly ashes for binders	Compliant in the Future: The Operator has not provided sufficient information in order to demonstrate full compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit to ensure compliance with BAT 22 prior to compliance deadline (IC2)
ENERGY EFFICIENCY		

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
23	Use energy efficiently by using <u>both</u> of the following techniques:		
	a.	Energy efficiency plan	Compliant in the Future: The Operator has not provided sufficient information in order to demonstrate full compliance with this BAT conclusion. An improvement condition has been included within the permit to ensure compliance with BAT 23 prior to compliance deadline (IC2)
	b.	Energy balance record	
REUSE OF PACKAGING			
24	Maximise the reuse of packaging as part of a Residues Management Plan (see BAT 1 XII.)	Compliant in the Future: The Operator has not provided sufficient information in order to demonstrate full compliance with this BAT conclusion. An improvement condition has been included within the permit to ensure compliance with BAT 24 prior to compliance deadline (IC2)	
MECHANICAL TREATMENT OF WASTE (GENERAL BAT)			
25	Reduce emissions to air of dust, particulate-bound metals, PCDD/F and dioxin-like PCBs by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Cyclone – see S6.1	Not applicable Operator has confirmed within response that there are no activities involving the mechanical treatment of waste undertaken at the Facility
	b.	Fabric filter – see S6.1	
	c.	Wet scrubbing – see S6.1	
	d.	Water injection into the shredder	

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
BAT-AEL for channelled dust emissions to air from the mechanical treatment of waste (mg/Nm3)		
<i>Table 6.3 and its supporting note. Monitoring requirements are outlined in BAT 8</i>		
Dust	2.0-5.0	As above
MECHANICAL TREATMENT OF METAL WASTE BY SHREDDING		
MECHANICAL TREATMENT OF METAL WASTE BY SHREDDING		
Improve overall environmental performance and prevent emissions due to accidents and incidents. Use BAT 14g <u>AND ALL</u> of the following techniques:		
26	(a) Detailed inspection procedure for baled waste before shredding	Not applicable: Operator has confirmed within response that there are no activities involving the mechanical treatment of metal waste by shredding undertaken at the Facility
	(b) Remove dangerous items from waste inputs and dispose of them in a safe manner	
	(c) Treatment of containers accompanied by a declaration of cleanliness	
Prevent deflagrations and reduce emissions from deflagrations. Use technique a. <u>AND ONE OR BOTH</u> of techniques b. and c.		
27	a. Deflagration management plan with reduction programme, incident review and response protocol	Not applicable: Operator has confirmed within response that there are no activities involving the mechanical treatment of metal waste by shredding undertaken at the Facility
	b. Pressure relief dampers	
	c. Pre-shredding (device)	
28	Use energy efficiently by keeping the shredder feed stable	Not applicable: Operator has confirmed within response that there are no activities involving the mechanical treatment of metal waste by shredding undertaken at the Facility

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
MECHANICAL TREATMENT OF WEEE CONTAINING VFCs AND/OR VHCs			
29	Techniques to prevent, or where not practicable reduce emissions of organic compounds to air. Apply BAT 14d AND BAT14h AND technique a. AND ONE OR BOTH of techniques b. and c.		
	a.	Optimised removal and capture of refrigerants and oils	Not applicable Operator has confirmed within response that there are no activities involving the mechanical treatment of WEE containing VFCs and/or VHCs undertaken at the Facility
	b.	Cryogenic condensation	
	c.	Adsorption	
	BAT-AELs for channelled TVOC and CFC emissions to air from treatment of WEEE containing VFCs and/or VHCs (mg/Nm3)		
<i>Table 6.4. Monitoring requirements are outlined in BAT 8</i>			
TVOC	3.0-15	As above	
CFCs	0.5-10		
30	Prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs. Use EITHER of the following techniques:		
	a.	Inert atmosphere e.g. N2	Not applicable Operator has confirmed within response that there are no activities involving the mechanical treatment of WEE containing VFCs and/or VHCs undertaken at the Facility
	b.	Forced ventilation	
MECHANICAL TREATMENT OF WASTE WITH CALORIFIC VALUE			
31	Reduce emissions to air of organic compounds by applying BAT 14d AND using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Operator has confirmed within response that there are no activities involving the mechanical treatment of metal waste with calorific value undertaken at the Facility
	b.	Biofilter – see S6.1	
	c.	Thermal oxidation – see S6.1	

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	d. Wet scrubbing – see S6.1	
BAT-AEL for channelled TVOC emissions to air from the mechanical treatment of waste with calorific value (mg/Nm3)		
<i>Table 6.5 and its supporting note. Monitoring requirements are outlined in BAT 8</i>		
TVOC	10.0-30.0	As above
MECHANICAL TREATMENT OF WEEE CONTAINING MERCURY		
Reduce mercury emissions to air by collecting them at source, sending them to abatement and carrying out adequate monitoring. This includes <u>ALL</u> of the following:		
32	Equipment is enclosed, under negative pressure and connected to a LEV system	Not applicable Operator has confirmed within response that there are no activities involving the mechanical treatment of WEEE containing mercury undertaken at the Facility
	Waste gas treated using dedusting techniques – see examples – followed by adsorption on activated carbon	
	Monitoring of waste gas treatment efficiency	
	Mercury levels measured at least weekly within treatment and storage areas	
BAT-AEL for channelled mercury (Hg) emissions to air from the mechanical treatment of WEEE containing mercury (µg/Nm3)		
<i>Table 6.6. Monitoring requirements are outlined in BAT 8</i>		
Hg	2.0-7.0	As above
BIOLOGICAL TREATMENT OF WASTE (GENERAL BAT)		

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
33	Reduce odour emissions and improve overall environmental performance by selecting the waste input (to ensure its suitability for biological treatment). See also BAT 2	Compliant in the Future: The Operator has confirmed that the site has received odour complaints and that their Odour Management Plan requires updating. An updated OMP was submitted to NRW in October 2020 however the operator has not confirmed how the OMP meets with this BAT conclusion. An improvement condition has been included within the permit to ensure compliance with BAT 33 prior to compliance deadline (IC2)	
34	Reduce emissions to air of dust, organic compounds and odorous compounds (including H2S & NH3) by using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Compliant in the Future: The Operator has stated within their response that the site is not currently compliance with this BAT conclusion but will be compliant in the future. The site does not currently have an operational biofilter. Until such time as a biofilter is installed, compliance against this BAT conclusion cannot be assessed. The permit has been updated to include additional monitoring parameters for the biofilter (Table S3.1). Compliance with these emissions along with standards specified within the BREF Table S6.1 will not be required until the biofilter is installed and the operator has satisfied pre-operational measure 2 which has been included within the permit.
	b.	Biofilter – see S6.1	
	c.	Fabric filter – see S6.1.	
	d.	Thermal oxidation – see S6.1	
	e.	Wet scrubbing – see S6.1	
	BAT-AEL for channelled NH3, odour, dust and TVOC emissions to air from the biological treatment of waste (mg/Nm3) (ou_E/m3)		
<i>Table 6.7 and its supporting notes. Monitoring requirements are outlined in BAT 8</i>			
NH3	0.3-20		

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Odour	200-1000	Compliant in the Future: The Operator has stated within their response that the site is not currently compliance with this BAT conclusion but will be compliant in the future. The site does not currently have an operational biofilter. Until such time as a biofilter is installed, compliance against this BAT conclusion cannot be assessed. The permit has been updated to include additional monitoring parameters for the biofilter (Table S3.1). Compliance with these emissions along with standards specified within the BREF Table S6.1 will not be required until the biofilter is installed and the operator has satisfied pre-operational measure 2 which has been included within the permit.
	Dust	2.0-5.0	
	TVOC	5.0-40	
35	Reduce the generation of wastewater and reduce water usage by using ALL of the following:		
	a.	Segregation of water streams (see also BAT 19f)	Compliant in the Future: The Operator has not provided sufficient information in order to demonstrate full compliance with this BAT conclusion. An improvement condition has been included within the permit to ensure compliance with BAT 35 prior to compliance deadline (IC2)
	b.	Water recirculation	Compliant in the Future: The Operator has not provided sufficient information in order to demonstrate full compliance with this BAT conclusion. An improvement condition has been included within the permit to ensure compliance with BAT 35 prior to compliance deadline (IC2)
	c.	Minimisation of the generation of leachate	Compliant in the Future: The Operator has not provided sufficient information in order to demonstrate full compliance with this BAT

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		conclusion. An improvement condition has been included within the permit to ensure compliance with BAT 35 prior to compliance deadline (IC2)
BIOLOGICAL TREATMENT OF WASTE: AEROBIC METHODS		
	Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:	
	Waste input characteristics e.g. C to N ratio, particle size	Compliant in the Future: The Operator has not provided sufficient information in order to demonstrate full compliance with this BAT conclusion. BATc 36 of the Waste Treatment BREF requires the Operator to reduce emissions to air and to improve the overall environmental performance. BAT to is to monitor and/or control the key waste and process parameters. The approach taken by NRW is to have an improvement condition for the operator to submit a methodology for how they will address the requirements listed in Table S3.3 of the permit. The Operator will confirm how the information will be gathered as well as the frequency this information will be recorded. Where the operator does not undertake certain monitoring parameters, they must provide suitable justification and/or offer an alternative parameter. NRW need to understand trigger levels on site by the Operator as well as the frequency of the monitoring. An improvement condition
	Temperature and moisture content within windrows (Moisture monitoring not needed for enclosed processes where H&S issues have been identified)	
	Aeration of the windrow	
36	Windrow porosity, height and width	

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
		has been included within the permit to ensure compliance with BATc 36 prior to compliance deadline (IC2)	
37	Reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps. Use <u>ONE OR BOTH</u> of the following techniques:	Compliant in the Future: The Operator has not provided sufficient information in order to demonstrate full compliance with this BAT conclusion. An improvement condition has been included within the permit to ensure compliance with BAT 37 prior to compliance deadline (IC2)	
	a.		Use of semi-permeable membrane covers
	b.		Adaptation of operations to the meteorological conditions
BIOLOGICAL TREATMENT OF WASTE: ANAEROBIC METHODS			
38	Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:		
	<i>Implement a manual and/or automatic monitoring system to:</i>		
	Ensure a stable digester operation	Not applicable Operator has confirmed within response that there are no activities involving the anaerobic treatment of waste undertaken at the Facility	
	Minimise operational difficulties and associated odour emissions		
	Provide sufficient early warning of system failures		
	<i>Monitoring and/or control of key waste and process parameters – examples below:</i>		
	pH and alkalinity of the digester feed	Not applicable Operator has confirmed within response that there are no activities involving the anaerobic treatment of waste undertaken at the Facility	
Digester operating temperature			
Hydraulic and organic loading rates of the digester feed			

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Volatile fatty acids and NH3 concentrations within digester & digestate Biogas quantity, composition (e.g. H2S) and pressure Liquid and foam levels in the digester	
MECHANICAL BIOLOGICAL TREATMENT (MBT) OF WASTE		
	Reduce emissions to air. Generally applicable to new plants, existing plants may have layout constraints. Use <u>BOTH</u> of the following techniques:	
39	a. Segregation of the waste gas streams (refer to inventory described in BAT 3) b. Recirculation of waste gas. Waste gas treatment is described in BAT 34 and recirculation in BAT 35.	Not applicable Operator has confirmed within response that there are no activities involving the mechanical biological treatment (MBT) of waste undertaken at the Facility
PHYSICO-CHEMICAL TREATMENT OF SOLID AND/OR PASTY WASTE		
40	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2. Monitoring the waste input Content of organics, oxidising agents, metals, salts, odorous compounds H2 formation potential upon mixing of flue-gas treatment residues/ashes with water	
		Not applicable Operator has confirmed within response there are no activities involving the physico-chemical treatment of solid and/or pasty waste

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
41	Reduce emissions to air of dust, organic compounds and NH3 by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Operator has confirmed within response there are no activities involving the physico-chemical treatment of solid and/or pasty waste
	b.	Biofilter – see S6.1	
	c.	Fabric filter – see S6.1.	
	d.	Wet scrubbing – see S6.1	
	BAT-AEL for channelled NH3, odour, dust and TVOC emissions to air from the physico-chemical treatment of solid and/or pasty waste (mg/Nm3)		
<i>Table 6.8. Monitoring requirements are outlined in BAT 8</i>			
Dust	2.0-5.0	Not applicable Operator has confirmed within response there are no activities involving the physico-chemical treatment of solid and/or pasty waste	
RE-REFINING OF WASTE OIL			
42	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.		
	Monitoring the waste input		
	Chlorinated compounds e.g. solvents or PCBs	Not applicable Operator has confirmed within response there are no activities involving the re-refining of waste oil undertaken at the Facility	
43	Reduce quantity of waste sent for disposal by using <u>ONE OR BOTH</u> of the following techniques:		

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	a.	Material recovery e.g. organic residues in asphalt products	Not applicable Operator has confirmed within response there are no activities involving the re-refining of waste oil undertaken at the Facility
	b.	Energy recovery	
44	Reduce emissions to air of organic compounds by applying BAT 14d AND using one or a combination of the following techniques:		Not applicable Operator has confirmed within response there are no activities involving the re-refining of waste oil undertaken at the Facility
	a.	Adsorption – see S6.1	
	b.	Thermal oxidation – see S6.1	
	c.	Wet scrubbing – see S6.1	
	<i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i>		
<i>Monitoring requirements are outlined in BAT 8</i>			
PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CALORIFIC VALUE			
45	Reduce emissions to air of organic compounds by applying BAT 14d AND using one or a combination of the following techniques:		Not applicable Operator has confirmed within response there are no activities involving the physico-chemical treatment of waste with calorific value at the Facility
	a.	Adsorption – see S6.1	
	b.	Cryogenic condensation – see S6.1	
	c.	Thermal oxidation – see S6.1	
	d.	Wet scrubbing – see S6.1	
<i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i>			
<i>Monitoring requirements are outlined in BAT 8</i>			
REGENERATION OF SPENT SOLVENTS			

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
46	Improve overall environmental performance by using <u>ONE OR BOTH</u> of the following techniques:	
	a. Material recovery (by evaporation from distillation residues)	Not applicable Operator has confirmed within response there are no activities involving the regeneration of spent solvents undertaken at the Facility
	b. Energy recovery e.g. using distillation residues	
47	Reduce emissions to air of organic compounds by applying BAT 14d <u>AND</u> using a combination of the following techniques:	
	a. Recirculation of process off-gases in a steam boiler. Avoid generating PCBs and/or PCDD/Fs	Not applicable Operator has confirmed within response there are no activities involving the regeneration of spent solvents undertaken at the Facility
	b. Adsorption – see S6.1	
	c. Thermal oxidation – see S6.1. Avoid generating PCBs and/or PCDD/Fs	
	d. Condensation or cryogenic condensation	
	e. Wet scrubbing – see S6.1	
<i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i>		
<i>Monitoring requirements are outlined in BAT 8</i>		
BAT-AEL FOR EMISSIONS OF ORGANIC COMPOUNDS TO AIR – SECTION 4.5		
(RE-REFINING OF WASTE OIL)		
(PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CV)		
(REGENERATION OF SPENT SOLVENTS)		
(REGENERATION OF SPENT SOLVENTS)		
(REGENERATION OF SPENT SOLVENTS)		
<i>BAT-AEL for channelled TVOC emissions to air from the re-refining of waste oil, physico-chemical treatment of waste with calorific value and regeneration of spent solvents (mg/Nm³)</i>		
<i>Table 6.9 and its supporting note. Monitoring requirements are outlined in BAT 8</i>		

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	TVOC	5.0-30	As above
THERMAL TREATMENT OF SPENT ACTIVATED CARBON, WASTE CATALYSTS AND EXCAVATED CONTAMINATED SOIL			
48	Improve overall environmental performance by using <u>ALL</u> of the following techniques:		
	a.	Heat recovery from the furnace off-gas e.g. for preheating combustion air or steam generation	Not applicable Operator has confirmed within response there are no activities involving the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil undertaken at the Facility
	b.	Indirectly fired furnace i.e. avoids contact between the furnace contents and the burner flue-gases. Note applicability constraints.	
	c.	Process-integrated techniques to reduce emissions to air – see examples	
49	Reduce emissions to air of HCl, HF, dust and organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Cyclone – see S6.1	Not applicable Operator has confirmed within response there are no activities involving the thermal treatment of spent activated carbon, waste catalysts and excavated contaminated soil undertaken at the Facility
	b.	Electrostatic precipitator (ESP) – see S6.1	
	c.	Fabric filter – see S6.1	
	d.	Wet scrubbing – see S6.1	
	e.	Adsorption – see S6.1	
	f.	Condensation – see S6.1	
	g.	Thermal oxidation – see S6.1	
<i>Note supporting text for BAT 49g (thermal oxidation)</i>			
<i>Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.</i>			

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant	
WATER WASHING OF EXCAVATED CONTAMINATED SOIL			
50	Reduce emissions to air of dust and organic compounds from the storage, handling and washing steps by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Operator has confirmed within response there are no activities involving the washing of excavated contaminated soils at the Facility
	b.	Fabric filter – see S6.1	
	c.	Wet scrubbing – see S6.1	
<i>Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.</i>			
Decontamination of equipment containing PCBs			
51	Reduce emissions to air of PCBs and organic compounds and improve overall environmental performance by using <u>ALL</u> of the following techniques:		
	a.	Coating of the storage and treatment areas – see examples	Not applicable Operator has confirmed within response there are no activities involving the decontamination of equipment containing PCBs undertaken at the Facility
	b.	Implementation of staff access rules to prevent dispersion of contamination – see examples	
	c.	Optimised equipment cleaning and drainage – see examples	
	d.	Control and monitoring of emission to air – see examples	

BATc number	Summary of BAT Conclusion requirement		Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	e.	Disposal of waste treatment residues – see examples	
	f.	Recovery of solvent when solvent washing is used	
<i>Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.</i>			
TREATMENT OF WATER-BASED LIQUID WASTE			
52	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.		
	<i>Monitoring the waste input</i>		
	Bioeliminability e.g. BOD, BOD-COD ratio, Zahn-Wellens test, biological inhibition potential	Feasibility of emulsion breaking e.g. lab testing	Not applicable Operator has confirmed within response there are no water-based liquid wastes accepted at the Facility
53	Reduce emissions to air of HCl, NH3 and organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable Operator has confirmed within response there are no water-based liquid wastes accepted at the Facility
	b.	Biofilter – see S6.1	
	c.	Thermal oxidation – see S6.1.	
	d.	Wet scrubbing – see S6.1	
	<i>BAT-AELs for channelled HCl and TVOC emissions to air from the treatment of water-based liquid waste (mg/Nm3)</i>		
<i>Table 6.10 and its supporting notes. Monitoring requirements are outlined in BAT 8</i>			
HCl	1.0-5.0	As above	
TVOC	3.0-20		

