Natural Resources Wales permitting decisions

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

We have decided to issue the variation for Tremorfa Anaerobic Digestion Facility in Tide Fields Road, Tremorfa, Cardiff, CF24 5SB operated by Welsh Water Organic Energy (Cardiff) Limited.

The permit number is EPR/AB3093CA.

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 Tremorfa Anaerobic Digestion Facility against the published BAT conclusions for Waste Treatment.
- Annex 1 – Decision Checklist regarding relevant BAT Conclusions

Assessment of Tremorfa Anaerobic Digestion 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 original permit, issued on the 25 January 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 consolidated variation 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 IED;
- subject to aspects of other relevant legislation which also have to be addressed.

We consider that, in issuing the consolidated variation notice, 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 04 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 confirm 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 was established, Welsh Water Organic Energy (Cardiff) Limited was required to 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.

- 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, 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 was established, the operator was asked 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 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 and additional information received on the 02 March 2020.

We considered that the response 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 response

BAT Conclusions for the Waste Treatment were published as a Commission Implementing Decision ((EU 2018/1447) in the Official Journal of the EU on 10 August 2018. There are 53 BAT Conclusions. This annex 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.

In response to Sections 1 to 4 of the Regulation 61 Notice,

A response was received 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 Notice an update Opra profile was provided.

In response to Section 6 of the Regulation 61 Notice, Welsh Water Organic Energy (Cardiff) Limited have confirmed that the activity does not generate relevant hazardous substances but does use some hazardous substances on site. The following documentation has been produced by the Operator to provide a baseline report to determine the original state of soil and groundwater:

- permit application documentation – see ‘Site condition report’ and ‘further response on section 3a – technical standards’;
- Supporting Info Report_SCR_Final;
- Supporting Info - Site Condition Report_Appendix SCR3_H5_Final;
- Supporting Info Geotechnical and Geoenviromental report.

The above listed documentation contains 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.

In response to Section 7 of the Regulation 61 Notice, the Operator confirmed that there are no discharges to surface water. Site processes takes place either within a building or within sealed tanks and do not routinely generate discharges for disposal to sewer either. All rainwater is reused in the AD process. The site does however have a Trade Effluent Discharge Consent via Martin Road from Dŵr Cymru for the emergency sump, however this discharge is not continuous. Any emergency spillages collect within the sump, and the Operator is consented to discharge the content to sewer only if they meet the quality parameters set by Dŵr Cymru. The maximum daily volume to sewer is 25m^3/day. This discharge is negligible when considering that the Dry Weather Flow of the receiving WwTW is 309,960m^3/day. The Operator considered undertaking an H1 assessment for priority hazardous substances and any other relevant substances, however in consideration of the low maximum daily volume to sewer, the need for a full H1 assessment was screened out at the initial phase by the Operator. The Operator did not however provide a copy of the Phase 1 screening report as part of their response to the Regulation 61(1) Notice, therefore an improvement condition has been set to review all monitoring parameters and methods for the sites discharge to sewer to ensure compliance by 2022 (IC4).

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.

Reference	Requirement	Date
IC1	In accordance with the requirements set out within BAT 3 of the Waste Treatment BREF Document (EU 2018), the operator shall submit for approval in writing by Natural Resources Wales, a screening assessment considering channelled emissions to air from the biofilter (open and closed biofilters), and confirm if sources are within 250 metres of a sensitive receptor in accordance with'M9: environmental monitoring of bioaerosols at regulated facilities'.	3 months following date of permit issue
IC2	Upon completion of IC1, if confirmed that there are nearest sensitive receptors within 250 meters of sources of bioaerosol emissions, the Operator is required to complete and submit for approval in writing by Natural Resources Wales a site specific bioaerosol risk assessment (SSBRA)	9 months following date of permit issue
IC3	The operator shall submit to Natural Resources Wales a written procedure(s) describing how they intend to meet the following BAT requirements in accordance with requirements specified within BAT Conclusions of the Waste Treatment BREF Document (EU 2018): • BAT 1 - Implement and adhere to an environmental management system (EMS) that incorporates all of the following features: ○ (VIII) Whole life cycle considerations when designing a new plant; ○ (X) Waste stream management; ○ (XI) Inventory of wastewater & waste gas streams; ○ (XII) Residues 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: ○ 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. ○ This assessment should specifically consider channelled emissions to air from the biofilter and the potential for bioaerosol releases. If bioaerosols are identified the operator will be required to monitor in line with Technical Guidance Note (Monitoring) M9 - Environmental monitoring of bioaerosols at regulated facilities. • 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. • 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 is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.	17 February 2022 or otherwise agreed in writing with Natural Resources Wales

	• 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 38 Reduce emissions to air and to improve the overall environmental performance. The Operator shall submit for written approval a methodology for meeting the process parameters listed in Schedule 3b Table S3.3, as per BAT 38 for the anaerobic treatment of waste. The methodology shall identify each of the process parameters and detail the frequency and techniques in place to record the data. 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.	
IC4	The Operator shall complete and submit 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.	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC5	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.	17 February 2022 or otherwise agreed in writing with Natural Resources Wales

IC2 BATc 38 had been included in the permit for the operator to demonstrate that they have control over their aerobic treatment of waste process. BATc 38 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 description requires the operator to have a manual and/or automated system and lists a number of example 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, for example, using a SCADA system, on-site testing, sampling etc 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. The resulting response to IC2 BATc 38 will become part of the Operating Techniques in Table S1.2.

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;
- There was a duplication in reporting requirements for monitoring of the amount of biogas combusted in the CHP unit per day, within the original permit. The

monitoring was previously referenced within both tables S3.3 and S4.3. Reference has been removed within Table S3.3. This brings the permit conditions in line with NRWs standardised template and is consistent with other AD permits issued by NRW;

- 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;
- The permit has ELV's set for the emergency flare (emission point A5). The use of the ELVs is from the permitting of landfills where flares are used more often, due to the fluctuating gas production whereas for AD plants this is not an issue due to the constant flow of gas to the engines. It is not in the operators' interest to burn biogas via a flare, and no BAT AEL's are set in the Waste Treatment BAT conclusions document for emissions from flares. Based on this, we have removed the ELVs from the permit from 17 August 2022. There is further process monitoring for gas production and gas sent to engines and flares per annum. If it looks like there is too much gas production for the facility primary gas consumers to accept, then the site would have to adjust their throughput or install gas consumers to ensure the gas produced is recovered rather than burnt. Monitoring is a requirement if the flare is operational for more than 10% of the year therefor the pollutants and monitoring standards will remain in the permit; and
- Monitoring Parameters have been included within Schedule 3(b) for the site Biofilter. The parameters are in accordance with BAT Conclusion 8 & 34. The monitoring of NH_3 and H_2S can be used ***as an alternative*** to the monitoring of the odour concentration. Parameters are to be agreed with NRW following completion of IC1 & IC2.

ELVs and monitoring for existing MCPs & SGs is not required until 1st January 2025 at the earliest. As this is some way off, NRW have decided to maintain any existing ELVs and monitoring requirements in the permit and not to impose new stricter ELVs ahead of time.

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 an initial screening assessment was carried out and the substances were screened out by a Phase 1 screening test and therefore there was no need to carry out Phase 2 modelling, as described in H1 Annex D1.

The site has a Trade Effluent Discharge Consent via Martin Road from Dŵr Cymru for the emergency sump, however this discharge is not continuous. Any emergency spillages collect within the sump, and the Operator is consented to discharge the content to sewer only if they meet the quality parameters set by Dŵr Cymru. The maximum daily volume to sewer is 25m^3/day. This discharge is negligible when considering that the Dry Weather Flow of the receiving WwTW is 309,960m3/day. The Operator considered undertaking an H1 assessment for priority hazardous substances and any other relevant substances, however in consideration of the low maximum daily volume to sewer, the need for a full H1 assessment was screened out at the initial phase by the Operator. The Operator did not however provide a copy of the Phase 1 screening report as part of their response to the Regulation 61(1) Notice; therefore an improvement condition has been set to review all monitoring parameters and methods for the sites discharge to sewer to ensure compliance by 2022 (IC4).

Emissions to Water – Article 15(4) Derogations

No derogations.

Emissions to Air

There were changes to the 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	No parameter set	No limit set	16 August 2022
A2	NOX	500mg/m^3	16 August 2022
	SO2	350mg/m^3	16 August 2022
	PM10	No limit set	16 August 2022
	Total VOC's	1000mg/m^3	16 August 2022
	CO	1400mg/m^3	16 August 2022
A3	No parameter set	No limit set	16 August 2022
A4	No parameter set	No limit set	16 August 2022
A5	NO_X	150mg/m^3	16 August 2022
	CO	50mg/m^3	16 August 2022
	Total VOC's	10mg/m^3	16 August 2022

Effective from 17 August 2022

Release point	Parameter	Limit/ BAT AEL	Effective from
A1	Hydrogen Sulphide	No limit set	17 August 2022
	Ammonia (NH_3)	20 mg/m^3	17 August 2022
	Odour	1000 ouE/Nm^3	17 August 2022
A2	NO_X	500mg/m^3	17 August 2022
	SO2	350mg/m^3	17 August 2022
	PM10	No limit set	17 August 2022
	Total VOC's	1000mg/m^3	17 August 2022
	CO	1400mg/m^3	17 August 2022
A3	No parameter set	No limit set	17 August 2022
A4	No parameter set	No limit set	17 August 2022
A5	NO_X	No limit set	17 August 2022
	CO	No limit set	17 August 2022
	Total VOC's	No limit set	17 August 2022

Emissions to Air – Article 15(4) Derogations

No derogations.

6. Conclusion

We consider that the installation already employed what used to be BAT. 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 a Commission Implementing Decision ((EU 2018/1147) in the Official Journal of the EU on 10 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	**Currently Compliant**: Site operates under an Environmental Management Systems (EMS). Operator is working towards achieving ISO14001:2015 standards in Q4 2020
	II.	Environmental policy development including CI of performance	**Currently Compliant:** Implemented through site Management System Document Reference: Environmental Policy
	III.	Planning and implementing procedures & targets in conjunction with financial planning & investment	**Currently Compliant:** Site operates under an Environmental Management Systems (EMS). Operator is working towards achieving

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
			ISO14001:2015 standards in Q4 2020 Implemented through site Management System Document Reference: Annual KPIs
	IV.	***Implementation of procedures***	
		(a) Structure & responsibility	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: IMS management system Description WWOE (2) 02
		(b) Recruitment, training, awareness & competence	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: Competency Matrix, PMR and PWP
		(c) Communication	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: Communication Plan - CP16
		(d) Employee involvement	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: Employee Engagement Survey, Climate Survey, shift handovers
		(e) Documentation	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: WWOE (2) 03 - Document control register
		(f) Effective process control	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: WWOE (3) procedures
		(g) Maintenance programmes	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: Annual Maintenance Schedule & Daily, weekly and monthly checks
		(h) Emergency preparedness & response	**Currently Compliant:** Implemented in IMS on Intranet. Document Reference: WWOE (3) 02 - 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***	

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) Monitoring & measurement	**Currently Compliant:** Plant performance monitored through SCADA system linked to alarms. Document Reference: Daily, weekly, monthly checks. Sampling, CPB
		(b) Corrective and preventive action	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: SP (2) 03 - Corrective Action Procedure, Corrective Action Register
		(c) Maintenance of records	**Currently Compliant**: Implemented through IMS on Intranet. Document Reference: Daily, weekly, monthly checks.
		(d) Independent (where practicable) internal or external EMS auditing	**Currently Compliant:** Implemented through IMS on Intranet. 6 monthly internal audits. Operator is working towards achieving ISO14001:2015 standards in Q4 2020
	VI.	Senior management review of EMS	**Currently Compliant:** Implemented through IMS on Intranet. Document Reference: Environmental Policy and attendance of the management review
	VII.	Following development of cleaner technologies	**Currently Compliant:** Document Reference: Carbon Plan - CP21 Review of new front end, Food AD Steering Group, Site visits
	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 any information in response to this BAT requirement. An Improvement Programme Condition will be included in the Permit variation to capture this BAT requirement and ensure compliance ahead of compliance deadline (IC3)
	IX.	Regular sectoral bench marking	**Currently Compliant:** Operator attends Food AD Steering Group
	X.	Waste stream management (BAT 2)	**Compliant in the Future**: Operator has stated that site implements procedures which form part of PAS:2010 Standards, however Operator did not provide sufficient information in response to this BAT requirement. An Improvement Programme Condition has been included in the Permit to ensure compliance ahead of compliance deadline (IC3)

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
	XI.		Inventory of wastewater & waste gas streams (BAT 3)	**Compliant in the Future:** Operator has stated all wastewater streams are recycled for use within the plant apart from the sump which has a Trade Effluent Permit Implemented through site approved management system. Records of all incoming waste over weighbridge and this is also audited by third party certification bodies annually, as well as internally in addition to regulatory inspections. These are also reported to the regulators quarterly through waste returns; however, the Operator did not provide sufficient information in response to this BAT requirement. An Improvement Programme Condition has been included in the Permit to ensure compliance ahead of compliance deadline (IC3)
	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 Programme Condition will be included in the Permit variation to capture this BAT requirement and ensure compliance ahead of compliance deadline (IC3)
	XIII.		Accident Management Plan – S6.5	**Currently Compliant:** Document Reference: ISHP 001 - H&S management system manual. WWOE (3) 02 - Emergency Response Procedure and use of our H&S system Assure
	XIV.		Odour Management Plan (BAT 12)	**Currently Compliant:** Document Reference: WWOE (3) 25 - Odour control Procedure
	XV.		Noise & Vibration Management Plan (BAT 17)	**Currently Compliant:** Document Reference: IHSP 201 & 507 - Noise & Vibration (HAVS) Procedures
2	**Improving overall environmental performance – <u>ALL</u> of the following:**			
	a.		Set up and implement waste characterisation & pre-acceptance procedures	**Compliant in the Future**: Document Reference: PAS 110 S.6 Operator did not provide sufficient information in response to this BAT requirement. An Improvement Programme Condition has been included in the Permit to ensure compliance ahead of compliance deadline (IC3)

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.	Set up and implement waste acceptance procedures	**Compliant in the Future**: Document Reference: PAS 110 S.7
	c.	Set up and implement a waste tracking system & inventory	**Compliant in the Future**: Document Reference: PAS 110 S.6 and S.7
	d.	Set up and implement an output quality management system	**Compliant in the Future**: Document Reference: PAS 110 S.4
	e.	Ensure waste segregation	**Compliant in the Future**: Document Reference: PAS 110 S.7
	f.	Ensure waste compatibility prior to mixing or blending	**Compliant in the Future**: Document Reference: PAS 110 S.6
	g.	Sort solid incoming waste – S6.4	**Compliant in the Future**: Document Reference: PAS 110 S.6
3	**Establish and maintain a wastewater and waste gas inventory as part of the EMS - <u>ALL</u> of the following:**		
	Information on characteristics of waste and waste treatment processes		
	(i)(a)	simplified process flow sheets showing emission sources	**Compliant in the Future**: The Operator has stated that they record simplified process flow sheets that show the origin of waste streams from the site. Document Reference: Annual Carbon Report. No supporting information was provided to confirm that the process flow sheets include details of all wastewater and waste gas treatment processes. An Improvement Programme Condition has been included in the Permit to ensure compliance ahead of compliance deadline (IC3)
	(i)(b)	Process-integrated and wastewater/waste gas treatment descriptions including performance	**Compliant in the Future**: The Operator has stated that current operational documentation describes process-integrated techniques implemented on site along with wastewater/waste gas treatment measures and their performances. Document Reference: WWOE (2) 01 - PAS 110 Management System Description, Shift handover, daily and weekly reports.

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
			Documentation will need to include descriptions including performance of the biofilter. An Improvement Programme Condition has been included in the Permit to ensure compliance ahead of compliance deadline (IC3)
	Information on characteristics of wastewater streams		
	(ii)(a)	*Mean and variability of:*	
		Flow	**Currently Compliant**: All wastewater streams are recycled for use within the plant. The Operator currently monitors flow of the wastewater discharge from the sump which has a Trade Effluent Consent to discharge to sewer. Consent 698. Permitted Flow is <3.38l/s
		pH	**Currently Compliant**: All wastewater streams are recycled for use within the plant. The Operator currently monitors pH of the wastewater discharge from the sump which has a Trade Effluent Consent to discharge to sewer. Consent 698. pH range 6-11
		Temperature	**Currently Compliant**: All wastewater streams are recycled for use within the plant. The Operator currently monitors temperature of the wastewater discharge from the sump which has a Trade Effluent Consent to discharge to sewer. Consent 698. Permitted temp <49C
		Conductivity	**Not Applicable**: Not a condition of Trade Effluent Consent 698
	(ii)(b)	*Mean concentration, load and variability of:*	
		Total suspended solids	**Not Applicable**: Not a condition of Trade Effluent Consent 698
		COD/TOC	**Not Applicable**: Not a condition of Trade Effluent Consent 698
		Nitrogen species	**Not Applicable**: Not a condition of Trade Effluent Consent 698
		Phosphorous	**Not Applicable**: Not a condition of Trade Effluent Consent 698
		Metals	**Not Applicable**: Not a condition of Trade Effluent Consent 698

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
		Priority substances/micropollutants	**Not Applicable**: Not a condition of Trade Effluent Consent 698
		Any other relevant compounds	**Not Applicable**: Not a condition of Trade Effluent Consent 698
	(ii)(c)	*Bioeliminability data (see BAT 52):*	
		BOD	**Currently Compliant**: The Operator has stated that they measure BOD within their Trade Effluent discharge to sewer under Consent 698. The site does not treat waste-based liquid wastes therefore BATc52 does not apply
		BOD to COD ratio	
		Zahn-Wellens test	
		Biological inhibition potential	
	Information on characteristics of waste gas streams		
	(iii)(a)	*Mean and variability of:*	
		Flow	**Currently Compliant:** The Operator measures waste gas flow (but not temperature) as part of existing waste gas management systems. Data is recorded on SCADA
		temperature	
	(iii)(b)	*Mean concentration, load and variability of relevant substances:*	
		Organic compounds	**Compliant in the Future:** Operator has stated in response relevant organic compounds are not measured. However, the Operator does monitor for Volatile organic compounds (VOCs) within the waste gas streams. Periodic monitoring of the CHP air emissions is undertaken by a 3rd party contractor and kept as part of site records. Furthermore, additional monitoring parameters have been included within Table S3.1 of the permit for emission point A1 – Biofilter Outlets. The Operator will need to update their site documentation to include information regarding characteristics of emissions from the biofilter, following completion of IC1 and IC2.
		POPs e.g. PCBs	
		Any other relevant compounds	
	(iii)(c)	Flammability	
		Lower and Higher Explosive Limits	
		Reactivity	

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
			An additional improvement condition has been included to ensure compliance, prior to compliance deadline (IC3).
	(iii)(d)	*Presence of other substances that may affect the gas treatment system or plant safety:*	
		O2	**Currently Compliant:** Operator Periodic monitoring of the CHP air emissions is undertaken by a 3rd party contractor and kept as part of site records
		N2	
		Water vapour	
		Dust	
4	**Reducing environmental risk associated with waste storage – <u>ALL</u> of the following:**		
	a.	Optimised storage location	**Currently Compliant** The Operator has stated that the original site design took into consideration the optimisation of storage. Optimised storage locations include: 1. Food Waste reception hall (ABPR area) 2. Front end rejects reception hall (ABPR) 3. Back end rejects - Separator Room (ABPR) 4. General site waste - Quarantine Area
	b.	Adequate storage capacity	**Currently Compliant** The Operator has stated that the original site design took into consideration adequate storage capacity: 1. 150te - Food Waste reception hall 2. 80te - Front end rejects reception hall 3. 200 te - Back end rejects - Separator Room 4.3000kg per bay - General site waste - Quarantine Area
	c.	Safe storage operation	**Currently Compliant** The Operator implements a number of measures on site to reduce environmental risk associated with storage of waste on

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
			site. These include: segregated bays labelled correctly; use of fit for purpose containers and drums
	d.	Separate area for storage & handling of packaged hazardous waste	**Currently Compliant** There is no packaged hazardous waste stored on site. The Operator implements a number of measures on site to reduce environmental risk associated with storage of waste on site. The only hazardous waste generated is waste lubrication oil which is stored in a bund area
5	**Set up and implement procedures to reduce the environmental risk associated with handling and transfer of waste - include following elements:**		
	Carried out by competent staff		**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 (IC3).
	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**		
	Key process parameters		
	Wastewater flow		**Compliant in the Future:** The Operator has not provided sufficient details in order to demonstrate full compliance with this BAT conclusion.
	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 (IC3).
	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) (IC3).
8	Monitoring emissions to air (refer to table) Monitoring parameters depend on waste treatment process(es) involved			**Compliant in Future** Point source emissions to air from the biofilter abatement system in the reception hall will need to be monitored once every six months in line with BAT 8 for: H2S and NH3 or odour. Monitoring requirements in the permit have been included within Schedule 3 to ensure compliance in the future (Schedule 3b of permit). Monitoring parameters to be agreed with NRW following completion of IC1 and IC2.
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 response there are no activities involving solvents at the AD plant
	b	Emissions factor calculation		

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
	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)**		
	Use EN standards e.g. 13725 or 16841		**Currently Compliant**: Although the applicability of this BATc is restricted to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated (which is not the case for this site) the Operator still implements an Odour Management Plan & WWOE (3) 25 - Odour control Procedure, which NRW consider compliant. Protocols for conducting odour monitoring in accordance with BAT10 may be reviewed in the event odour nuisances are substantiated
	Use equivalent methods e.g. ISO / national / international monitoring standards		
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 end of January each year. Additional process data shall be included as part of the updated reporting forms issued as part of permit variation
	- **Generation of residues and wastewater**		
EMISSIONS TO AIR			
12	**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:**		
	Protocol containing actions and timelines		

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
	Protocol for conducting odour monitoring (BAT 10)		**Currently Compliant**: Although the applicability of this BATc is restricted to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated (which is not the case for this site) the Operator still implements an Odour Management Plan & WWOE (3) 25 - Odour control Procedure, which NRW consider compliant. Protocols for conducting odour monitoring in accordance with BAT10 may be reviewed in the event odour nuisances are substantiated
	Protocol for response to odour incidents/complaints		
	Odour prevention and reduction programme		
13	**Techniques to prevent, or where not practicable reduce odour emissions. Use one or a combination of the following:**		
	a.	Minimising residence times (open systems only)	**Currently Compliant** Operator has confirmed the site implements technique A & B of BAT 13 for the reduction of odour emissions. Site Documentation: WWOE (3) 25 - Odour control Procedure- Section 5. Site uses Ferric Chloride/Hydroxide and Natural- Coconut husk odour control unit for chemical treatment
	b.	Use chemical treatment (N/A if desired output is hampered)	
	c.	Optimising aerobic treatment – see examples. Refer to BAT 36 for wastes other than water-based liquid waste.	**Not applicable** Site activities do not involve any aerobic treatment of waste
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
	b.	Select and use high-integrity equipment – see examples	
	c.	Corrosion prevention – see examples	
	d.	Containment, collection and treatment of diffuse emissions – 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.	Dampening (with water or fog)	to ensure compliance with BAT 14 prior to compliance deadline (IC3)
	f.	Maintenance – see examples	
	g.	Cleaning of waste treatment and storage areas – see examples	
	h.	Leak Detection And Repair (LDAR) programme for organics – S6.2	
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	**Currently Compliant:** Operator has advised the flare is built to specifications at time of Implementation. Flare only used when the CHP is down for maintenance or during January due to the amount of gas produced.
	b.	Plant management including gas system balancing and advanced process control	**Currently Compliant:** Operator has advised the flare is built to specifications at time of Implementation and that the gas system balancing, and advanced process control is managed through their SCADA Control System
16	**Reduce emissions to air when flaring is unavoidable. Use <u>both</u> of the following:**		
	a.	Correct design of flaring devices – see examples	**Currently Compliant**: Operator has advised the flare is built to specifications at time of Implementation. Flare designed to 150% of biogas. Monitoring flare event via flow metre. And report annually as per permit requirements
	b.	Monitoring and recording as part of flare management – see examples	**Currently Compliant:** Operator has advised site records operating hours and, when greater than 10% of the year, they report as part of their annual permit returns. Part of Annual reporting when above 10% of time.

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
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	
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	
	b.	Water recirculation	

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
	c.	Impermeable surface	**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 (IC3)
	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.	
	i.	Appropriate buffer storage capacity (being mindful of existing plant constraints)	
20	**Treat wastewater using a combination of:**		
	Preliminary, primary and general treatment		
	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 for the sites process monitoring procedures to be amended to ensure compliance with BAT 20 prior to compliance deadline (IC3)
	b.	Neutralisation	
	c.	Physical separation	
	Physico-chemical treatment		
	d.	Adsorption	

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.	Distillation/rectification	**Not applicable**: Operator has stated N/a within response there is no physico-chemical treatment of wastewater from the Facility
	f.	Precipitation	
	g.	Chemical oxidation	
	h.	Chemical reduction	
	i.	Evaporation	
	j.	Ion exchange	
	k.	Stripping	
	Biological treatment		
	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	
	Nitrogen removal		
	n.	Nitrification/denitrification (where biological treatment used)	**Not applicable**: Operator has stated N/a within response there is no Nitrogen removal treatment of wastewater from the Facility
	Solids removal		
	o.	Coagulation and flocculation	**Not applicable**: Operator has stated N/a within response there is no treatment of wastewater from the Facility
	p.	Sedimentation	
	q.	Filtration (sand, micro, ultra)	
	r.	Flotation	
	BAT-AELs for DIRECT discharges to a receiving waterbody (mg/l) *Table 6.1 and its supporting notes. Monitoring requirements are outlined in BAT 7*		
	TOC	10.0-60 10-100 for water-based liquid waste	**Not applicable**: Operator has stated N/a within response there are no DIRECT discharges from the Facility to a receiving waterbody
		30-180	

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
	COD (TOC is preferred)	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 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		
	As	0.01-0.05	**Not applicable**: Operator has stated N/a within response there are no DIRECT discharges from the Facility to a receiving waterbody
	Cd	0.01-0.05	
	Cr	0.01-0.15	
	Cu	0.05-0.5	

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
	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	**Not applicable**: Operator has stated N/a within response there are no DIRECT discharges from the Facility to a receiving waterbody
	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	
	BAT-AELs for INDIRECT discharges to a receiving waterbody (mg/l) *Table 6.2 and its supporting notes. Monitoring requirements are outlined in BAT 7*		
	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
	Free CN-	0.02-0.1 for water-based liquid 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
	AOX	0.2-1 for water-based liquid waste	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 (IC3)
	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 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 (IC3)
	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	**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
	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	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 (IC3)
	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			
21	**Techniques to prevent or limit the environmental consequences of accidents and incidents, as part of the Accident Management Plan. Use <u>ALL</u> of the following:**		
	a.	Protection measures – see examples	**Compliant in the Future:** The Operator has advised the site complies with this BAT conclusion as evidenced within WWOE (3) 02 - Emergency Response Procedure. However, the Operator has not provided further details or a copy of this procedure 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 21 prior to compliance deadline (IC3)
	b.	Management of incidental or accidental emissions	
	c.	Incident/accident registration and assessment system – 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
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 advised the site uses Coconut Husk, recirculating of ODC and leachate, and has a rainwater harvesting tank, however the Operator has not provided further details or sufficient information 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 22 prior to compliance deadline (IC3)
ENERGY EFFICIENCY			
23	**Use energy efficiently by using <u>both</u> of the following techniques:**		
	a.	Energy efficiency plan	**Compliant in the Future**: The Operator has advised energy efficiency is monitored through the site's CP 21 - Carbon and sustainability Plan, however the Operator has not provided further details or sufficient information 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
	b.	Energy balance record	

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
			to ensure compliance with BAT 23 prior to compliance deadline (IC3)
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 however provided sufficient information 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 24 prior to compliance deadline (IC3)
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 stated N/a within response as 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	
	BAT-AEL for channelled dust emissions to air from the mechanical treatment of waste (mg/Nm3) *Table 6.3 and its supporting note. Monitoring requirements are outlined in BAT 8*		

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
	Dust	2.0-5.0	As above
MECHANICAL TREATMENT OF METAL WASTE BY SHREDDING			
26	**Improve overall environmental performance and prevent emissions due to accidents and incidents. Use BAT 14g <u>AND ALL</u> of the following techniques:**		
	(a)	Detailed inspection procedure for baled waste before shredding	**Not applicable**: Operator has stated N/a within response as 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	
27	**Prevent deflagrations and reduce emissions from deflagrations. Use technique a. <u>AND ONE OR BOTH</u> of techniques b. and c.**		
	a.	Deflagration management plan with reduction programme, incident review and response protocol	**Not applicable**: Operator has stated N/a within response as 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 stated N/a within response as there are no activities involving the mechanical treatment of metal waste by shredding undertaken at the Facility
MECHANICAL TREATMENT OF WEEE CONTAINING VFCS AND/OR VHCS			

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
29	**Techniques to prevent, or where not practicable reduce emissions of organic compounds to air. Apply BAT 14d <u>AND</u> BAT14h <u>AND</u> technique a. <u>AND ONE OR BOTH</u> of techniques b. and c.**		
	a.	Optimised removal and capture of refrigerants and oils	**Not applicable** Operator has stated N/a within response as 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) *Table 6.4. Monitoring requirements are outlined in BAT 8*		
	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 <u>EITHER</u> of the following techniques:**		
	a.	Inert atmosphere e.g. N2	**Not applicable** Operator has stated N/a within response as 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 <u>AND</u> using one or a combination of the following techniques:**		
	a.	Adsorption – see S6.1	**Not applicable** Operator has stated N/a within response as 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	
	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) *Table 6.5 and its supporting note. Monitoring requirements are outlined in BAT 8*		

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	10.0-30.0	As above
MECHANICAL TREATMENT OF WEEE CONTAINING MERCURY			
32	**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:**		
	Equipment is enclosed, under negative pressure and connected to a LEV system		**Not applicable** Operator has stated N/a within response as 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) *Table 6.6. Monitoring requirements are outlined in BAT 8*		
	Hg	2.0-7.0	As above
BIOLOGICAL TREATMENT OF WASTE (GENERAL BAT)			
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 not provided sufficient information in order to demonstrate full compliance with this BAT conclusion.

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
			Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 33 prior to compliance deadline (IC3)
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 Future** Point source emissions to air from the biofilter abatement system serving the reception hall will need to be monitored once every six months in line with BAT 34 for: H2S and NH3 or odour. Monitoring requirements in the permit have been included within Schedule 3 to ensure compliance in the future (Schedule 3b of permit). Monitoring parameters to be agreed with NRW following completion of IC1 and IC2.
	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) *Table 6.7 and its supporting notes. Monitoring requirements are outlined in BAT 8*		
	NH3	0.3-20	**Compliant in Future** Point source emissions to air from the biofilter abatement system serving the reception hall will need to be monitored once every six months in line with BAT 34 for: H2S and NH3 or odour. Monitoring requirements in the permit have been included within Schedule 3 to ensure compliance in the future (Schedule 3b of permit). Monitoring parameters to be agreed with NRW following completion of IC1 and IC2.
	Odour	200-1000	
	Dust	2.0-5.0	
	TVOC	5.0-40	
35	**Reduce the generation of wastewater and reduce water usage by using <u>ALL</u> of the following:**		
	a.	Segregation of water streams (see also BAT 19f)	

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.	Water recirculation	**Compliant in the Future**: The Operator has indicated that this BAT conclusion is N/a, however this BAT standard is relevant to Anaerobic Digestion. The Operator has not however provided sufficient information in order to demonstrate compliance with this BAT conclusion. Thus, an improvement condition has been included within the permit to ensure compliance with BAT 35 prior to compliance deadline (IC3)
	c.	Minimisation of the generation of leachate	
BIOLOGICAL TREATMENT OF WASTE: AEROBIC METHODS			
36	**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		**Not applicable** Operator has stated N/a within response as there are no activities involving the biological treatment of waste using aerobic methods of waste undertaken at the Facility
	Temperature and moisture content within windrows (Moisture monitoring not needed for enclosed processes where H&S issues have been identified)		
	Aeration of the windrow		
	Windrow porosity, height and width		
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:**		
	a.	Use of semi-permeable membrane covers	**Not applicable** Operator has stated N/a within response as there are no activities involving the biological treatment of waste using aerobic methods of waste undertaken at the Facility
	b.	Adaptation of operations to the meteorological conditions	

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
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:**	
	Implement a manual and/or automatic monitoring system to:	
	Ensure a stable digester operation	**Compliant in the Future**: The site's Anaerobic Digestion process complies with PAS 110: 2010 standard S.5 (HACCP). The Operator has advised S.6 and S.7 procedures cover overall environmental performance of the site. The Operator has not however provided further details or sufficient information 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 38 prior to compliance deadline (IC3)
	Minimise operational difficulties and associated odour emissions	
	Provide sufficient early warning of system failures	
	Windrow porosity, height and width	
	Monitoring and/or control of key waste and process parameters – examples below:	
	pH and alkalinity of the digester feed	**Compliant in the Future**: The site's Anaerobic Digestion process complies with PAS 110: 2010 standard S.5 (HACCP). The Operator has advised S.6 and S.7 procedures cover overall environmental performance of the site. Operator has not however provided further details or sufficient information in order to demonstrate full compliance with this BAT conclusion.
	Digester operating temperature	
	Hydraulic and organic loading rates of the digester feed	
	Volatile fatty acids and NH3 concentrations within digester & digestate	
	Biogas quantity, composition (e.g. H2S) and pressure	
	Liquid and foam levels in the digester	

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
			Thus, an improvement condition has been included within the permit for the sites process monitoring procedures to be amended to ensure compliance with BAT 38 prior to compliance deadline (IC3)
MECHANICAL BIOLOGICAL TREATMENT (MBT) OF WASTE			
39	**Reduce emissions to air. Generally applicable to new plants, existing plants may have layout constraints. Use <u>BOTH</u> of the following techniques:**		
	a.	Segregation of the waste gas streams (refer to inventory described in BAT 3)	**Not applicable** Operator has stated N/a within response as there are no activities involving the mechanical biological treatment (MBT) of waste undertaken at the Facility
	b.	Recirculation of waste gas. Waste gas treatment is described in BAT 34 and recirculation in BAT 35.	
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		**Not applicable** Operator has confirmed within response there are no activities involving the physico-chemical treatment of solid and/or pasty waste
	H2 formation potential upon mixing of flue-gas treatment residues/ashes with water		

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) *Table 6.8. Monitoring requirements are outlined in BAT 8*		
	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 <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 re-refining of waste oil undertaken at the Facility
	b.	Thermal oxidation – see S6.1	
	c.	Wet scrubbing – see S6.1	
	The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies. *Monitoring requirements are outlined in BAT 8*		
PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CALORIFIC VALUE			
45	**Reduce emissions to air of 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 activities involving the physico-chemical treatment of waste with calorific value at the Facility
	b.	Cryogenic condensation – see S6.1	
	c.	Thermal oxidation – see S6.1	
	d.	Wet scrubbing – see S6.1	
	The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies. *Monitoring requirements are outlined in BAT 8*		
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 <u>a combination of</u> 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	
	The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies. *Monitoring requirements are outlined in BAT 8*		
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)			
	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) *Table 6.9 and its supporting note. Monitoring requirements are outlined in BAT 8*		

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	
	Note supporting text for BAT 49g (thermal oxidation) *Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.*		

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	
	Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.		
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	
	e.	Disposal of waste treatment residues – see examples	
	f.	Recovery of solvent when solvent washing is used	

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
	Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.		
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.**		
	Monitoring the waste input		
	Bioeliminability e.g. BOD, BOD-COD ratio, Zahn-Wellens test, biological inhibition potential		**Not applicable** Operator has confirmed within response there are no water-based liquid wastes accepted at the Facility
	Feasibility of emulsion breaking e.g. lab testing		
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	
	BAT-AELs for channelled HCl and TVOC emissions to air from the treatment of water-based liquid waste (mg/Nm3) *Table 6.10 and its supporting notes. Monitoring requirements are outlined in BAT 8*		
	HCl	1.0-5.0	As above
	TVOC	3.0-20	