

Natural Resources Wales permitting decisions

Variation and Consolidation of a bespoke Permit – Celtic Recycling Ltd

We have decided to issue a Natural Resources Wales initiated variation for Newport Recycling Facility in Queensway Meadow Industrial Estate, Newport operated by Celtic Recycling Ltd.

The permit number is EPR/YP3135TE.

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 Newport Recycling Facility against the published BAT conclusions for Waste Treatment.
- Annex 1 – Decision Checklist regarding relevant BAT Conclusion.

Assessment of Newport Recycling Facility against the published BAT conclusions for Waste Treatment

1. Our decision

We have issued a variation, which will allow Celtic Recycling Ltd 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 22 October 2010, was referenced as a waste activity. The permit was then varied to include an installation activity following the implementation of the Industrial Emissions Directive (IED) on 21 March 2013, 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);
- a *waste operation* subject to Environmental Permitting Regulations, however this review only applies to the installation activity as described by the Industrial Emissions Directive; and
- 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 05 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, Celtic Recycling Ltd 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. Celtic Recycling Ltd have a copy of a consequent baseline report.

- Where their permitted activity involves the use, production, storage or release of a priority hazardous substances and any other relevant substances., as defined by the Water Framework Directive, the Celtic Recycling Ltd 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 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 31 July 2019 and additional information received on the 8 October 2019 and 10 September 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 17 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.

A response was received from Celtic Recycling Ltd to Sections 1 to 4 of the Regulations 61(1) Notice. Following assessment of the Regulation 61(1) response, further information was requested from Celtic Recycling Ltd. 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, Celtic Recycling Ltd submitted an Opra profile however it was for a different site. A correct Opra profile was subsequently obtained and checked by the Regulating Site Officer. The Opra score for the site remains as 77.

In response to Section 6 of the Regulation 61(1) Notice, Celtic Recycling Ltd confirmed that a site condition report was completed by Golder Associates in March 2010 and was submitted as part of the original permit application in 2010. The findings of the survey continue to apply and satisfy the requirements within the Regulation 61(1) Notice.

In response to Section 7 of the Regulation 61(1) Notice, Celtic Recycling Ltd confirmed that the site only discharges clean uncontaminated surface water run-off and that there are no process effluent discharges to either surface water or sewer. As BAT does not apply to discharges associated with clean uncontaminated surface runoff only, no further information/justification has been sought by Natural Resources Wales.

It is important to highlight that operations at the Newport Recycling Facility consist of a combination of both a Schedule 1 listed activity, S5.3 A(1)(a)(ii), and waste activities

including the use of a metal shredder. The review of site activities against the BREF BAT Conclusions is ringfenced to the Schedule 1 listed activity and Directly Associated Activities only. Activities described under waste operations falls outside the scope of this review. Where the operator has provided documentation relating to waste activities, these reports have not been assessed against the BAT Conclusions.

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	The operator shall submit to Natural Resources Wales for written approval, information to evidence compliance with the following BAT Conclusions, in accordance with requirements specified within 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: (XII) Residues Management Plan.	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC2	The operator shall submit to Natural Resources Wales for written approval, information to evidence compliance with the following BAT Conclusions, in accordance with requirements specified within the Waste Treatment BREF Document (EU 2018). 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 as described within the BAT14 Table.	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC3	The operator shall submit to Natural Resources Wales for written approval, information to evidence compliance with the following BAT Conclusions, in accordance with requirements specified within the Waste Treatment BREF Document (EU 2018). 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 the BAT 19 Table.	17 February 2022 or otherwise agreed in writing with Natural Resources Wales
IC4	The operator shall submit to Natural Resources Wales for written approval, information to evidence compliance with the following BAT Conclusions, in accordance with requirements specified within the Waste Treatment BREF Document (EU 2018).	17 February 2022 or otherwise agreed in writing with

	• BAT 23. In order to use energy efficiently, BAT is to use both of the following techniques: ○ a. Energy Efficiency Plan; ○ b. Energy Balance Record.	Natural Resources Wales
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Operational Changes

The following additional changes have been made to the permit:

- 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 does not currently list any existing Specified Generators (SG) or Medium Combustion Plant (MCP) that fall within the definition described within the Medium Combustion Plant Directive (MCPD).

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 company carried out the following assessments:

- Screening tests for priority hazardous pollutants and any other relevant priority hazardous substances.
- 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”.

Although site activities include the storage of hazardous substances, the Operator has not undertaken an assessment of the impact from the site as there are no emissions to water associated with the permitted activities.

Emissions to Water – Article 15(4) Derogations

No derogations.

Emissions to Air

There were no changes to the ELV's for emissions to air taking into account BAT conclusions from the Waste Treatment BREF as the only permitted point source emission to air is from the Bag Filter serving the metal shredder, which falls within the described waste activity, and is not associated in any way to the Schedule 1 listed activity.

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 operator has achieved improvements in performance since the permit was originally granted. The revised BREF provides 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 has achieved ISO14001:2015; ISO9001:2015; and ISO45001:2018 standards. Document Reference: Leadership Policy SHE-POL-LDP-v2
	II. Environmental policy development including CI of performance	Currently Compliant: Implemented through site Management System Document Reference: Environmental Policy SHE-POL-ENV-v13

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
	III.	Planning and implementing procedures & targets in conjunction with financial planning & investment	Currently Compliant: Implemented through site Management System Document Reference: Integrated Management System Manual SHE-SHEQ-IMS-MAN-v5
	IV.	Implementation of procedures	
		(a) Structure & responsibility	Currently Compliant: Implemented through site Management System Document Reference: Integrated Management System Manual SHE-SHEQ-IMS-MAN-v5
		(b) Recruitment, training, awareness & competence	Currently Compliant: Implemented through site Management System Document Reference: Integrated Management System Manual SHE-SHEQ-IMS-MAN-v5. Health and Safety Policy SHE-POL-HSP-v26
		(c) Communication	Currently Compliant: Implemented through site Management System Document Reference: Consultation, Communication and Participation Procedure. Health and Safety Policy SHE-POL-HSP-v26
		(d) Employee involvement	Currently Compliant: Implemented through site Management System Document Reference: Health and Safety Policy SHE-POL-HSP-v26
		(e) Documentation	Currently Compliant: Implemented through site Management System Document Reference: Integrated Management System Manual SHE-SHEQ-IMS-MAN-v5.
		(f) Effective process control	Currently Compliant: Implemented through site Management System Document Reference: Document Control Procedure ADMIN-PRO-DOC-CON-v3. BAT 1.6 Control of Records Procedure ADMIN-PRO-CON-REC-v4. BAT 1.7 Addendum to Control of Records Procedure ADMIN-PRO-ADD-CON-REC-v8
		(g) Maintenance programmes	Currently Compliant: Implemented through site Management System Document Reference: Health and Safety Policy SHE-POL-HSP-v26 (Work equipment – page 17)

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
		(h) Emergency preparedness & response	Currently Compliant: Implemented through site Management System Document Reference: Emergency Preparedness and Response Procedure SHE-PRO-EMP-PRE-v4
		(i) Safeguarding compliance with environmental legislation	Currently Compliant: Implemented through site Management System Document Reference: Legal and Other Requirements Procedure SHE-PRO-LGL-REQ-v4
	V.	Checking performance and taking corrective action	
		(a) Monitoring & measurement	Currently Compliant: Implemented through site Management System Document Reference: Performance Monitoring and Measurement Procedure SHE-PRO-PER-MON-v4. BAT 1.11 CEMARS Certification Disclosure Statement - Expiry 15 April 2021
		(b) Corrective and preventive action	Currently Compliant: Implemented through site Management System Document Reference: Non-Conformance Non-Compliance Corrective and Preventive Actions SHE-PRO-NON-CON-CPA-v5
		(c) Maintenance of records	Currently Compliant: Implemented through site Management System Document Reference: Near Miss register; Consultation, Communication and Participation Procedure
		(d) Independent (where practicable) internal or external EMS auditing	Currently Compliant: Implemented through site Management System Document Reference: Achilles Category B2 Assessment Audit Report. BAT 1.14 BM Trada IMS Audit Report - April 2020. BAT 1.11 CEMARS Certification Disclosure Statement - Expiry 15 April 2021
	VI.	Senior management review of EMS	Currently Compliant: Implemented through site Management System. Quarterly Management Review Meetings Chaired Managing Director
	VII.	Following development of cleaner technologies	Currently Compliant: Implemented through site Management System Document Reference: Environmental Policy SHE-POL-ENV-v13

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
	VIII.	Whole life cycle considerations when designing a new plant i.e. impacts from eventual decommissioning and throughout its operating life	Currently Compliant: Implemented through site Management System. The company uses established and very simple physical treatment processes that are designed to minimise impact upon the environment. More than 90% of processed wastes are recycled; this life cycle and waste reduction approach has been identified within a previous application for a low risk waste activity. Document Reference: CRL Cryogenics trial application May_12
	IX.	Regular sectoral bench marking	Currently Compliant: Implemented through site Management System. CRL is not aware of any benchmarking standards that are available for the specific sector in which it works. Clients include National Grid who set extremely rigorous requirements of contractors that CRL is always able to meet. In the absence of benchmarking standards CRL sets and meets environmental impact reduction goals and is accredited by CEMARS in this regard. Document Reference: CEMARS Certification Disclosure Statement - Expiry 15 April 2021; BAT 1.19 CEMARS Carbon Reduction Certificate exp 15.04.2021
	X.	Waste stream management (BAT 2)	Currently Compliant: See BAT 2 below
	XI.	Inventory of wastewater & waste gas streams (BAT 3)	Not Applicable: there are no wastewater or waste gas streams from the installation activity
	XII.	Residues Management Plan – S6.5	Compliant in Future: The Operator has stated this BATc is implemented through site Management System. However, insufficient evidence has been provided to demonstrate an RMP exists which satisfies requirements laid out in S6.5. An improvement condition has thus been included within the permit to ensure that the site is compliant with the BAT requirement prior to compliance deadline (IC1)

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
	XIII.	Accident Management Plan – S6.5	Currently Compliant: Implemented through site Management System Document Reference: Emergency Accident Management Plan Newport SHE-EMP-NPT-EAMP-v10
	XIV.	Odour Management Plan (BAT 12)	Not applicable Operator has stated N/a within their response as the site activities do not generate odours
	XV.	Noise & Vibration Management Plan (BAT 17)	Currently Compliant: Although the Operator has stated that the site does not currently comply with BAT17 and by association does also not fully satisfy BATc1XV, noise & vibration issues at the site are associated with waste operations and do not relate to Schedule 1 listed activity. Noise or vibration nuisance at sensitive receptors is not expected and/or has been substantiated as a result of the installation activities.
2	Improving overall environmental performance – <u>ALL</u> of the following:		
	a.	Set up and implement waste characterisation & pre-acceptance procedures	Currently Compliant: Implemented through site Management System Document Reference: Waste Pre-Acceptance-Acceptance Procedure (Newport) SHE-PRO-NPT-WAP-v6
	b.	Set up and implement waste acceptance procedures	Currently Compliant: Implemented through site Management System Document Reference: Waste Pre-Acceptance-Acceptance Procedure (Newport) SHE-PRO-NPT-WAP-v5
	c.	Set up and implement a waste tracking system & inventory	Currently Compliant: Implemented through site Management System Document Reference: Waste Pre-Acceptance-Acceptance Procedure (Newport) SHE-PRO-NPT-WAP-v5
	d.	Set up and implement an output quality management system	Currently Compliant: Implemented through site Management System Document Reference: Operational Procedures (Newport) SHE-PRO-NPT-OPS-v6; Integrated Management System Manual SHE-SHEQ-IMS-MAN-v5.

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.	Ensure waste segregation	Currently Compliant: Implemented through site Management System. The processes undertaken on site are designed to segregate waste components so that each can be recycled. Different activities occur in allocated parts of site so that the related wastes can be kept separate - as identified in procedures manual. Document Reference: BAT 2.3 Operational Procedures (Newport) SHE-PRO-NPT-OPS-v6
	f.	Ensure waste compatibility prior to mixing or blending	Not Applicable: The Operator has confirmed that no mixing or blending of wastes is undertaken on site;
	g.	Sort solid incoming waste – S6.4	Not Applicable: The Operator has confirmed that the Facility handles discrete items of waste only – see ‘e’ above. There is no additional sorting once received as part of Installation Activity Operations
3	Establish and maintain a wastewater and waste gas inventory as part of the EMS - <u>ALL</u> of the following:		
	<i>Information on characteristics of waste and waste treatment processes</i>		
	(i)(a)	simplified process flow sheets showing emission sources	Currently Compliant: Implemented through site Management System. No wastewater only emissions to air from processes on site. Document Reference: CRL Waste shredder Flow chart
	(i)(b)	Process-integrated and wastewater/waste gas treatment descriptions including performance	Currently Compliant: Implemented through site Management System. No wastewater only emissions to air from processes on site. Document Reference: CRNL13_9 air emissions monitoring
	<i>Information on characteristics of wastewater streams</i>		
	(ii)(a)	<i>Mean and variability of:</i>	Not Applicable: Operator has confirmed that there are no wastewater streams from the process
		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
	(ii)(b)	Mean concentration, load and variability of:	
		Total suspended solids	Not Applicable: Operator has confirmed that there are no wastewater streams from the process
		COD/TOC	
		Nitrogen species	
		Phosphorous	
		Metals	
		Priority substances/micropollutants	
		Any other relevant compounds	
	(ii)(c)	Bioeliminability data (see BAT 52):	
		BOD	Not Applicable: Operator has confirmed that there are no wastewater streams from the process
		BOD to COD ratio	
		Zahn-Wellens test	
		Biological inhibition potential	
	Information on characteristics of waste gas streams		
	(iii)(a)	Mean and variability of:	
Flow		Not applicable: There is only one-point source emission / waste gas stream from the site. This is from the shredder comprising oil vapour and particulate emissions only. As the shredder process falls under the definition of waste operation and outside the scope of Installation activities - this activity has not been considered as part of this BAT Assessment review. As such this BATc is Not applicable to the A1 listed activity.	
temperature		Not applicable: As described 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
	(iii)(b)	Mean concentration, load and variability of relevant substances:	
		Organic compounds	Not applicable: As described above
		POPs e.g. PCBs	Not applicable: As described above
		Any other relevant compounds	Not applicable: As described above
	(iii)(c)	Flammability	Not applicable: As described above
		Lower and Higher Explosive Limits	Not applicable: As described above
		Reactivity	Not applicable: As described above
	(iii)(d)	Presence of other substances that may affect the gas treatment system or plant safety:	
		O2	Not applicable: As described above
		N2	
		Water vapour	
		Dust	
4	Reducing environmental risk associated with waste storage – <u>ALL</u> of the following:		
	a.	Optimised storage location	Currently Compliant: Implemented through site Management System Document Reference: Waste Storage Procedure (Newport) SHE-PRO-NPT-WSP-v5
	b.	Adequate storage capacity	Currently Compliant: Implemented through site Management System Document Reference: Waste Storage Procedure (Newport) SHE-PRO-NPT-WSP-v6
	c.	Safe storage operation	Currently Compliant: Implemented through site Management System Document Reference: Waste Storage Procedure (Newport) SHE-PRO-NPT-WSP-v7

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	Not Applicable: The Operator has confirmed that this BATc is N/a as the site does not store or handle packaged hazardous wastes
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		Currently Compliant: Implemented through site Management System Document Reference: Training and Development Policy HR-POL-TDP-v5
	Duly documented, validated and verified		Currently Compliant: Implemented through site Management System Document Reference: Document Control Procedure ADMIN-PRO-DOC-CON-v3. BAT 1.6 Control of Records Procedure ADMIN-PRO-CON-REC-v4. BAT 1.7 Addendum to Control of Records Procedure ADMIN-PRO-ADD-CON-REC-v8
	Spill prevention, detection and mitigation measures		Currently Compliant: Implemented through site Management System Document Reference: Emergency Oil Spillage Responsibilities Newport SHE-EMP-NPT-ESR-v5
	Take precautions when mixing or blending wastes		Not Applicable: The Operator has confirmed that no mixing or blending of wastes is undertaken on site;
	Procedures are risk-based and consider likelihood of accidents, incidents and their environmental impact		Currently Compliant: Implemented through site Management System Document Reference: Integrated Management System Manual SHE-SHEQ-IMS-MAN-v5; Aspects Assessment Procedure; Environmental Aspects Register
MONITORING			
6	Relevant emissions to water: monitor key process parameters at key locations		
	Key process parameters		

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
	Wastewater flow		Not applicable: Operator has stated N/a within response there is no emissions to water from the Facility
	pH		
	Temperature		
	Conductivity		
	BOD		
	Other process parameters		
	Key monitoring locations		
	Pre-treatment inlet and/or outlet		Not applicable: Operator has stated N/a within response there is no emissions to water from the Facility
	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		Not applicable Operator has stated N/a within response there is no emissions to water from the Facility
8	Monitoring emissions to air (refer to table) Monitoring parameters depend on waste treatment process(es) involved		Not Applicable: There is a single point source emission to air currently monitored and reported annually for Dust (particulates) and TVOC (oil mists) from the metal shredder - which is a waste activity. There are no point source emissions to air from the installation activity, thus this BATc is not applicable.
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 stated N/a within their response as the site activities do not generate odours or potential for fugitive emissions such as dust / organic compounds etc
	b	Emissions factor calculation	
	c	Mass balance 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
10	Periodically monitor odour emissions where nuisance is expected and/or has been substantiated (monitoring frequency is outlined in BAT 12)	Not applicable: Operator has stated N/a within their response as the site activities do not generate odours or potential for fugitive emissions such as dust / organic compounds etc
	Use EN standards e.g. 13725 or 16841	
	Use equivalent methods e.g. ISO / national / international monitoring standards	
11	Annual monitoring for:	
	- Water, energy and raw materials	Compliant in Future: The existing permit requires the operator to report energy usage on site. Reporting requirements and associated forms have been updated to include reporting of water usage and raw material usage on site.
	- Generation of residues and wastewater	Compliant in Future: Operator has stated N/a however this is a general BAT requirement and therefore applicable to site operations. 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 has been included as part of the updated reporting parameters and forms issued as part of permit variation.
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	
	Protocol for conducting odour monitoring (BAT 10)	
	Protocol for response to odour incidents/complaints	

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 prevention and reduction programme	Not applicable: Operator has stated N/a within their response as the site activities do not generate odours or potential for fugitive emissions such as dust / organic compounds etc
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)
	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: Operator has stated N/a within their response as the site activities do not generate odours or potential for fugitive emissions such as dust / organic compounds etc		
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
	b.	Select and use high-integrity equipment – see examples
	c.	Corrosion prevention – see examples
	d.	Containment, collection and treatment of diffuse emissions – see examples
	e.	Dampening (with water or fog)
	f.	Maintenance – see examples
	g.	Cleaning of waste treatment and storage areas – see examples
Compliant in the Future: Operator has said N/a however some of these measures will apply to the storage of waste oil and diffuse emissions from the A1 installation activities. An Improvement Condition has therefore been included within the Permit to ensure compliance with BAT conclusion 14 prior to compliance deadline (IC2). NB. Emissions from the bag filter abatement system attached to the shredder falls outside the scope of this BAT review - as the waste shredder is a waste operation and not subject to 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
	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	Not applicable: Operator has stated N/a within response there is no flaring on site
	b.	Plant management including gas system balancing and advanced process control	
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: Operator has stated N/a within response there is no flaring on site
	b.	Monitoring and recording as part of flare management – see examples	
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	Currently Compliant: The Operator has indicated that the site does not currently meet BAT in reference to noise & vibrations emitted from the metal shredder - which is a single point source of noise and vibration. However, the shredder activity falls under A2 listed waste activity and therefore outside the scope of this BAT assessment. As there are no expected noise or vibration issues likely to arise from the storage of waste oil the site is considered currently compliance against this BATc
	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	

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.	Operational measures – see examples	Currently Compliant: The Operator has indicated that the site does not currently meet BAT in reference to noise & vibrations emitted from the metal shredder - which is a single point source of noise and vibration. However, the shredder activity falls under A2 listed waste activity and therefore outside the scope of this BAT assessment. As there are no expected noise or vibration issues likely to arise from the storage of waste oil the site is considered currently compliance against this BATc	
	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:			Compliant in Future: Operator has stated N/a within response as there is no water consumption to support the treatment process other than domestic facilities no point-source, nor diffuse emissions to the water environment; there is a single drain to foul sewer located within the main building (under cover) but this is not used to manage process waters. In the event of fire, drain blockers will be inserted into the main manholes & spill kits and 'blocking mats' (e.g. Dammit) will be used to prevent access of fire water to the foul sewer. Domestic units (e.g. washbasins, urinals) fitted with water-saving devices. However, the Operator has not provided sufficient information to demonstrate compliance with all aspects of this BATc, in particular BATc19 c, d, g, h and i. An improvement condition has therefore been included within the
	a.	Water management – see examples		
	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)	permit to ensure the site is fully compliant with this BATc prior to compliance deadline. (IC3).
20	Treat wastewater using a combination of:		
	Preliminary, primary and general treatment		
	a.	Equalisation	Not applicable: Operator has stated N/a within response there is no treatment of wastewater from the Facility
	b.	Neutralisation	
	c.	Physical separation	
	Physico-chemical treatment		
	d.	Adsorption	Not applicable: Operator has stated N/a within response there is no treatment of wastewater from the Facility
	e.	Distillation/rectification	
	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 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 treatment of wastewater from the Facility
	Solids removal		

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
	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) <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	Not applicable: Operator has stated N/a within response there are no DIRECT discharges from the Facility to a receiving waterbody
	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 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	

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
	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		Not applicable: Operator has stated N/a within response there are no DIRECT discharges from the Facility to a receiving waterbody
	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		Not applicable: Operator has stated N/a within response there are no DIRECT discharges from the Facility to a receiving waterbody
	As	0.01-0.1	
	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	

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
	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		Not applicable: Operator has stated N/a within response there are no INDIRECT discharges from the Facility to a receiving waterbody
	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		Not applicable: Operator has stated N/a within response there are no INDIRECT discharges from the Facility to a receiving waterbody
	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		Not applicable: Operator has stated N/a within response there are no INDIRECT discharges from the Facility to a receiving waterbody
	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	
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	Currently Compliant: Implemented through site Management System. Operator has confirmed all liquid storage in CIRIA-compliant bunded containers Document Reference: Emergency Accident Management Plan Newport SHE-EMP-NPT-EAMP-v10.
	b.	Management of incidental or accidental emissions	Currently Compliant: Implemented through site Management System. Waste-specific spill-control measures in place. Document Reference: Emergency Procedure in the Event of Oil Spillage SHE-EMP-OSP-v9. BAT 2.10 Emergency Oil Spillage Responsibilities Newport SHE-EMP-NPT-ESR-

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
			v5. BAT 2.11 Emergency Procedure in the Event of SF6 Leak SHE-EMP-SF6L-v3
	c.	Incident/accident registration and assessment system – see examples	Currently Compliant: Implemented through site Management System. Document Reference: Accident Incident Reporting Procedure SHE-PRO-AIR-v11; BAT 1.13 Achilles Category B2 Assessment Audit Report; BAT 1.14 BM Trada IMS Audit Report - April 2020
MATERIAL EFFICIENCY			
22	Use materials efficiently by substituting materials with waste e.g. waste acids/alkalis for pH adjustment, fly ashes for binders		Not Applicable: Operator has stated N/a in their response as the site process is a physical disassembly process
ENERGY EFFICIENCY			
23	Use energy efficiently by using <u>both</u> of the following techniques:		
	a.	Energy efficiency plan	Compliant in the Future: The Facility utilises electricity and propane on site and measures energy efficiency, however, does not have an Energy Efficiency Plan in place. 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 prior to compliance deadline (IC4)
	b.	Energy balance record	Compliant in the Future: The Facility utilises electricity and propane on site and measures energy efficiency, however, does not have an Energy balance record in place. 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 prior to compliance deadline (IC4)
REUSE OF PACKAGING				
24	Maximise the reuse of packaging as part of a Residues Management Plan (see BAT 1 XII.)			Not Applicable: Operator has stated N/a in their response as waste streams received onto site are not packaged
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: The Operator has indicated that the site does not currently meet BAT in reference to noise & vibrations emitted from the metal shredder - which is a single point source of noise and vibration. However, the shredder activity falls under A2 listed waste activity and therefore outside the scope of this BAT assessment. As there are no expected noise or vibration issues likely to arise from the storage of waste oil the site is considered currently compliance against this BATc Bag filter exhaust services metal shredding on site. Generally – BAT 25 et seq. relates to large-scale fragmentisers (e.g. of ELVs) and related emissions. Not all shredders are restricted to such operations and that at CRL is a dedicated very small-scale shredder for specific use/small waste streams. There are no point source emissions of dust, particulate-bound metals, PCDD/F and dioxin-like PCBs from the A1 installation activity
	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) Table 6.3 and its supporting note. Monitoring requirements are outlined in BAT 8		
Dust		2.0-5.0		Not applicable: As described 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: The metal shredder operations listed within the permit fall under waste activity operations and are thus outside the scope of this BAT review. There is no mechanical treatment of metal waste by shredding associated with the A1 installation activity.
	(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: The metal shredder operations listed within the permit fall under waste activity operations and are thus outside the scope of this BAT review. There is no mechanical treatment of metal waste by shredding associated with the A1 installation activity.
	b.	Pressure relief dampers		
	c.	Pre-shredding (device)		
28	Use energy efficiently by keeping the shredder feed stable			Not Applicable: The metal shredder operations listed within the permit fall under waste activity operations and are thus outside the scope of this BAT review. There is no mechanical treatment of metal waste by shredding associated with the A1 installation activity.

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 <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 confirmed within response there are no activities involving the mechanical treatment of WEEE 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	Not applicable: Operator has confirmed within response there are no activities involving the mechanical treatment of WEEE containing VFCs and/or VHCs undertaken at the Facility
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 confirmed within response there are no activities involving the mechanical treatment of WEEE 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	
	b.	Biofilter – 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
	c.	Thermal oxidation – see S6.1	Not applicable: Operator has confirmed within response there are no activities involving the mechanical treatment of metal waste with calorific value undertaken at the Facility
	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		
	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: The Operator has advised that Mercury containing wastes are found in discrete items only for which mercury is carefully removed under controlled conditions and shipped for recycling. There is no mercury waste shredding and therefore no mercury emissions to monitor. The operator has in place an emergency procedure in event of mercury spillage. This activity however is captured under A2 waste activity, and therefore falls outside the scope of this BREF review.
	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)			

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		Not applicable: Operator has confirmed within response there are no activities involving the biological treatment of waste undertaken at the Facility
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	Not applicable: Operator has confirmed within response there are no activities involving the biological treatment of waste undertaken at the Facility
	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) (ouE/m3) Table 6.7 and its supporting notes. Monitoring requirements are outlined in BAT 8		
	NH3	0.3-20	Not applicable: Operator has confirmed within response there are no activities involving the biological treatment of waste undertaken at the Facility
	Odour	200-1000	
	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)	Not applicable: Operator has confirmed within response there are no activities involving the biological treatment of waste undertaken at the Facility
	b.	Water recirculation	
	c.	Minimisation of the generation of leachate	

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: 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 confirmed within response 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 confirmed within response 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	
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		
	Minimise operational difficulties and associated odour emissions		

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
	Provide sufficient early warning of system failures		Not applicable: Operator has confirmed within response there are no activities involving the biological treatment of waste using anaerobic methods of waste undertaken at the Facility
	Windrow porosity, height and width		
	Monitoring and/or control of key waste and process parameters – examples below:		
	pH and alkalinity of the digester feed		Not applicable: Operator has confirmed within response there are no activities involving the biological treatment of waste using anaerobic methods of waste undertaken at the Facility
	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		
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:		Not applicable: Operator has confirmed within response there are no activities involving the mechanical biological treatment (MBT) of waste undertaken at the Facility
	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.	
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	
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 undertaken at the Facility		
	H2 formation potential upon mixing of flue-gas treatment residues/ashes with water				
41	Reduce emissions to air of dust, organic compounds and NH3 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 there are no activities involving the physico-chemical treatment of solid and/or pasty waste undertaken at the Facility	
	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		As above		
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				

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
	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:			
	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		
	<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 <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		
<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>				

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
REGENERATION OF SPENT SOLVENTS			
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	
	<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)			

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 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		
	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	

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.	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.			
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	

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.	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	
	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			

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
	HCl	1.0-5.0	As above
	TVOC	3.0-20	