

## Natural Resources Wales permitting decisions

### Normal Variation and Consolidation – Hazrem Environmental Limited

We have decided to issue the variation for Nine Mile Point Waste Transfer Facility in Unit 9 Nine Mile Point Industrial Estate, Cwmfelinfach, Caerphilly, NP11 7HZ operated by Hazrem Environmental Limited.

The permit number is EPR/AB3695CH.

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.

### Purpose of this document

This decision document:

- Explains how the application has been determined
- Provides a record of the decision-making process
- Shows how all relevant factors have been taken into account
- Justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise, we have accepted the applicant's proposals.

### Structure of this document

- Assessment of Nine Mile Point Waste Transfer Facility against the published BAT conclusions for Waste Treatment.
- Annex 1 – Decision Checklist regarding relevant BAT Conclusions

# Assessment of Nine Mile Point Waste Transfer Facility against the published BAT conclusions for Waste Treatment

## 1. Our decision

We have issued a variation, which will allow Hazrem Environmental 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 (ELVs).

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 14<sup>th</sup> December 2017, 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, Pre-operational Measures have been included to bring the site up standard by 17<sup>th</sup> August 2022. The site is not yet operational or constructed at the time of this statutory review, therefore pre-operational measures have been set to ensure the site is compliant with BAT prior to commencement of operations.

## 2. The legal framework

The consolidated variation notice will be issued under Regulation 20 of the 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 4<sup>th</sup> 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.

- Describes the techniques that will be implemented before 17<sup>th</sup> August 2022 / or when the site is built, which will then ensure that operations meet the revised standard, or
- Justifies why standards will not be met by 17<sup>th</sup> 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
- Justifies 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, Hazrem Environmental Limited were required to carry out a risk assessment considering the possibility of soil and groundwater contamination at the permitted installation with such substances. Where risk of such contamination is established prepare a baseline report containing information necessary to

determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definite cessation of the activity. Hazrem Environmental Limited have a Site Condition Report CRM 083 002 PE R 004 SCR A FINAL, dated September 2015 submitted as part of the original permit application. The response to the Regulation 61 Notice stated that as the site is pre-operational "it is not possible to define a list of relevant hazardous substances which will be stored at the site within the meaning of Article 22 of the Industrial Emissions Directive (IED). This is the first step of undertaking a baseline survey, when looking at the European Commission's Guidance concerning baseline reports under Article 22 (2) of the IED 2014/C/136/03. The waste which is accepted onto the site is of a non-hazardous nature, therefore the only source of relevant hazardous substances will be the plant and equipment which is used on the site". There is an existing pre-operational condition 6 for the operator to submit a baseline report in line with Article 22 of the IED on the soil and groundwater conditions at the site, supplementary to that already provided in the application Site Condition Report, at least four months prior to the site becoming operational.

- Where their permitted activity involves the use, production, storage or release of a priority hazardous substances, as defined by the Water Framework Directive, the Hazrem Environmental Limited were required to carry out a risk screening assessment considering the presence of priority hazardous substances at the permitted installation. Where a risk of these substances is established the operator is to sample the effluent and screen for the priority hazardous substances. If these substances are found to be present in the effluent stream, then assessment using the H1 tool and potential detailed dispersion 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 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 Notice response from the operator was received on the 28<sup>th</sup> October 2019. Further clarification was sought on 16<sup>th</sup> January 2020 and additional information was provided by the operator on 21<sup>st</sup> January 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 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<sup>th</sup> 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 detailed response was received from Hazrem Environmental 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.

## 5. Changes we have made

### Pre-operational Conditions

Based on the information provided in the Regulation 61 response, we consider that we need to set pre-operational measures. 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 prior to commencement of operations.

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
7	<p>At least six calendar months prior to operations commencing, the operator shall submit to Natural Resources a written procedure describing how they intend to meet the following BAT requirements in accordance with requirements specified within BAT Conclusion of the Waste Treatment BREF Document (EU 2018):</p> <ul style="list-style-type: none"><li>• BAT 1 (i) – (ix)</li><li>• BAT 1 (xi)</li><li>• BAT 1 (xii)</li></ul>

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
8	<p>At least six calendar months prior to operations commencing, the operator shall submit to Natural Resources a written procedure describing how they intend to meet the following BAT requirements in accordance with requirements specified within BAT Conclusion of the Waste Treatment BREF Document (EU 2018):</p> <ul style="list-style-type: none"> <li>• BAT 2 (a) pre-acceptance procedure representative sampling to characterise composition of waste</li> <li>• BAT 2 (b) waste acceptance procedure defining the elements to be verified upon arrival of waste, the waste acceptance and rejection criteria and the sampling and analysis procedure for verification and compliance testing</li> <li>• BAT 2 (c) Implementation of a waste tracking system and inventory</li> <li>• BAT 2 (d) Output quality management system to reference the specific quality management system to which the operator has confirmed it will comply (BS EN 15358:2011)</li> </ul>
9	<p>At least six calendar months prior to operations commencing, the operator shall submit to Natural Resources Wales information in order to evidence compliance with BAT Conclusion 19 of the Waste Treatment BREF Document (EU 2018) requiring the use of one or a combination of techniques:</p> <p>(a) Impermeable surface (information on how the site complies with CIRIA 736 or an equivalent engineering standard to which the surface complies together with sign off from construction by a Certified Quality Auditor) in accordance with the requirements specified within BAT Conclusion 19 of the Waste Treatment BAT Conclusion (EU 2018)</p>
10	<p>At least six calendar months prior to operations commencing, the operator shall submit to Natural Resources a written procedure describing how they intend to meet the following BAT requirements in accordance with requirements specified within BAT Conclusion of the Waste Treatment BREF Document (EU 2018):</p> <ul style="list-style-type: none"> <li>• BAT 23 (a) – an energy efficiency plan for monitoring and analysing performance against indicators</li> <li>• BAT 23 (b) – energy flow information in an energy balance record showing how the energy is used throughout the process</li> </ul>
11	<p>At least six calendar months prior to operations commencing, the operator shall submit to Natural Resources a written procedure describing how they intend to meet the following BAT requirements in accordance with requirements specified within BAT Conclusion of the Waste Treatment BREF Document (EU 2018):</p> <ul style="list-style-type: none"> <li>• BAT 3 – Inventory of waste water and waste gas streams including average concentrations and load values of relevant substances (and to include analysis of PFOS and PFOA in waste water)</li> </ul>
12	<p>At least six calendar months prior to operations commencing, the operator shall submit for approval information 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”.</p> <p>With reference to the risk assessment guidance on the gov.uk website entitled “Surface water pollution risk assessment for your environmental permit the Operator is to carry out the following assessments:</p> <ul style="list-style-type: none"> <li>– Screening tests for priority hazardous pollutants and any other relevant priority hazardous substances.</li> <li>– For any substance which is not screened out by the screening tests you will need to carry out modelling, as described in the risk assessment guidance “Surface water pollution risk assessment for your environmental permit”.</li> </ul> <p>You must provide us with the results from the emissions monitoring, the results from the screening tests and the results from any modelling.</p>
13	<p>At least two calendar months prior to operations commencing, the operator shall submit an updated written Fire Prevention and Mitigation Plan to Natural Resources Wales.</p> <p>The Fire Prevention and Mitigation Plan must be produced in line with the standards set out in Fire Prevention and Mitigation Plan guidance – Waste Treatment.</p>

Table S1.4 Pre-operational measures	
Reference	Pre-operational measures
14	At least two calendar months prior to operations commencing, the operator shall submit an updated version of "Figure 1: Site Layout" in Schedule 7 of this permit. The amended version must show all emissions points and the site boundary outlined in green. The site plan must ensure the emission point for S1 is suitably located within the installation boundary at the point where the emission leaves the installation.

### Improvement Conditions

Based on the information provided in the Regulation 61 response, we consider that we do not need to set improvement conditions. We have not set improvement conditions in this case as the site is pre-operational therefore pre-operational measures have been set instead to ensure the site meets BAT prior to operation.

### Operational Changes

There is a 6.75MWth drum dryer listed as a Directly Associated Activity in Table S1.1 with emissions to air via a 0.7MWth Regenerative Thermal Oxidiser (emission point A1) in Table S3.1. It is understood that the dryer will use the gaseous products of combustion as direct heating/drying of the waste and would therefore be excluded from Medium Combustion Plant Directive (MCPD) controls. Similarly, the RTO is understood to be post-combustion plant designed to purify waste gases by destroying odour / abate volatile organic compounds the primary purpose therefore being abatement and will also therefore be excluded from MCPD controls. As the site is not yet constructed however, the plant should be reviewed against MCPD controls once installed and where relevant, variation to this permit sought. Pre-operational measure 14 has been set in order for the Operator to update the site plan as the current site plan shows emission point S1 outside of the installation boundary.

### 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 is required to carry 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”.

Hazrem Environmental Limited has not used the H1 electronic screening tool because the site is still pre-operational and does not have any data to screen. The discharge to sewer will be under Trade Effluent Consent a copy of which the operator will submit to Natural Resources Wales as part of the existing pre-operational condition 2 in the permit.

The operator’s response stated that “As the site is not currently built or operational no monitoring of discharges to water or sewer have been undertaken. When the site is operational, monitoring as required by Permit Reference EPR/AB3695CH in line with M18 guidance ‘Monitoring of discharges to water and sewer’ will be undertaken. No priority hazardous pollutants are released as a result of the Permitted Operations. Therefore, the information provided within the following documents submitted as part of the Permit Application are still valid;

- H1 assessment, dated October 2015;
- Environmental Risk Assessment, CRM 083 002 PE R 005 A ERA;
- Operational Techniques and Monitoring Plan CRM 083 002 PE R 006 OTMP, October 2019”

The H1 submitted with the permit application did not include assessment of discharges to water. There are no direct discharges to surface water from the installation, however there is an indirect discharge to water as the site discharges to foul sewer. A pre-operational measure has been set (pre-operational measure 12) which requires the Operator to complete the necessary screening tests for the discharge to sewer in accordance with risk assessment guidance ‘Surface water pollution risk assessment for your environmental permit’. To support this assessment a further pre-operational measure has been set (pre-operational measure 11) which requires the Operator to complete an inventory of the waste water stream in accordance with BAT 3 of the Waste Treatment BREF Document (EU 2018).

## **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 set out in:

Effective until issue date of variation

Release point	Parameter	Limit/ BAT AEL	Effective until
A1 Waste Dryer and RTO	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	80 mg/m <sup>3</sup>	Issue date of variation (site is pre-operational)

Effective from issue date of variation (as site is pre-operational the BAT-AELs will apply from commencement of operations)

Release point	Parameter	Limit/ BAT AEL	Effective from
A1 Waste Dryer and RTO	Oxides of Nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	80 mg/m <sup>3</sup>	Issue date of variation
	Dust	5 mg/Nm <sup>3</sup>	Issue date of variation
	Total Volatile Organic Compound (TVOC) <sup>Note 1</sup>	30 mg/Nm <sup>3</sup>	Issue date of variation

Note 1: The BAT-AEL and monitoring only applies when organic compounds are identified as relevant in the waste gas stream, based on the inventory required by BAT 3 of the Waste Treatment BREF Document (EU 2018), to be provided in pre-operational measure 11 by the Operator.

A pre-operational measure (pre-operational measure 11) has been set which requires the operator to complete an inventory of the waste gas stream in accordance with BAT 3 of the Waste Treatment BREF Document (EU 2018). The inventory may or may not

identify TVOC in the waste gas stream therefore a note has been added to the table above detailing this.

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

## **6. Conclusion**

We consider that the installation already employed what used to be BAT, and that the operator has achieved significant improvements in performance since the permit was originally granted. 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. The Sector Review provides the opportunity to consolidate and modernise 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<sup>th</sup> August 2022 or when the site becomes operational, whichever comes first.

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	<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list (Operational Techniques and Monitoring Plan (OTMP) CRM 083 002 PE R 006 OTMP Appendix B) includes a section for management commitment though the EMS has not yet been written and therefore has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	II. Environmental policy development including CI of performance	<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes a section for environmental policy though the EMS has not yet been written and therefore has not been reviewed. A Pre-operational Measure

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
		(POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	III.	<b>Compliant in the future</b> The operator has confirmed that the requirements of BAT 1 will be incorporated into the EMS which will be updated to reflect the as built facility (once constructed). A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	IV.	<b>Implementation of procedures</b>
		<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes sections for responsibilities and employee duties though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes sections for staffing and training though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes a section for communications though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		<b>Compliant in the future</b> The operator has confirmed the EMS will be updated to meet BAT 1. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes sections for document and data control and control of records

BATc number	Summary of BAT Conclusion requirement	<b>Status/comment</b> <b>One of the following:</b> Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes sections for key processes and operational control though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		<b>Compliant in the future</b> The operator has confirmed the EMS will be updated to meet BAT 1. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes a section for emergency preparedness though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes a section on legal and other requirements and evaluation of compliance though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	V.	<b>Checking performance and taking corrective action</b>
		<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes sections for measurement analysis and improvement and performance monitoring though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.

BATc number		Summary of BAT Conclusion requirement	<b>Status/comment</b> <b>One of the following:</b> Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		(b) Corrective and preventive action	<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes sections for non-conformance, corrective and preventative action and continual improvement though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		(c) Maintenance of records	<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes sections for document and data control, control of records and IT security and maintenance though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
		(d) Independent (where practicable) internal or external auditing EMS	<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes a section on audit though the EMS has not been reviewed and it is not clear whether this covers independent audit or not. The operator has confirmed the EMS will be updated to meet BAT 1. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	VI.	Senior management review of EMS	<b>Compliant in the future</b> The current Environmental Management System (EMS) contents list includes a section for management reviews though the EMS has not been reviewed. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	VII.	Following development of cleaner technologies	<b>Compliant in the future</b> The operator has confirmed the EMS will be updated to meet BAT 1. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.

BATc number		Summary of BAT Conclusion requirement	<b>Status/comment</b> <b>One of the following:</b> 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	<b>Compliant in the future</b> The operator has confirmed the EMS will be updated to meet BAT 1. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	IX.	Regular sectoral bench marking	<b>Compliant in the future</b> The operator has confirmed the EMS will be updated to meet BAT 1. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	X.	Waste stream management (BAT 2)	<b>Currently Compliant</b> Waste stream management procedures are in place that meet BAT 2 (see BAT 2 comments for detail).
	XI.	Inventory of waste water & waste gas streams (BAT 3)	<b>Compliant in the future</b> The operator has not provided information on waste water or waste gas streams as the site is pre-operational. Waste water (from waste reception and treatment building) will drain to sewer under a trade effluent consent and waste gases will be released from the waste dryer and regenerative thermal oxidiser. A pre-operational measure (POM11) has been set to produce waste water and waste gas stream inventories including average concentrations and load values of relevant substances (and to include analysis of PFOS and PFOA in waste water).
	XII.	Residues Management Plan – S6.5	<b>Compliant in the future</b> A Residues Management Plan will need to be added to the EMS. As above, the operator has confirmed the EMS will be updated to meet BAT 1. A Pre-operational Measure (POM7) has been added to include reporting of confirmation that the EMS meets BAT 1.
	XIII.	Accident Management Plan – S6.5	<b>Currently compliant</b> Accident Management Plan CRM 083 002 PE R 011 AMP B FINAL was submitted for permit application.
	XIV.	Odour Management Plan (BAT 12)	<b>Currently compliant</b>

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 Management Plan (OMP) CRM 083 002 PE R 008 OMP B FINAL was submitted for permit application (and updated in October 2019).
	XV.	Noise & Vibration Management Plan (BAT 17)	<b>Not applicable</b> The operator has confirmed the EMS will be updated to meet BAT 1 and has confirmed a Noise and Vibration Management Plan meeting the requirements of BAT 17 will be submitted. However, the 2015 Noise Impact Assessment predicted a low noise impact and therefore a Noise and Vibration Management Plan is not required unless changes are made which indicate a noise or vibration nuisance at sensitive receptors is expected and/or has been substantiated.
2	Improving overall environmental performance – <b>ALL</b> of the following:		
	a.	Set up and implement waste characterisation & pre-acceptance procedures	<b>Compliant in the future</b> Section 2.1 of the Operational Techniques and Monitoring Plan (OTMP) CRM 083 002 PE R 006 OTMP includes a list of information that will be requested from customers prior to acceptance, including composition of the waste and indicates pre-acceptance procedures will be in place prior to commencement of operations. These will need to include representative sampling of waste to ensure the planned treatment is safe and effective and Pre-operational Measure (POM8) has been set to cover this.
	b.	Set up and implement waste acceptance procedures	<b>Compliant in the future</b> Section 2.2 of the Operational Techniques and Monitoring Plan (OTMP) CRM 083 002 PE R 006 OTMP. These will need to be amended to include defining the elements to be verified upon the arrival of waste, the waste acceptance and rejection criteria, and the sampling and analysis procedure for verification and compliance testing. Pre-operational Measure (POM8) has been set to cover this.
	c.	Set up and implement a waste tracking system & inventory	<b>Compliant in the future</b> Sections 2 and 4 of the Operational Techniques and Monitoring Plan (OTMP) CRM 083 002 PE R 006 OTMP detail the tracking which will occur of the waste received on site from pre-acceptance to waste removal from



BATc number	Summary of BAT Conclusion requirement	<b>Status/comment</b> <b>One of the following:</b> Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	d.	Set up and implement an output quality management system
the facility, and details of the records to be kept and reporting to be completed. This information will need to be supplemented to provide more detail on the waste tracking system to ensure it meets the requirements of BAT 2 and ensure the following is recorded: <ul style="list-style-type: none"> <li>• date of arrival on site;</li> <li>• producer details;</li> <li>• previous holder;</li> <li>• a unique reference number;</li> <li>• pre-acceptance and acceptance analysis results;</li> <li>• package type and size;</li> <li>• intended treatment route;</li> <li>• accurate records of the nature and quantity of waste held on site, including all identified hazards;</li> <li>• where the waste is physically located in relation to a site plan;</li> <li>• where the waste is in the designated waste treatment route (for batch treatment);</li> <li>• accurate records of decisions regarding pre-acceptance, acceptance, storage, treatment or rejection of waste streams;</li> <li>• recipient of the output.</li> </ul> Pre-operational Measure (POM8) has been set to cover this.		
<b>Compliant in the future</b> SRF will be produced in accordance with BS EN 15359:2011 (SRF Specifications and Classes). An RDF Monitoring Unit will be used to evaluate the quality and composition of the RDF/SRF produced as noted in Operational Techniques and Monitoring Plan (OTMP) CRM 083 002 PE R 006 OTMP. No specific quality management system is noted however. The BREF notes BS EN 15358:2011 as a specific Quality Management System standard for solid recovered fuels and the operator has confirmed that it will		

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
		operate to this standard. A Pre-operational Measure (POM8) has been set to cover this.
	e. Ensure waste segregation	<b>Currently compliant</b> Section 2.3 of the Operational Techniques and Monitoring Plan (OTMP) CRM 083 002 PE R 006 OTMP details how wastes will be segregated, the containment each waste stream will be segregated into and the storage capacity of that containment.
	f. Ensure waste compatibility prior to mixing or blending	<b>Not applicable</b> Only non-hazardous waste is to be accepted.
	g. Sort solid incoming waste – S6.4	<b>Currently compliant</b> Section 2.3 of the Operational Techniques and Monitoring Plan (OTMP) CRM 083 002 PE R 006 OTMP details how solid wastes will be sorted including separation of recyclable wastes; fines screening to separate out fines; over band magnet, eddy current separators and near infrared optical sorter to remove any remaining recyclables including PVC plastics.
<b>3</b>	<b>Establish and maintain a waste water and waste gas inventory as part of the EMS - <u>ALL</u> of the following:</b>	
	<b>Information on characteristics of waste and waste treatment processes</b>	
	(i)(a)	simplified process flow sheets showing emission sources <b>Currently compliant</b> A process flow diagram has been provided in Appendix C of the response.
	(i)(b)	Process-integrated and waste water/waste gas treatment descriptions including performance <b>Currently compliant</b> The waste water will be discharged to sewer under a trade effluent consent and there is therefore no on-site process integrated waste water treatment. The waste gas streams from the facility will include gases from the waste drier, which are treated via the regenerative thermal oxidiser. A description is provided in 'Appendix 1 Process and Plant Description' document submitted for the permit application. An Air Quality Assessment titled 'Odour and Air Quality Assessment: SRF Plant, Nine Mile Point, Caerphilly', September 2015, was provided for the operation by Air Quality Consultants and a subsequent note titled

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
		<p>'Emissions Note: Nine Mile Point Waste Processing Facility' was also provided in October 2016. The plant and equipment described in both these reports is still proposed to be used and the operator states the details of emissions from the site in these reports still remain valid.</p> <p>It should be noted that the Emissions Note referred to by the operator refers to performance at a different site as the Nine Mile West facility to which this permit variation relates, is still pre-operational.</p>
<b>Information on characteristics of waste water streams</b>		
(ii)(a)	<p>Mean and variability of:</p>	<p><b>Compliant in the future</b></p> <p>As the site is not yet built information about the characteristics of the waste water stream is not yet available. A pre-operational measure (POM 11) has been set to provide this information. The analysis undertaken should include PFOS and PFOA to ascertain their relevance in relation to BAT 7.</p>
	Flow	As above
	pH	As above
	Temperature	As above
	Conductivity	As above
(ii)(b)	<p>Mean concentration, load and variability of:</p>	<p><b>Compliant in future</b></p> <p>As above</p>
	Total suspended solids	As above
	COD/TOC	As above
	Nitrogen species	As above
	Phosphorous	As above
	Metals	As above
	Priority substances/micropollutants	As above
	Any other relevant compounds	As above

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	(ii)(c)	Bioeliminability data (see BAT 52):	<b>Compliant in future</b> As above
		BOD	As above
		BOD to COD ratio	As above
		<a href="#">Zahn-Wellens test</a>	As above
		Biological inhibition potential	As above
	Information on characteristics of waste gas streams		
	(iii)(a)	Mean and variability of:	<b>Compliant in the future</b> As the site is not yet built information about the waste gas streams are not yet available. A pre-operational measure (pre-operational measure 11) has been set which requires the operator to complete an inventory of the waste gas stream in accordance with BAT 3 of the Waste Treatment BREF Document (EU 2018).
		Flow	As above
		temperature	As above
	(iii)(b)	Mean concentration, load and variability of relevant substances:	<b>Compliant in the future</b> As above
		Organic compounds	As above
		POPs e.g. PCBs	As above
		Any other relevant compounds	As above
	(iii)(c)	Flammability	<b>Compliant in the future</b> As above
		Lower and Higher Explosive Limits	As above
		Reactivity	As above

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	(iii)(d)	<i>Presence of other substances that may affect the gas treatment system or plant safety:</i>	<b>Compliant in the future</b> As above
		O2	As above
		N2	As above
		Water vapour	As above
		Dust	As above
4	<b>Reducing environmental risk associated with waste storage – <u>ALL</u> of the following:</b>		
	a.	Optimised storage location	<b>Currently compliant</b> Waste storage is detailed within the OTMP, Environmental Risk Assessment (ERA) and the Fire Prevention Plan (FPP). The site the facility is located on is relatively small and there are constraints relating to the location. All activities will take place within the main reception building, including storage of waste, with the exception of storage of baled SRF/RDF (output) and the drying of waste to produce the SRF/RDF.
	b.	Adequate storage capacity	<b>Currently compliant</b> Waste storage is detailed within the OTMP, ERA and the FPP. OTMP and FPP provide capacities for different waste streams, residence times and note checks on capacity prior to waste acceptance. OMP has contingency arrangements (including when approaching max capacity). Incoming volumes of waste will be managed daily and weekly by monitoring the weighbridge tickets. The levels of waste within the waste reception building will be visually monitored. If the storage area within the waste reception building is approaching capacity waste deliveries will be suspended until such time that capacity is available.
	c.	Safe storage operation	<b>Currently compliant</b> Waste storage is detailed within the OTMP, ERA and the FPP. All waste is stored inside. FPP includes regular checks and turning of the waste.

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	d. Separate area for storage & handling of packaged hazardous waste	<b>Not applicable</b> The site does not accept hazardous waste.
5	<b>Set up and implement procedures to reduce the environmental risk associated with handling and transfer of waste - include following elements:</b>	
	Carried out by competent staff	<b>Currently compliant</b> As required by the Permit a Technically Competent Manager will be in place before the site is operational. All staff will be trained, as detailed in the OTMP.
	Duly documented, validated and verified	<b>Currently compliant</b> OTMP notes all delivery vehicles entering the site will park at the cabin by the weighbridge to undertake Duty of Care paperwork checks.
	Spill prevention, detection and mitigation measures	<b>Currently compliant</b> Details are provided in the ERA and the Accident Management Plan (AMP). The existing POM 3 is for a final version of AMP to be provided including final details of containment measures and spill kit locations.
	Take precautions when mixing or blending wastes, vacuuming dusty/powdery wastes	<b>Currently compliant</b> Details are provided within the OTMP and the ERA. No hazardous wastes are to be accepted onto the site. Mitigation has been designed in for dust - e.g. dust suppressant system on shredders. Waste storage and handling done inside.
	Procedures are risk-based and consider likelihood of accidents, incidents and their environmental impact	
<b>MONITORING</b>		
6	<b>Relevant emissions to water: monitor key process parameters at key locations</b>	
	<b>Key process parameters</b>	
	Waste water flow	<b>Compliant in the future (if necessary)</b>

BATc number	Summary of BAT Conclusion requirement	<b>Status/comment</b> <b>One of the following:</b> Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		The site is pre-operational and therefore a waste water inventory has not yet been compiled (see POM11). Waste water will be discharged to sewer under a Trade Effluent Consent. Should there be any additional requirement to monitor process parameters at the point the emission leaves the installation this will be reviewed once POM11 is complete and POM2 (to supply NRW with a copy of the Trade Effluent Consent). We have not set monitoring for these parameters in the permit stating that parameters, monitoring and limits is to be agreed upon completion of pre-operational measure 11 and pre-operational measure 2.
	pH	As above
	Temperature	As above
	Conductivity	As above
	BOD	As above
	Other process parameters	As above
	<b>Key monitoring locations</b>	
	Pre-treatment inlet and/or outlet	<b>Not applicable</b>
	Final treatment inlet	<b>Not applicable</b>
	Discharge point (to the environment)	<b>Not applicable</b>
	Other location	As above
7	<a href="#">Monitoring emissions to water (refer to table)</a>  Monitoring parameters depend on waste treatment process(es) involved	<b>Compliant in the future (if necessary)</b> PFOS and PFOA monitoring every six months if identified as relevant once waste water inventory compiled (see BAT 3). Frequency may be reduced if the downstream waste water treatment plant abates the pollutants concerned. We have not set monitoring for these parameters in the permit stating that parameters, monitoring and limits is to be agreed upon completion of pre-operational measure 11 and pre-operational measure 2.

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
		Existing requirement in permit to monitor oil and grease in surface water discharge will remain.
8	<a href="#">Monitoring emissions to air (refer to table)</a>  Monitoring parameters depend on waste treatment process(es) involved	<b>Compliant in the future</b> The Operator will monitor emissions to air which arise from the waste dryer and regenerative thermal oxidiser in accordance with the requirements of the permit. The following parameters are/may be relevant and have been added to the permit: <ul style="list-style-type: none"> <li>Dust to standard EN 13284-1 once every six months</li> <li>TVOC to standard EN 12619 once every six months (if identified as relevant in BAT 3 waste gas stream)</li> </ul>
9	<b>Monitoring diffuse emissions of organic compounds to air from processes involving solvents. Use one or a combination of the following:</b>	
	a	Measurement – S6.2 descriptions
	b	Emissions factor calculation
	c	Mass balance calculation
10	<b>Periodically monitor odour emissions where nuisance is expected and/or has been substantiated (monitoring frequency is outlined in BAT 12)</b>	
	Use EN standards e.g. 13725 or 16841	<b>Not applicable</b> The OMP states the overall odour source is judged to be small and the overall significance of odour effects on receptors considered to be



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		negligible. Abatement is in place as noted in the OTMP. Sniff testing for monitoring is noted and should be adequate as long as no odour nuisance is identified / substantiated at which point monitoring using one of the EN standards would need to be incorporated into the OMP.
	Use equivalent methods e.g. ISO / national / international monitoring standards	<b>Not applicable</b> As above.
11	<b>Annual monitoring for:</b>	
	- <b>Water, energy and raw materials</b>	<b>Currently compliant</b> The Operator will maintain records of the consumption of water, energy and raw materials at the site. These records will be maintained within the EMS.
	- <b>Generation of residues and waste water</b>	<b>Currently compliant</b> The Operator will maintain records of the annual generation of residues and waste water at the site. These records will be updated annually and maintained within the EMS.
<b>EMISSIONS TO AIR</b>		
12	<b>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 ALL of the following:</b>	
	Protocol containing actions and timelines	<b>Currently compliant</b> An OMP was submitted at permit application (and updated in 2020). The OTMP also contains an assessment of the requirements for the control of odour. Abatement is in place as noted in the OTMP. OMP contains section (4) on mitigation and control of odours which details actions to be taken (and limiting storage times for odorous waste and RDF/SRF output) to control odour, section (6) on actions to be taken to control odour during abnormal operations and section (5) actions to be taken when odour is present. An odour monitoring, management and control

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		matrix is also included in Appendix A noting monitoring and control methods to be undertaken for different scenarios.
	Protocol for conducting odour monitoring (BAT 10)	<b>Currently compliant</b> OMP contains section (5.2) on odour monitoring
	Protocol for response to odour incidents/complaints	<b>Currently compliant</b> OMP contains section (7.1) on complaints and incidents review and section (8.2) on responding to complaints procedure. Appendix B details the odour complaints procedure and Appendix C the odour complaint report form.
	Odour prevention and reduction programme	<b>Currently compliant</b> OMP contains section (4) on mitigation and control
13	<b>Techniques to prevent, or where not practicable reduce odour emissions. Use one or a combination of the following:</b>	
	a.	Minimising residence times (open systems only)  <b>Currently compliant</b> Only applicable to open systems. However, residence times of waste within the building are minimised. See Section 3.5 control of emissions of odour in the OTMP and the OMP. This is the most relevant technique the operator uses.
	b.	Use chemical treatment (N/A if desired output is hampered)  <b>Not applicable</b> The operator will use a regenerative thermal oxidiser for the treatment of odours. The RTO is designed to have an odour destruction efficiency approaching 100%. This is described in Table 3.5.3 in the OTMP submitted alongside the permit application. Operator uses RTO to destroy odour, which is not chemical treatment but is an equivalent BAT technique and is listed in the BREF as a technique for the prevention and control of channelled emissions to air.
	c.	Optimising aerobic treatment – see examples. Refer to BAT 36 for aerobic treatment of wastes other than water-based liquid waste.  <b>Not applicable</b> No water based liquid waste treatment undertaken.
14	<b>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:</b>	

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.	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
		<p><b>Currently compliant</b> Detail provided in the ERA and OMP. Techniques including limiting traffic speed; waste deliveries are in enclosed / sheeted vehicles; cleaning vehicles before leaving.</p> <p><b>Compliant in the future</b> The plant and equipment to be used at the facility will be sourced from well-known suppliers, which have been widely used and tested at similar facilities within Europe and the UK. More information is needed to ascertain if this equipment will actually meet the BAT 14 b.</p> <p><b>Currently compliant</b> Construction materials and those materials used within the plant and equipment will include corrosion prevention where necessary.</p> <p><b>Currently compliant</b> Waste deliveries, treatment and processing will take place within a building which is maintained under negative pressure and fitted with fast acting roller shutter doors. A dust suppression system will be in place within the building, consisting of 4 dust suppression units. The emissions abatement system for the waste dryer, will also be used to treat odours from the waste reception and process building. Air extracted from the building will pass through the RTO where odours will be significantly reduced. See the ERA and the OTMP for detail.</p> <p><b>Currently compliant</b> Only baled SRF/RDF will be stored outside the curtilage of the building and these bales will be wrapped 5 times and inspected regularly for damage. Roads within the facility will be paved and will be inspected daily and washed/sprayed when required. See the ERA and the OTMP for detail.</p> <p><b>Compliant in the future</b> Plant and equipment on site will be maintained in accordance with the manufacturer's instructions. The EMS will be updated with maintenance</p>

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
			schedules and the details of maintenance contracts once the plant has been constructed and commissioned.
	g.	Cleaning of waste treatment and storage areas – see examples	<b>Currently compliant</b> Details are included in the OTMP and include wheel cleaning; paved roads swept and washed regularly; waste reception and processing building inspected daily and cleared down regularly.
	h.	Leak Detection And Repair (LDAR) programme for organics – S6.2	<b>Compliant in future</b> The facility will install a SCADA system. Details will follow once the facility is built and starts to operate, however the operator will ensure that the system is capable of monitoring fugitive emissions of VOC's.
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	<b>Not applicable</b> BAT 15 is not relevant to this Operation as there is no flare on the site
	b.	Plant management including gas system balancing and advanced process control	<b>Not applicable</b> BAT 15 is not relevant to this Operation as there is no flare on the site
16	Reduce emissions to air when flaring is unavoidable. Use <u>both</u> of the following:		
	a.	Correct design of flaring devices – see examples	<b>Not applicable</b> BAT 16 is not relevant to this Operation as there is no flare on the site
	b.	Monitoring and recording as part of flare management – see examples	<b>Not applicable</b> BAT 16 is not relevant to this Operation as there is no flare on the site
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	<b>Not applicable</b>

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 noise and vibration management plan meeting the requirements of BAT 17 is not required as applicability is restricted to cases where a noise or vibration nuisance at sensitive receptors is expected and/or has been substantiated and the Noise Impact Assessment (NIA) September 2015 concluded a predicted low noise impact. The permit has an existing IC to provide noise monitoring to corroborate the NIA. This will enable as built noise emissions to be assessed and accurate and proportionate measures to be put in place to control emissions of noise from the facility. Should it be determined in the future that a noise and vibration management plan is needed, condition 3.4.2 allows NRW to request this.
	II.	Noise and vibration monitoring plan/protocol	<b>Not applicable</b> as above
	III.	Noise & vibration complaint response plan/protocol	<b>Not applicable</b> as above
	IV.	Noise and vibration reduction programme	<b>Not applicable</b> as above
18	<b>Techniques to prevent, or where not practicable reduce noise and vibration emissions. Use one or a combination of the following:</b>		
	a.	Appropriate location of equipment and buildings	<b>Currently compliant</b> See table 3.9.3 in the OTMP and Noise Impact Assessment (NIA) submitted as part of the Permit Application. The site is located within an industrial Estate, to the east and west of the site there are other industrial units. The site is relatively constrained in terms of the plant and equipment to be installed. However, the sorting and processing of the waste material will be carried out within the facility's building. The dryer is not within the building, but the NIA September 2015 concluded a predicted low noise impact. Permit has existing IC to provide noise monitoring to corroborate the NIA.
	b.	Operational measures – see examples	<b>Currently compliant</b> See Table 3.9.3 in the OTMP submitted as part of the Permit Application. Waste processing equipment covered by a maintenance contract and/or a

BATc number	Summary of BAT Conclusion requirement	<b>Status/comment</b> <b>One of the following:</b> Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		programme of planned preventative maintenance. Fast acting roller shutter doors are fitted on waste reception and processing building. HGV vehicle movements limited to day time. Dryer fans will be run at a lower rpm (1000rpm instead of 1500rpm) to reduce the level of noise generated by the dryer.
	c.	Low-noise equipment – see examples
	d.	Noise & vibration control equipment – see examples
	e.	Noise attenuation – see examples
<b>Currently compliant</b> The operator has stated that noise from the equipment to be used at the facility was considered during procurement and the equipment which has been procured is the most appropriate for the facility's operations when taking into account minimising emissions of noise. No information on exactly what low noise equipment has been purchased has been supplied. As BAT 18 requires 'one or a combination of' techniques a – e, BAT is still considered met through other techniques employed.		
<b>Currently compliant</b> With the exception of the dryer, all noise equipment is located within the facility's building and will have appropriate noise attenuation. Noise attenuators will be fitted to the dryer fans which are the main source of noise from the dryer. See ERA and NIA for details.		
<b>Currently compliant</b> The sorting and processing of the waste material will be carried out within the facility's building which will reduce noise propagation. The dryer is not within the building, but the NIA 2015 concluded a predicted low noise impact. Permit has existing IC to provide noise monitoring to corroborate NIA.		
EMISSIONS TO WATER		
19	Optimise water consumption, reduce waste water generation and prevent or where not practicable reduce emissions to soil and water. Use one or a combination of the following:	

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.	Water management – see examples	<b>Not applicable</b> The operator has indicated that this is not applicable as water is not required for the process. See the ERA and the OTMP.
	b.	Water recirculation	<b>Not applicable</b> The operator has indicated that this is not applicable.
	c.	Impermeable surface	<b>Currently compliant</b> The whole site will be located on an impermeable hardstanding, including within the building which will be used to receive and process the waste. See the ERA. A Pre-operational Measure (POM9) has been set to provide information on compliance with relevant guidance or equivalent engineering standards used in construction together with sign off from a Certified Quality Auditor.
	d.	Reduce likelihood and impact of tank/vessel overflows and failures – see examples	<b>Currently compliant</b> The only potentially polluting liquids held on site will be maintenance oils which are held within bunds which are sized to hold 110% of the volume of the largest container and are on hardstanding. See the ERA.
	e.	Roofing of waste storage and treatment areas	<b>Currently compliant</b> Bales of SRF and RDF will be wrapped 5 times and stored externally to the building under a canopy. All other waste will be stored and treated within the building. Bales are checked for damage and rewrapped if required and stored on an impermeable surface. See the OTMP.
	f.	Segregation of water streams (being mindful of existing plant constraints)	<b>Currently compliant</b> Process runoff from the building will be directed to public sewer via a trade effluent consent issued by Welsh Water. Surface water from the roofs and site surface water will be directed to storage on site via a full retention interceptor. This water will then be discharged to the existing surface water drainage system at Nine Mile Point Industrial Estate. See the ERA and the OTMP for detail. As per POM 2 within Table S1.4 of the site Permit, a detailed site drainage plan and proposed maintenance and survey schedule for the drainage system will be submitted to NRW at least 2 months prior to

BATc number	Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
		commencement of operations. The final site drainage plan will detail how contaminated and non-contaminated liquids are kept separate.
	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 waste water using a combination of:	



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>Preliminary, primary and general treatment</b>	
	a. Equalisation	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	b. Neutralisation	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	c. Physical separation	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	<b>Physico-chemical treatment</b>	
	d. Adsorption	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	e. Distillation/rectification	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	f. Precipitation	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	g. Chemical oxidation	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	h. Chemical reduction	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	i. Evaporation	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).

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	j.	Ion exchange	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	k.	Stripping	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	<b>Biological treatment</b>		
	l.	Activated sludge process	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	m.	Membrane bioreactor	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	<b>Nitrogen removal</b>		
	n.	Nitrification/denitrification (where biological treatment used)	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	<b>Solids removal</b>		
	o.	Coagulation and flocculation	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	p.	Sedimentation	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	q.	Filtration (sand, micro, ultra)	<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).
	r.	Flotation	<b>Not applicable</b>

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>BAT-AELs for DIRECT discharges to a receiving waterbody (mg/l)</b> <i>Table 6.1 and its supporting notes. Monitoring requirements are outlined in BAT 7</i>	
	TOC	10-60 mg/l 10-100 mg/l for water-based liquid waste
	COD (TOC is preferred)	30-180 mg/l 30-300 mg/l for water-based liquid waste
	Total suspended solids	5-60 mg/l
	HOI	0.5-10 mg/l applying to specific waste treatments
	Total N	1-25 mg/l for biological treatment and waste oil re-refining 10-60 for water-based liquid waste
	Total P	0.3-2 mg/l for biological treatment 1-3 for water-based liquid waste
	Phenol	0.05-0.2 mg/l for waste oil re-refining and physio-chemical treatment of waste with CV 0.05-0.3 mg/l for water-based liquid waste
Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).		
<b>Not applicable</b> Waste water will drain to sewer under a trade effluent consent and is therefore treated off-site by a third party (Welsh Water).		
<b>Not applicable</b> As above		
<b>Not applicable</b> As above		
<b>Not applicable</b> As above		
<b>Not applicable</b> As above		
<b>Not applicable</b> As above		
<b>Not applicable</b> As above		

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	Free CN-	0.02-0.1 mg/l for water-based liquid waste	<b>Not applicable</b> As above
	AOX	0.2-1 mg/l for water-based liquid waste	<b>Not applicable</b> As above
	Metals & Metalloids – specific waste treatments as listed in Table 6.1		
	As	0.01-0.05 mg/l	<b>Not applicable</b> As above
	Cd	0.01-0.05 mg/l	<b>Not applicable</b> As above
	Cr	0.01-0.15 mg/l	<b>Not applicable</b> As above
	Cu	0.05-0.5 mg/l	<b>Not applicable</b> As above
	Pb	0.05-0.1 mg/l	<b>Not applicable</b> As above
	Ni	0.05-0.5 mg/l	<b>Not applicable</b> As above
	Hg	0.5-5 µg/l	<b>Not applicable</b> As above
	Zn	0.1-1 mg/l	<b>Not applicable</b> As above
	Metals & Metalloids – treatment of water-based liquid waste		
	As	0.01-0.1 mg/l	<b>Not applicable</b> As above
	Cd	0.01-0.1 mg/l	<b>Not applicable</b> As above
	Cr	0.01-0.3 mg/l	<b>Not applicable</b> As above

BATc number		Summary of BAT Conclusion requirement	Status/comment One of the following: Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	Hexavalent Cr [Cr(VI)]	0.01-0.1 mg/l	<b>Not applicable</b> As above
	Cu	0.05-0.5 mg/l	<b>Not applicable</b> As above
	Pb	0.05-0.3 mg/l	<b>Not applicable</b> As above
	Ni	0.05-1 mg/l	<b>Not applicable</b> As above
	Hg	01-10 µg/l	<b>Not applicable</b> As above
	Zn	0.1-2 mg/l	<b>Not applicable</b> As above
	<b>BAT-AELs for INDIRECT discharges to a receiving waterbody (mg/l)</b>		
	<i>Table 6.2 and its supporting notes. Monitoring requirements are outlined in BAT 7</i>		
	HOI	0.5-10 mg/l applying to specific waste treatments	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Free CN-	0.02-0.1 mg/l for water-based liquid waste	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	AOX	0.2-1 mg/l for water-based liquid waste	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Metals & Metalloids – specific waste treatments as listed in Table 6.2		
	As	0.01-0.05 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.

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
	Cd	0.01-0.05 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Cr	0.01-0.15 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Cu	0.05-0.5 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Pb	0.05-0.1 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Ni	0.05-0.5 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Hg	0.5-5 µg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Zn	0.1-1 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Metals & Metalloids – treatment of water-based liquid waste		
	As	0.01-0.1 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Cd	0.01-0.1 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Cr	0.01-0.3 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Hexavalent Cr [Cr(VI)]	0.01-0.1 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Cu	0.05-0.5 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.

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	0.05-0.3 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Ni	0.05-1 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Hg	01-10 µg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
	Zn	0.1-2 mg/l	<b>Not applicable</b> Not relevant to the waste process the operator undertakes.
<b>EMISSIONS FROM ACCIDENTS AND INCIDENTS</b>			
<b>21</b>	<b>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:</b>		
	a.	Protection measures – see examples	<b>Compliant in the future</b> Site security systems to prevent unauthorised access will include a perimeter security fence, security gates and CCTV monitoring. The site will have a monitored fire detection and alarm system. A fire suppression system is to be installed by a UKAS accredited company at the site as per the FPMP (note POM13 requires this to be updated in line with current guidance) - details of the suppression system to be provided to NRW at least 3 months before the site becomes operational (existing POM4). The AMP will be updated with detail on where the spill equipment will be contained once the site has been constructed. Further details within the ERA and the AMP.
	b.	Management of incidental or accidental emissions	<b>Currently compliant</b> Procedures to manage the containment of accidental emissions are contained within the AMP and the FPMP. FPMP contains info on containing

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
			firewater to include a lock off valve on the surface water crates. Spill kits and spill procedures are noted in the AMP. Note POM13 requires the FPMP to be updated in line with current guidance
	c.	Incident/accident registration and assessment system – see examples	<b>Currently compliant</b> Appendix G of the AMP contains an incident record where details of any incidents occurring on site will be recorded, along with actions taken to remedy the incident and a review of why the incident occurred and how similar incidents could be prevented in the future.
MATERIAL EFFICIENCY			
22	Use materials efficiently by substituting materials with waste e.g. waste acids/alkalis for pH adjustment, fly ashes for binders		<b>Not applicable</b> The operator has indicated that it is not considered feasible to replace any raw non-waste materials used to operate it with waste materials. If future developments allow a raw material to be replaced with a waste material, the operator will consider the use of waste subject to those wastes meeting the relevant end of waste criteria.
ENERGY EFFICIENCY			
23	Use energy efficiently by using <u>both</u> of the following techniques:		
	a.	Energy efficiency plan	<b>Compliant in the future</b> An energy efficiency plan has not yet been produced for the site. A plan will be produced once the final plant and equipment to be installed on the site had been confirmed and the site constructed. Pre-operational Measure POM10 set.
	b.	Energy balance record	<b>Compliant in the future</b>



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 updated energy balance record will be provided once the final plant and equipment to be installed on the site has been confirmed and the site constructed. Pre-operational Measure POM10 set.
REUSE OF PACKAGING		
24	Maximise the reuse of packaging as part of a Residues Management Plan (see BAT 1 XII.)	<b>Currently compliant</b> The operator notes waste will be received on site in sheeted skips of containers which are re-useable (see 2.2.5 of OTMP). In terms of materials used on site, the Operator has confirmed that as far as reasonably practicable, they will ensure that the containers within which any chemicals which are used or are held within are either reused or recycled. POM7 has been set to produce a Residues Management Plan as part of BAT 1 requirements.
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 <b>Not applicable</b> A cyclone will not be installed at the facility.
	b.	Fabric filter – see S6.1 <b>Currently compliant</b> The dryer is fitted with a bag filter which will filter particulates from the air flow. Filtration efficiency will be <5mg/m³. This will be maintained and replaced as specified by the manufacturer. The OTMP also states the primary and secondary shredders are also fitted with dust suppressors which limit the output of dust to 5mg/m³.

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.	Wet scrubbing – see S6.1	<b>Not applicable</b> This technique will not be used at the facility
	d.	Water injection into the shredder	<b>Not applicable</b> The operator has stated that the waste to be accepted already has a reasonable moisture content, so water is not proposed to be added to the shredder.
	<b>BAT-AEL for channelled dust emissions to air from the mechanical treatment of waste (mg/Nm<sup>3</sup>)</b> Table 6.3 and its supporting note. Monitoring requirements are outlined in BAT 8		
	Dust	2 – 5 mg/Nm <sup>3</sup>	<b>Currently compliant</b> The dryer is fitted with a bag filter which will filter particulates from the air flow. Filtration efficiency will be <5mg/m <sup>3</sup> .
<b>MECHANICAL TREATMENT OF METAL WASTE BY SHREDDING</b>			
<b>26</b>	<b>Improve overall environmental performance and prevent emissions due to accidents and incidents. Use BAT 14g <u>AND ALL</u> of the following techniques:</b>		
	(a)	Detailed inspection procedure for baled waste before shredding	<b>Not applicable</b> The facility does not undertake mechanical treatment of metal waste by shredding.
	(b)	Remove dangerous items from waste inputs and dispose of them in a safe manner	<b>Not applicable</b> The facility does not undertake mechanical treatment of metal waste by shredding.
	(c)	Treatment of containers accompanied by a declaration of cleanliness	<b>Not applicable</b> The facility does not undertake mechanical treatment of metal waste by shredding.
<b>27</b>	<b>Prevent deflagrations and reduce emissions from deflagrations. Use technique a. <u>AND ONE OR BOTH</u> of techniques b. and c.</b>		

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.	Deflagration management plan with reduction programme, incident review and response protocol	<b>Not applicable</b> The facility does not undertake mechanical treatment of metal waste by shredding.
	b.	Pressure relief dampers	<b>Not applicable</b> The facility does not undertake mechanical treatment of metal waste by shredding.
	c.	Pre-shredding (device)	<b>Not applicable</b> The facility does not undertake mechanical treatment of metal waste by shredding.
28	Use energy efficiently by keeping the shredder feed stable		
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	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
	b.	Cryogenic condensation	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
	c.	Adsorption	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
	<b>BAT-AELs for channelled TVOC and CFC emissions to air from treatment of WEEE containing VFCs and/or VHCs (mg/Nm3)</b> Table 6.4. Monitoring requirements are outlined in BAT 8		
	TVOC	3-15 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
	CFCs	0.5-10 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.

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
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
	b.	Forced ventilation
<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.		
<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.		
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
	c.	Thermal oxidation – see S6.1
	d.	Wet scrubbing – see S6.1
<b>Not applicable</b> This technique is not used at the facility.		
<b>Not applicable</b> This equipment is not installed at the facility.		
<b>Currently compliant</b> The operator is installing a Regenerative Thermal Oxidiser (RTO) which will treat the waste gas from the dryer before release to air. The RTO will have an operating temperature of approximately 850°C.		
<b>Not applicable</b> This technique is not used at the facility.		
<b>BAT-AEL for channelled TVOC emissions to air from the mechanical treatment of waste with calorific value (mg/Nm3)</b> <i>Table 6.5 and its supporting note. Monitoring requirements are outlined in BAT 8</i>		
TVOC	10-30 mg/Nm <sup>3</sup>	<b>Compliant in the future</b> The BAT-AEL only applies when organic compounds are identified as relevant in the waste gas stream, based on the waste gas inventory required in BAT 3 (to be provided under POM11). The operator has indicated that RTOs are designed to decompose volatile organic compounds but the exact specifications of the RTO to be installed at the facility are still to be

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
		determined. The operator has committed to ensure that the RTO chosen to be installed is designed to meet the BAT-EAL requirements. We have set the BAT-AEL for TVOC in the permit with a caveat stating that will only be required if identified in the waste gas stream which will be provided under pre-operational measure 11 by the operator.
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 ALL of the following:	
	Equipment is enclosed, under negative pressure and connected to a LEV system	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
	Waste gas treated using dedusting techniques – see examples – followed by adsorption on activated carbon	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
	Monitoring of waste gas treatment efficiency	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
	Mercury levels measured at least weekly within treatment and storage areas	<b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
	<b>BAT-AEL for channelled mercury (Hg) emissions to air from the mechanical treatment of WEEE containing mercury (µg/Nm<sup>3</sup>)</b> Table 6.6. Monitoring requirements are outlined in BAT 8	
	Hg	02-7 µg/Nm <sup>3</sup> <b>Not applicable</b> The facility does not undertake mechanical treatment of WEEE.
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	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
34	Reduce emissions to air of dust, organic compounds and odorous compounds (including H <sub>2</sub> S & NH <sub>3</sub> ) by using one or a combination of the following techniques:	
	a. Adsorption – see S6.1	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	b. Biofilter – see S6.1	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	c. Fabric filter – see S6.1.	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	d. Thermal oxidation – see S6.1	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	e. Wet scrubbing – see S6.1	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	<b>BAT-AEL for channelled NH<sub>3</sub>, odour, dust and TVOC emissions to air from the biological treatment of waste (mg/Nm<sup>3</sup>) (ouE/m<sup>3</sup>)</b> Table 6.7 and its supporting notes. Monitoring requirements are outlined in BAT 8	
	NH <sub>3</sub> 0.3-20 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Odour 200-1000 OU <sub>E</sub> /Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Dust 2-5 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	TVOC 5-40 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
35	Reduce the generation of waste water and reduce water usage by using <u>ALL</u> of the following:	
	a. Segregation of water streams (see also BAT 19f)	<b>Not applicable</b> The facility does not undertake biological treatment of 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
	b.	Water recirculation	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	c.	Minimisation of the generation of leachate	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
<b>BIOLOGICAL TREATMENT OF WASTE: AEROBIC METHODS</b>			
36	<b>Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:</b>		
	Waste input characteristics e.g. C to N ratio, particle size		<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Temperature and moisture content within windrows (Moisture monitoring not needed for enclosed processes where H&S issues have been identified)		<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Aeration of the windrow		<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Windrow porosity, height and width		<b>Not applicable</b> The facility does not undertake biological treatment of waste.
37	<b>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:</b>		
	a.	Use of semi-permeable membrane covers	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	b.	Adaptation of operations to the meteorological conditions	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
<b>BIOLOGICAL TREATMENT OF WASTE: ANAEROBIC METHODS</b>			
38	<b>Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:</b>		

BATc number	Summary of BAT Conclusion requirement	<b>Status/comment</b> <b>One of the following:</b> Not Applicable, Currently Compliant, Compliant in the future (within 4 years of publication of BAT conclusions), Not Compliant
	<b>Implement a manual and/or automatic monitoring system to:</b>	
	Ensure a stable digester operation	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Minimise operational difficulties and associated odour emissions	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Provide sufficient early warning of system failures	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Windrow porosity, height and width	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	<b>Monitoring and/or control of key waste and process parameters – examples below:</b>	
	pH and alkalinity of the digester feed	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Digester operating temperature	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Hydraulic and organic loading rates of the digester feed	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Volatile fatty acids and NH <sub>3</sub> concentrations within digester & digestate	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Biogas quantity, composition (e.g. H <sub>2</sub> S) and pressure	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
	Liquid and foam levels in the digester	<b>Not applicable</b> The facility does not undertake biological treatment of waste.
<b>MECHANICAL BIOLOGICAL TREATMENT (MBT) OF WASTE</b>		
39	<b>Reduce emissions to air. Generally applicable to new plants, existing plants may have layout constraints. Use <u>BOTH</u> of the following techniques:</b>	



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.	Segregation of the waste gas streams (refer to inventory described in BAT 3)	<b>Not applicable</b> The facility does not undertake mechanical biological treatment of waste.
	b.	Recirculation of waste gas. Waste gas treatment is described in BAT 34 and recirculation in BAT 35.	<b>Not applicable</b> The facility does not undertake mechanical biological treatment of waste.
<b>PHYSICO-CHEMICAL TREATMENT OF SOLID AND/OR PASTY WASTE</b>			
40	<b>Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.</b>		
	<b>Monitoring the waste input</b>		
		Content of organics, oxidising agents, metals, salts, odorous compounds	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
		H <sub>2</sub> formation potential upon mixing of flue-gas treatment residues/ashes with water	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
41	<b>Reduce emissions to air of dust, organic compounds and NH<sub>3</sub> by applying BAT 14d AND using one or a combination of the following techniques:</b>		
	a.	Adsorption – see S6.1	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
	b.	Biofilter – see S6.1	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
	c.	Fabric filter – see S6.1.	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
	d.	Wet scrubbing – see S6.1	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
	<b>BAT-AEL for channelled NH<sub>3</sub>, odour, dust and TVOC emissions to air from the physico-chemical treatment of solid and/or pasty waste (mg/Nm<sup>3</sup>)</b> Table 6.8. 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	2-5 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of 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.		
	<b>Monitoring the waste input</b>		
	Chlorinated compounds e.g. solvents or PCBs		<b>Not applicable</b> The facility does not undertake re-refining of waste oil.
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	<b>Not applicable</b> The facility does not undertake re-refining of waste oil.
	b.	Energy recovery	<b>Not applicable</b> The facility does not undertake re-refining of waste oil.
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	<b>Not applicable</b> The facility does not undertake re-refining of waste oil.
	b.	Thermal oxidation – see S6.1	<b>Not applicable</b> The facility does not undertake re-refining of waste oil.
	c.	Wet scrubbing – see S6.1	<b>Not applicable</b> The facility does not undertake re-refining of waste oil.
	<b>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</b> Monitoring requirements are outlined in BAT 8		
PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CALORIFIC VALUE			

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
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	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
	b. Cryogenic condensation – see S6.1	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
	c. Thermal oxidation – see S6.1	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
	d. Wet scrubbing – see S6.1	<b>Not applicable</b> The facility does not undertake physico-chemical treatment of waste.
<p><i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i></p> <p><i>Monitoring requirements are outlined in BAT 8</i></p>		
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)	<b>Not applicable</b> The facility does not regenerate spent solvents.
	b. Energy recovery e.g. using distillation residues	<b>Not applicable</b> The facility does not regenerate spent solvents.
47	Reduce emissions to air of organic compounds by applying BAT 14d <u>AND</u> using a <u>combination</u> of the following techniques:	
	a. Recirculation of process off-gases in a steam boiler. Avoid generating PCBs and/or PCDD/Fs	<b>Not applicable</b> The facility does not regenerate spent solvents.
	b. Adsorption – see S6.1	<b>Not applicable</b> The facility does not regenerate 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
	c.	Thermal oxidation – see S6.1. Avoid generating PCBs and/or PCDD/Fs	<b>Not applicable</b> The facility does not regenerate spent solvents.
	d.	Condensation or cryogenic condensation	<b>Not applicable</b> The facility does not regenerate spent solvents.
	e.	Wet scrubbing – see S6.1	<b>Not applicable</b> The facility does not regenerate spent solvents.
	<b>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</b> Monitoring requirements are outlined in BAT 8		
<b>BAT-AEL FOR EMISSIONS OF ORGANIC COMPOUNDS TO AIR – SECTION 4.5</b> <b>(RE-REFINING OF WASTE OIL)</b> <b>(PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CV)</b> <b>(REGENERATION OF SPENT SOLVENTS)</b>			
	<b>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)</b> Table 6.9 and its supporting note. Monitoring requirements are outlined in BAT 8		
	TVOC	5-30 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake re-refining of waste oil, physico-chemical treatment of wastes or regeneration of spent solvents.
<b>THERMAL TREATMENT OF SPENT ACTIVATED CARBON, WASTE CATALYSTS AND EXCAVATED CONTAMINATED SOIL</b>			
48	Improve overall environmental performance by using <b>ALL</b> of the following techniques:		
	a.	Heat recovery from the furnace off-gas e.g. for preheating combustion air or steam generation	<b>Not applicable</b> The facility does not undertake thermal treatment of 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
	b.	Indirectly fired furnace i.e. avoids contact between the furnace contents and the burner flue-gases. Note applicability constraints.	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
	c.	Process-integrated techniques to reduce emissions to air – see examples	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
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	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
	b.	Electrostatic precipitator (ESP) – see S6.1	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
	c.	Fabric filter – see S6.1	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
	d.	Wet scrubbing – see S6.1	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
	e.	Adsorption – see S6.1	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
	f.	Condensation – see S6.1	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
	g.	Thermal oxidation – see S6.1	<b>Not applicable</b> The facility does not undertake thermal treatment of waste.
	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			

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
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
	<b>Not applicable</b>	The facility does not undertake water washing of waste.
	b.	Fabric filter – see S6.1
	<b>Not applicable</b>	The facility does not undertake water washing of waste
	c.	Wet scrubbing – see S6.1
	<b>Not applicable</b>	The facility does not undertake water washing of waste
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
	<b>Not applicable</b>	The facility does not undertake decontamination of equipment containing PCBs
	b.	Implementation of staff access rules to prevent dispersion of contamination – see examples
	<b>Not applicable</b>	The facility does not undertake decontamination of equipment containing PCBs
	c.	Optimised equipment cleaning and drainage – see examples
	<b>Not applicable</b>	The facility does not undertake decontamination of equipment containing PCBs
	d.	Control and monitoring of emission to air – see examples
	<b>Not applicable</b>	The facility does not undertake decontamination of equipment containing PCBs
	e.	Disposal of waste treatment residues – see examples
	<b>Not applicable</b>	

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
			The facility does not undertake decontamination of equipment containing PCBs
	f.	Recovery of solvent when solvent washing is used	<b>Not applicable</b> The facility does not undertake decontamination of equipment containing PCBs
	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	<b>Not applicable</b> The facility does not undertake treatment of water-based liquid waste
		Feasibility of emulsion breaking e.g. lab testing	<b>Not applicable</b> The facility does not undertake treatment of water-based liquid waste
53	Reduce emissions to air of HCl, NH3 and organic compounds by applying BAT 14d AND using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	<b>Not applicable</b> The facility does not undertake treatment of water-based liquid waste
	b.	Biofilter – see S6.1	<b>Not applicable</b> The facility does not undertake treatment of water-based liquid waste
	c.	Thermal oxidation – see S6.1.	<b>Not applicable</b> The facility does not undertake treatment of water-based liquid waste
	d.	Wet scrubbing – see S6.1	<b>Not applicable</b> The facility does not undertake treatment of water-based liquid waste
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	01-5 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake treatment of water-based liquid waste
	TVOC	3-20 mg/Nm <sup>3</sup>	<b>Not applicable</b> The facility does not undertake treatment of water-based liquid waste



## **Annex 2: Consultation on the draft decision where an Article 15(4) derogation has been applied**

Not applicable.