



Environment Agency Permit Variation

BAT assessment

Preston WMC

July 2026

BATc number	Summary of BAT Conclusion requirement	Status / comment
OVERALL ENVIRONMENTAL PERFORMANCE		
1	Environment Management System (EMS) – <u>ALL</u> of the following:	
	I. Management commitment	Veolia operates under an integrated management system that defines the business procedures, formulated to assist in meeting business objectives across the entire scope of Veolia's activities. The system is externally certified to ISO:14001 and therefore is subject to both internal and external audits to ensure compliance and to promote continual improvement. The Management System is an electronic platform, allowing widespread access across the business (see 'Veolia's Management System, Environmental Control, January 2023). See also https://www.veolia.com/en/our-purpose
	II. Environmental policy development including CI of performance	Procedures are in place for the management, identification and review of objectives and targets. Sites are responsible for ensuring that specific targets are set, which both drive continual improvement on a site basis and contribute to overall strategic objectives. See 'Environmental Sustainability Policy Statement'.
	III. Planning and implementing procedures & targets in conjunction with financial planning & investment	The Group is committed to multifaceted performance organized, in its GreenUp strategic program for 2027, around 15 progress objectives. Each of the indicators associated with the objectives is measured and audited by independent bodies in order to monitor progress. Multifaceted performance is directly linked to UN Sustainable Development Goals including economic and financial performance. See https://www.veolia.com/en/veolia-group/csr-multifaceted-performance

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		OUR MULTIFACETED PERFORMANCE GreenUp 2027 OUR ENVIRONMENTAL PERFORMANCE (PLANET): Combat pollution and accelerate the ecological transformation. Goals include Decarbonization of our assets, Decarbonization of our customers Scope 4, Water savings and resources regeneration, Depollution - Biodiversity, and Decarbonization of our customers Scope 4. SDG icons: 7, 12, 14, 15, 13. OUR COMMERCIAL PERFORMANCE (CLIENTS): Guarantee results over the long term through innovative services. Goals include Growth boosters and innovation, Customer and consumer satisfaction, and Profitability. SDG icons: 8, 9, 11. OUR ECONOMIC AND FINANCIAL PERFORMANCE (SHAREHOLDERS): Increase prosperity and results over time. Goals include Return on capital employed, Investment capacity, and Profitability. SDG icons: 8, 9. OUR HUMAN RESOURCES PERFORMANCE (EMPLOYEES): Give meaning to our employees' work and help them with career development and engagement. Goals include Employee commitment, Diversity and inclusion, Health, safety and well-being, and Support to local communities. SDG icons: 3, 5, 8, 10. OUR SOCIAL PERFORMANCE (SOCIETY): Support regional development through responsible means. Goals include Ethics and integrity, Support to local communities, and Employee commitment. SDG icons: 8, 9, 10, 11, 12, 13. OUR ENVIRONMENTAL PERFORMANCE (PLANET): Combat pollution and accelerate the ecological transformation. Goals include Decarbonization of our assets, Decarbonization of our customers Scope 4, Water savings and resources regeneration, Depollution - Biodiversity, and Decarbonization of our customers Scope 4. SDG icons: 7, 12, 14, 15, 13. Legend: 1. Our stakeholders 2. Our performance 3. Our commitments 4. Our objectives Veolia has the following accreditations: • ISO 14001 - Environmental Management • Competence Management System - Energy & Utility Skills (Private Standard) Version 5 • ISO 45001:2018 - Occupational health and safety management systems • ISO 9001 2015 - Quality Management System • ISO 50001:2018 - Energy management systems • ISO 22301:2019 - Business Continuity Management Systems / Security and resilience

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		SSIP: Safety Schemes in Procurement
IV.	Implementation of procedures	
	(a) Structure & responsibility	Veolia sites are certified as operating to Competence Management System - Energy & Utility Skills (Private Standard) Version 5 (CMS – 00033038). The scheme is based on the recognition that the individual competence of all employees contributes to the overall performance of a site. The system is implemented at Veolia via the VMS 'Veolia Management System' and associated training platforms. Each activity is accompanied by an overarching set of activity / sector based rules to which sites must adhere know as a VMR 'Veolia Minimum Requirements'. Each VMR has an associated toolkit which lays out the various requirements of specific operational roles such as managers, supervisors and operatives. The CMS removes reliance on specific individuals, who could become unavailable due to sickness and holidays or leave the business, and maintains business operational continuity. It also increases staff awareness and individual accountability for environmental issues and permit requirements and applies increased awareness of emergency situations. Employees undergo training that is relevant to their roles which does not require a formal qualification. CMS creates competence awareness across the whole permitted operation, improving standards and efficiency. Continuing competence is ongoing rather than scheduled every 2 years. Sites must be operational before implementing the CMS system, this will usually be achieved within 6 months of initial operations. This transition period has previously been accepted by UK regulators. The CMS is recognised by Natural Resources Wales. Individual management plans are assigned to a role responsible for document review and training rather than a named post holder, this is usually the site manager.
	(b) Recruitment, training, awareness & competence	Role specific training is carried out based on the requirements of CMS as outlined above. - Training records are logged and kept up to date with refresher training - Personal development plans are in place for all roles and annual appraisals are completed and recorded

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		• Role (toolkit)/task/asset-specific risk assessments are in place and reviewed annually as a minimum • Documents and records are readily available to those who need them i.e. VMR Toolkit • Instructions, Operations & Maintenance (O&M) manuals, site plans/drawings
	(c) Communication	Veolia communicates its strategy and commitments to all employees via its intranet system, training platform, site based cascades and conferences. Veolia has a dedicated learning management system (SABA) and a dedicated people development team. See 'Veolia's Management System, Environmental Control, January 2023
	(d) Employee involvement	All employees at the company undertake purpose and values training based around Respect, Customer Focus, Community Spirit, Responsibility and Innovation. All employees have access to the Veolia Management System including the EMS which is hosted on the company Intranet.
	(e) Documentation	The VMS is subject to a strict document control and peer review protocol. All VMS documents are held on a secure live online platform with access to the latest version of any document available immediately after publishing.
	(f) Effective process control	Processing includes manual dismantling and shredding only. Where manual dismantling is carried out under extraction pressure monitoring is in place.
	(g) Maintenance programmes	The VMR / CMS toolkit includes a maintenance technician role profile including training requirement, instructions and competency. PPM is tracked using HxGN EAM. See https://hexagon.com/products/enterprise-asset-management
	(h) Emergency preparedness & response	The business is accredited to ISO 22301 - Business Continuity Management Systems. Every site has a business continuity plan 'BCP' and an emergency plan. Contingency and emergency response is also covered in specific management plans including the Fire Prevention Management Plan 'FPMP'
	(i) Safeguarding compliance with environmental legislation	Veolia has a Risk and Assurance team with dedicated permitting and environmental compliance specialists. See 'Veolia's Management System, Environmental Control, January 2023.
	Checking performance and taking corrective action	
V.	(a) Monitoring & measurement	Role specific training includes monitoring requirements.

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	(b) Corrective and preventive action	Eco-online (AVA), a proprietary software platform which allows management of audits and inspections, incident management, risk management and emergency response and critical event notifications and tracking. AVA is our risk and assurance system for event reporting, investigation and audit. By understanding the root cause of events, we can learn and prevent them from happening again. That's why we are taking a step forward and adopting AVA. With enhanced data capture and analysis tools, AVA helps us to see trends and work smarter. It also provides our sites with visibility that they are operating to Veolia's Minimum Requirements (VMRs).
	(c) Maintenance of records	Eco-online (AVA), a proprietary software platform which allows management of audits and inspections, incident management, risk management and emergency response and critical event notifications and tracking.
	(d) Independent (where practicable) internal or external EMS auditing	Veolia sites are subject to third audits, which may be associated with ISO 14001 continuing compliance or CMS compliance. Sites are also routinely audited by external clients as part of their due diligence process. Sites are also subject to routine internal audits by Risk and Assurance specialists. General compliance is also audited by the local site management team via monthly management reviews. As a minimum, the manager carries out a VMR Managers Monthly Review, including a site walk around which is recorded on EcoOnline (AVA).
VI.	Senior management review of EMS	VMS documents and amendments can only be authorised and approved by the senior leadership team. Site based management plans are reviewed by site management either annually, before a change in operations, following an incident, or if requested by the regulator.
VII.	Following development of cleaner technologies	Continuous improvement is embedded in company culture.
VIII.	Whole life cycle considerations when designing a new plant i.e. impacts from eventual decommissioning and throughout its operating life	A site condition report has been prepared as part of the permit application. Records relating to land quality are stored for the lifetime of the permit. Records of pollution incidents are recorded using Eco-online (AVA), a proprietary software platform which allows management of audits and inspections, incident management, risk management and emergency response and critical event notifications and tracking.
IX.	Regular sectoral bench marking	All sites are required to carry out a 'Permit Review' annually. The configuration of the annual review is below. Configuration Questions ● Permit Details ● Management condition ● Competence- Answer for those under COTC (where applicable) ● Competence- answer for those under CMS (where applicable) ● Management ● Energy Efficiency

BATc number	Summary of BAT Conclusion requirement	Status / comment
		• Raw Materials • Waste Hierarchy • The site • Operations e.g. Table 2.1/S1.1 • Waste Acceptance • Operating Techniques • WEEE • Improvement conditions • Preoperational Conditions • Emissions with no specific limits • Odour • Noise and Vibration • Pests • Mud and Litter • Emissions • Records • Reporting • Notifications • Operating Techniques • Monitoring • Records • Reporting Completion of permit reviews is audited internally. Veolia has a central risk and assurance team with staff dedicated to environmental compliance including any new regulatory requirements.
X.	Waste stream management (BAT 2)	See BAT2
XI.	Inventory of waste water & waste gas streams (BAT 3)	Waste gas streams have been identified, characterised and assessed in the permit application using air dispersion modelling.
XII.	Residues Management Plan – S6.5	Pre-acceptance procedures including sample loads where appropriate ensure that all wastes received have been assessed for their recoverability and outlets have been secured for all residual fractions.
XIII.	Accident Management Plan – S6.5	An accident management is in place including risk of spillage.
XIV.	Odour Management Plan (BAT 12)	N/A - the site will not accept odourous wastes.
XV.	Noise & Vibration Management Plan (BAT 17)	A site specific noise management plan is not deemed to be required. site is located within an existing Veolia Facility and within a much larger industrial estate setting. The system comprised a slow moving screw compressor with a small motors serving the Incline Screw Feed Conveyor Motor: 5.5 kW.

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			Basic Machine (RUNI Screw Compactor): 15.00 kW. Fume Extraction System Motor: 0.75 kW. The system will only operate during the daytime and will not be the dominant noise source on site. The plant is sited at the furthest location possible from residential properties 265m. Geometric noise attenuation alone is 48.43 dB and there are also several structures between source and receiver which will act as a noise barrier. The M6 motorway also runs past the nearest receptors at a distance of approximately 25m which will dominate the residual soundscape. Noise from the RUNI will not be perceptible at receptors.
2	Improving overall environmental performance – <u>ALL</u> of the following:		
	a.	Set up and implement waste characterisation & pre-acceptance procedures	Strict pre-acceptance criteria are in place and every input stream is assessed before being accepted at the site.
	b.	Set up and implement waste acceptance procedures	An EWC list is in place which ensures only waste codes accepted by the permit can be received across the weighbridge. Waste acceptance procedures are in place including a visual check of the waste before it is unloaded.
	c.	Set up and implement a waste tracking system & inventory	Veolia uses Elemos which is a proprietary weighbridge management system. Elemos records material flows and makes material movements more efficient with pre-set functions configured for each site. Each site is configured using the list of waste authorised by the permit
	d.	Set up and implement an output quality management system	Output quality of the crushed plastic and metal cans including the degree of compaction and contamination is checked visually on a daily basis. Collected paint / product is visually assessed as it is being collected into the receiving IBC.
	e.	Ensure waste segregation	Existing procedures for waste separation are in place at the site. Batch treatment will be carried out where processing different types of waste.
	f.	Ensure waste compatibility prior to mixing or blending	Mixed paints from HWRC are manually sorted before processing to ensure separation of oil and water based paints and remove any contamination including incompatible material.
	g.	Sort solid incoming waste – S6.4	Mixed stream waste such as paints from HWRC are manually sorted prior to processing. Single stream loads are visually assessed before being processed.
3	Establish and maintain a waste water and waste gas inventory as part of the EMS - <u>ALL</u> of the following:		
	<i>Information on characteristics of waste and waste treatment processes</i>		
	(i)(a)	Simplified process flow sheets showing emission sources	A simplified process flow diagram for the RUNI has been provided with the application.
	(i)(b)	Process-integrated and waste water/waste gas treatment descriptions including performance	There are no discharge of waste water. Air emissions are extracted to an abatement system for ATEX purposes.
	<i>Information on characteristics of waste water streams</i>		
(ii)(a)	Mean and variability of:		
	Flow		There are no discharges of waste water from the site.

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		pH	As above
		Temperature	As above
		Conductivity	As above
	(ii)(b)	<i>Mean concentration, load and variability of:</i>	
		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
	(ii)(c)	<i>Bioeliminability data (see BAT 52):</i>	
		BOD	As above
		BOD to COD ratio	As above
		Zahn-Wellens test	As above
		Biological inhibition potential	As above
	Information on characteristics of waste gas streams		
	(iii)(a)	<i>Mean and variability of:</i>	
		Flow	750m ³ /hr maximum. The system is VSD controlled so the average will be lower.
		Temperature	Ambient
	(iii)(b)	<i>Mean concentration, load and variability of relevant substances:</i>	
		Organic compounds	
		POPs e.g. PCBs	No expected release.
		Any other relevant compounds	None.
	(iii)(c)	Flammability	Zone Classification of the System: - Inside Machine: 11 2G 11B T41 - Outside Machine: 11 3G 11B T3
		Lower and Higher Explosive Limits	Screw Conveyor: Rated as Zone 1, Category 2, Temperature class T4, Gas group IIB. It contains no internal ignition source or electrical equipment. Externally, an explosive atmosphere can be expected during normal operation. Compactor Screw: Rated as Zone 1, Category 2, Temperature class T4, Gas group IIB. It contains no internal ignition source or electrical equipment. Externally, an explosive atmosphere can be expected during normal operation.

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			Hydraulic Jaws: Rated as Zone 1, Category 2, Temperature class T4, Gas group IIB. Externally, an explosive atmosphere can be expected during normal operation.
		Reactivity	See above.
	(iii)(d)	<i>Presence of other substances that may affect the gas treatment system or plant safety:</i>	
		O ₂	No expected release.
		N ₂	No expected release.
		Water vapour	No expected release.
		Dust	No expected release.
4	Reducing environmental risk associated with waste storage – <u>ALL</u> of the following:		
	a.	Optimised storage location	The facility has a suite of designated storage areas which is under cover. Consideration has been given to the location of sensitive receptors in site design. The in process waste storage area is adjacent to the RUNI machine minimising unnecessary handling.
	b.	Adequate storage capacity	Storage capacity has been specified based on the expected throughput of the equipment and associated handling time of waste inputs.
	c.	Safe storage operation	Storage is undercover and protected from changes in ambient conditions. There is a dedicated plant for tipping of waste for sorting and a conveyor to discharge sorted waste into the RUNI hopper.
	d.	Separate area for storage & handling of packaged hazardous waste	There are multiple options for storage of waste material across the wider site. Batch treatment options are available for the RUNI treatment operation.
5	Set up and implement procedures to reduce the environmental risk associated with handling and transfer of waste - include following elements:		
	Carried out by competent staff		The site will operate in accordance with the Competence Management System - Energy & Utility Skills (Private Standard).
	Duly documented, validated and verified		Waste movements are logged and tracked.
	Spill prevention, detection and mitigation measures		Spill training and procedures are in place.
	Take precautions when mixing or blending wastes		Mixed paints from HWRC are manually sorted before processing to ensure separation of oil and water based paints and remove any contamination including incompatible material.
	Procedures are risk-based and consider likelihood of accidents, incidents and their environmental impact		The procedures are risk-based in the following ways: • The procedures focus on identifying and mitigating the risks associated with the operation of the facility. • The procedures are designed to prevent or minimize the occurrence of incidents that could lead to harm to people or the environment. • The procedures are regularly reviewed and updated to reflect changes in

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		the facility's operations or the risks associated with those operations. • The procedures are communicated to all employees and contractors who work at the facility so that they can understand and follow them. • The procedures are enforced by management to ensure that they are followed by all employees and contractors. By taking these steps, the facility can reduce the risks.

MONITORING

6	Relevant emissions to water: monitor key process parameters at key locations	
	Key process parameters	
	Waste water flow	There are no discharges of waste water from the site.
	pH	As above.
	Temperature	As above.
	Conductivity	As above.
	BOD	As above.
	Other process parameters	As above.
	Key monitoring locations	
	Pre-treatment inlet and/or outlet	As above.
	Final treatment inlet	As above.
	Discharge point (to the environment)	As above.
	Other location	As above.
7	Monitoring emissions to water Monitoring parameters depend on waste treatment process(es) involved	There are no discharges of waste water from the site.
8	Monitoring emissions to air (refer to table)	There will be channelled emissions to air from the RUNI when treating wastes likely to produce a flammable atmosphere during processing. Monitoring of VOC emissions will be carried out using a PID at both outlet and inlet.
9	Monitoring diffuse emissions of organic compounds to air from processes involving solvents. Use one or a combination of the following:	
	a	Measurement – S6.2 descriptions
	b	Emissions factor calculation
	c	Mass balance calculation

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10	Periodically monitor odour emissions where nuisance is expected and/or has been substantiated (monitoring frequency is outlined in BAT 12)	
	Use EN standards e.g. 13725 or 16841	The plant will not process wastes likely to generate odour pollution.
	Use equivalent methods e.g. ISO / national / international monitoring standards	As above
11	Annual monitoring for:	
	- Water, energy and raw materials	Water, energy and raw material usage will be monitored in accordance with permit conditions.
	- Generation of residues and waste water	A review of residues and waste water generated will be undertaken in accordance with permit requirements.

EMISSIONS TO AIR

12	Set up, implement and review an Odour Management Plan (as part of the site EMS) where nuisance is expected and/or has been substantiated. Include ALL of the following:	
	Protocol containing actions and timelines	The plant will not process wastes likely to generate odour pollution.
	Protocol for conducting odour monitoring (BAT 10)	As above.
	Protocol for response to odour incidents/complaints	As above.
	Odour prevention and reduction programme	As above.
13	Techniques to prevent, or where not practicable reduce odour emissions. Use one or a combination of the following:	
	a. Minimising residence times (open systems only)	The plant will not process wastes likely to generate odour pollution.
	b. Use chemical treatment (N/A if desired output is hampered)	As above.
	c. Optimising aerobic treatment – see examples. Refer to BAT 36 for wastes other than water-based liquid waste.	As above.
14	Techniques to prevent, or where not practicable reduce diffuse emissions to air, in particular of dust, organic compounds and odour. Use one or a combination of the following:	
	a. Minimising potential diffuse emission sources – see examples	Residence time within the equipment is very low and it is carried out cold reducing the release of VOC.
	b. Select and use high-integrity equipment – see examples	The compactor is of proprietary design by RUNI produced from carbon steel unless other steel qualities are specified. The basic machine body is designed to be extra water-resistant.
	c. Corrosion prevention – see examples	Matrix and Fluid Collection: The 600mm perforated matrix and the fluid collection tray are constructed from stainless steel and are acid-resistant (AISI316). The matrix also includes a black steel spray guard.

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			Conveyors: The additional can conveyor and the centreless screw cross conveyor are constructed from mild steel.
	d.	Containment, collection and treatment of diffuse emissions – see examples	Containerised liquid waste is closed when not being processed. Once processed, collected waste is stored in closed IBC.
	e.	Dampening (with water or fog)	Not applicable to the waste types being treated.
	f.	Maintenance – see examples	PPM is tracked using HxGN EAM. See https://hexagon.com/products/enterprise-asset-management
	g.	Cleaning of waste treatment and storage areas – see examples	Daily house keeping in place.
	h.	Leak Detection And Repair (LDAR) programme for organics – S6.2	The system is ATEX rated. Leaks of organics from storage are unlikely as containers are closed. The system is simple and there is no transfer of liquid in pipes.
15	Use flaring only for safety reasons or non-routine operating conditions (OTNOC). Use <u>both</u> of the following:		
	a.	Correct plant design – see examples	Not applicable - no flare on site.
	b.	Plant management including gas system balancing and advanced process control	Not applicable - no flare on 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	Not applicable - no flare on site.
	b.	Monitoring and recording as part of flare management – see examples	Not applicable - no flare on 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	Not applicable, slow speed compaction will not cause pollution at sensitive receptors.
	II.	Noise and vibration monitoring plan/protocol	Not applicable - noise is unlikely to cause pollution.
	III.	Noise & vibration complaint response plan/protocol	As above.
	IV.	Noise and vibration reduction programme	As above.
18	Techniques to prevent, or where not practicable reduce noise and vibration emissions. Use one or a combination of the following:		
	a.	Appropriate location of equipment and buildings	Not applicable - noise is unlikely to cause pollution.
	b.	Operational measures – see examples	As above.

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c.	Low-noise equipment – see examples	As above.
d.	Noise & vibration control equipment – see examples	As above.
e.	Noise attenuation – see examples	As above.

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:		
	a.	Water management – see examples	The RUNI requires cleaning at the end of a working shift and between batches of different wastes. The system comprises a high pressure cleaning circuit aimed at producing low volume high strength wash water and avoiding high volume low strength wash water. Where manual cleaning is required the equipment used is trigger controlled.
	b.	Water recirculation	The system focuses on avoidance of high volume low strength wash water rather than recirculation.
	c.	Impermeable surface	All waste treatment and storage activities take place on a solid impermeable concrete surface with perimeter bund.
	d.	Reduce likelihood and impact of tank/vessel overflows and failures – see examples	Not applicable, maximum storage size is 1m ³ IBC and there is no bulk storage in the RUNI area.
	e.	Roofing of waste storage and treatment areas	The RUNI treatment and storage area is covered.
	f.	Segregation of water streams (being mindful of existing plant constraints)	Drainage in all external waste storage areas is diverted to foul sewer. Non waste storage areas discharge to the surface water network.
	g.	Adequate drainage infrastructure	The waste treatment area is within a building, produces no water and does not require connection to the drainage network. Rainwater falling on the storage areas is collected in the drainage infrastructure.
	h.	Design and maintenance provisions to allow risk-based leak detection and repair. Minimise use of underground components.	There are no underground components associated with the RUNI processing.
	i.	Appropriate buffer storage capacity (being mindful of existing plant constraints)	The plant does not discharge directly into a surface water or sewer therefore buffer storage is not required. Water is only used for cleaning and therefore unlikely to be produced during abnormal operation.
20	Treat waste water using a combination of:		
	Preliminary, primary and general treatment		
	a.	Equalisation	There are no discharges of waste water from the site.
	b.	Neutralisation	As above

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c.	Physical separation	As above
Physico-chemical treatment		
d.	Adsorption	There are no discharges of waste water from the site.
e.	Distillation/rectification	As above
f.	Precipitation	As above
g.	Chemical oxidation	As above
h.	Chemical reduction	As above
i.	Evaporation	As above
j.	Ion exchange	As above
k.	Stripping	As above
Biological treatment		
l.	Activated sludge process	There are no discharges of waste water from the site.
m.	Membrane bioreactor	As above
Nitrogen removal		
n.	Nitrification/denitrification (where biological treatment used)	There are no discharges of waste water from the site.
Solids removal		
o.	Coagulation and flocculation	There are no discharges of waste water from the site.
p.	Sedimentation	As above
q.	Filtration (sand, micro, ultra)	As above
r.	Flotation	As above
BAT-AELs for DIRECT discharges to a receiving waterbody (mg/l)		
<i>Table 6.1 and its supporting notes. Monitoring requirements are outlined in BAT 7</i>		
TOC	10.0-60 10-100 for water-based liquid waste	There are no discharges of waste water from the site.
COD (TOC is preferred)	30-180 30-300 for water-based liquid waste	As above
Suspended solids	5.0-60	As above

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HOI	0.5-10 applying to specific waste treatments		As above
Total N	1-25 for biological treatment and waste oil re-refining 10-60 for water-based liquid waste		As above
Total P	0.3-2 for biological treatment 1-3 for water-based liquid waste		As above
Phenol	0.05-0.2 for waste oil re-refining and physio-chemical treatment of waste with CV 0.05-0.3 for water-based liquid waste		As above
Free CN-	0.02-0.1 for water-based liquid waste		As above
AOX	0.2-1 for water-based liquid waste		As above
Metals & Metalloids – specific waste treatments as listed in Table 6.1			
As	0.01-0.05		As above
Cd	0.01-0.05		As above
Cr	0.01-0.15		As above
Cu	0.05-0.5		As above
Pb	0.05-0.1		As above
Ni	0.05-0.5		As above
Hg	0.5-5		As above
Zn	0.1-1		As above
Metals & Metalloids – treatment of water-based liquid waste			
As	0.01-0.1		As above
Cd	0.01-0.1		As above
Cr	0.01-0.3		As above
Hexavalent Cr [Cr(VI)]	0.01-0.1		As above
Cu	0.05-0.5		As above
Pb	0.05-0.3		As above
Ni	0.05-1		As above

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	Hg	1.0-10	As above
	Zn	0.1-2	As above
BAT-AELs for INDIRECT discharges to a receiving waterbody (mg/l)			
<i>Table 6.2 and its supporting notes. Monitoring requirements are outlined in BAT 7</i>			
	HOI	0.5-10 applying to specific waste treatments	There are no discharges of waste water from the site.
	Free CN-	0.02-0.1 for water-based liquid waste	As above
	AOX	0.2-1 for water-based liquid waste	As above
	Metals & Metalloids – specific waste treatments as listed in Table 6.2		
	As	0.01-0.05	As above
	Cd	0.01-0.05	As above
	Cr	0.01-0.15	As above
	Cu	0.05-0.5	As above
	Pb	0.05-0.1	As above
	Ni	0.05-0.5	As above
	Hg	0.5-5	As above
	Zn	0.1-1	As above
	Metals & Metalloids – treatment of water-based liquid waste		
	As	0.01-0.1	As above
	Cd	0.01-0.1	As above
	Cr	0.01-0.3	As above
	Hexavalent Cr [Cr(VI)]	0.01-0.1	As above
	Cu	0.05-0.5	As above
	Pb	0.05-0.3	As above
	Ni	0.05-1	As above
	Hg	1.0-10	As above
	Zn	0.1-2	As above

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EMISSIONS FROM ACCIDENTS AND INCIDENTS

21	Techniques to prevent or limit the environmental consequences of accidents and incidents, as part of the Accident Management Plan. Use <u>ALL</u> of the following:	
	a.	Protection measures – see examples
	b.	Management of incidental or accidental emissions
	c.	Incident/accident registration and assessment system – see examples
		Site security measures include a fence and lockable gate which is closed when operations have ceased and an externally monitored CCTV system. The facility is operated in accordance with an FPP which manages the risk of fire. The wider site can be easily isolated from the sewer network. Spill training is carried out. Eco-online (AVA), a proprietary software platform which allows management of audits and inspections, incident management, risk management and emergency response and critical event notifications and tracking. AVA is our risk and assurance system for event reporting, investigation and audit. By understanding the root cause of events, we can learn and prevent them from happening again. That's why we are taking a step forward and adopting AVA. With enhanced data capture and analysis tools, AVA helps us to see trends and work smarter. It also provides our sites with visibility that they are operating to Veolia's Minimum Requirements (VMRs).

MATERIAL EFFICIENCY

22	Use materials efficiently by substituting materials with waste e.g. waste acids/alkalis for pH adjustment, fly ashes for binders	There are no raw materials used in the process.
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ENERGY EFFICIENCY

23	Use energy efficiently by using <u>both</u> of the following techniques:	
	a.	Energy efficiency plan
	b.	Energy balance record
		Energy usage is monitored at all veolia sites and reported annually. Normalised energy usage will be monitored in accordance with permit conditions.

REUSE OF PACKAGING

BATc number	Summary of BAT Conclusion requirement	Status / comment
24	Maximise the reuse of packaging as part of a Residues Management Plan (see BAT 1 XII.)	IBC cut-off IBC containers or 610L boxes for paint storage are reused at HWRC sites. Any pallets will be reused where possible.

MECHANICAL TREATMENT OF WASTE (GENERAL BAT)

25	Reduce emissions to air of dust, particulate-bound metals, PCDD/F and dioxin-like PCBs by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Cyclone – see S6.1	Not applicable - dusty wastes are not accepted.
	b.	Fabric filter – see S6.1	Not applicable - dusty wastes are not accepted.
	c.	Wet scrubbing – see S6.1	Not applicable - dusty wastes are not accepted.
	d.	Water injection into the shredder	Not applicable - dusty wastes are not accepted.
	BAT-AEL for channelled dust emissions to air from the mechanical treatment of waste (mg/Nm3)		
	Table 6.3 and its supporting note. Monitoring requirements are outlined in BAT 8		
Dust	2.0-5.0	Applicable only to mercury extraction of CCFL tubes.	

MECHANICAL TREATMENT OF METAL WASTE BY SHREDDING

26	Improve overall environmental performance and prevent emissions due to accidents and incidents. Use BAT 14g <u>AND ALL</u> of the following techniques:		
	(a)	Detailed inspection procedure for baled waste before shredding	Not applicable.
	(b)	Remove dangerous items from waste inputs and dispose of them in a safe manner	Not applicable.
	(c)	Treatment of containers accompanied by a declaration of cleanliness	Not applicable.
27	Prevent deflagrations and reduce emissions from deflagrations. Use technique a. <u>AND ONE OR BOTH</u> of techniques b. and c.		
	a.	Deflagration management plan with reduction programme, incident review and response protocol	Not applicable.
	b.	Pressure relief dampers	Not applicable.
	c.	Pre-shredding (device)	Not applicable.
28	Use energy efficiently by keeping the shredder feed stable		Not applicable.

MECHANICAL TREATMENT OF WEEE CONTAINING VFCS AND/OR VHCS

BATc number	Summary of BAT Conclusion requirement		Status / comment
29	Techniques to prevent, or where not practicable reduce emissions of organic compounds to air. Apply BAT 14d <u>AND</u> BAT14h <u>AND</u> technique a. <u>AND ONE OR BOTH</u> of techniques b. and c.		
	a.	Optimised removal and capture of refrigerants and oils	Not applicable.
	b.	Cryogenic condensation	Not applicable.
	c.	Adsorption	Not applicable.
	BAT-AELs for channelled TVOC and CFC emissions to air from treatment of WEEE containing VFCs and/or VHCs (mg/Nm³)		
	<i>Table 6.4. Monitoring requirements are outlined in BAT 8</i>		
30	TVOC	3.0-15	Not applicable.
	CFCs	0.5-10	Not applicable.
	Prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs. Use <u>EITHER</u> of the following techniques:		
30	a.	Inert atmosphere e.g. N ₂	Not applicable.
	b.	Forced ventilation	Not applicable.

MECHANICAL TREATMENT OF WASTE WITH CALORIFIC VALUE

31	Reduce emissions to air of organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable.
	b.	Biofilter – see S6.1	Not applicable.
	c.	Thermal oxidation – see S6.1	Not applicable.
	d.	Wet scrubbing – see S6.1	Not applicable.
	BAT-AEL for channelled TVOC emissions to air from the mechanical treatment of waste with calorific value (mg/Nm³)		
31	<i>Table 6.5 and its supporting note. Monitoring requirements are outlined in BAT 8</i>		
	TVOC	10.0-30.0	Not applicable.

MECHANICAL TREATMENT OF WEEE CONTAINING MERCURY

32	Reduce mercury emissions to air by collecting them at source, sending them to abatement and carrying out adequate monitoring. This includes <u>ALL</u> of the following:		
	Equipment is enclosed, under negative pressure and connected to a LEV system		Not applicable.
	Waste gas treated using dedusting techniques – see examples – followed by adsorption on activated carbon		Not applicable.
	Monitoring of waste gas treatment efficiency		Not applicable.

BATc number	Summary of BAT Conclusion requirement	Status / comment
	Mercury levels measured at least weekly within treatment and storage areas	Not applicable.
	BAT-AEL for channelled mercury (Hg) emissions to air from the mechanical treatment of WEEE containing mercury ($\mu\text{g}/\text{Nm}^3$) <i>Table 6.6. Monitoring requirements are outlined in BAT 8</i>	
Hg	2.0-7.0	Not applicable.

BIOLOGICAL TREATMENT OF WASTE (GENERAL BAT)

33	Reduce odour emissions and improve overall environmental performance by selecting the waste input (to ensure its suitability for biological treatment). See also BAT 2		See BAT 2
	Reduce emissions to air of dust, organic compounds and odorous compounds (including H₂S & NH₃) by using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable.
	b.	Biofilter – see S6.1	Not applicable.
	c.	Fabric filter – see S6.1.	Not applicable.
	d.	Thermal oxidation – see S6.1	Not applicable.
	e.	Wet scrubbing – see S6.1	Not applicable.
34	BAT-AEL for channelled NH₃, odour, dust and TVOC emissions to air from the biological treatment of waste (mg/Nm^3) ($\text{ou}_\text{E}/\text{m}^3$) <i>Table 6.7 and its supporting notes. Monitoring requirements are outlined in BAT 8</i>		
	NH ₃	0.3-20	Not applicable.
	Odour	200-1000	Not applicable.
	Dust	2.0-5.0	Not applicable.
	TVOC	5.0-40	Not applicable.
	Reduce the generation of waste water and reduce water usage by using <u>ALL</u> of the following:		
35	a.	Segregation of water streams (see also BAT 19f)	Not applicable.
	b.	Water recirculation	Not applicable.
	c.	Minimisation of the generation of leachate	Not applicable.

BIOLOGICAL TREATMENT OF WASTE: AEROBIC METHODS

BATc number	Summary of BAT Conclusion requirement	Status / comment
36	Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:	
	Waste input characteristics e.g. C to N ratio, particle size	Not applicable.
	Temperature and moisture content within windrows (Moisture monitoring not needed for enclosed processes where H&S issues have been identified)	Not applicable.
	Aeration of the windrow	Not applicable.
	Windrow porosity, height and width	Not applicable.
37	Reduce diffuse emissions to air of dust, odour and bioaerosols from open-air treatment steps. Use <u>ONE OR BOTH</u> of the following techniques:	
	a. Use of semi-permeable membrane covers	Not applicable.
	b. Adaptation of operations to the meteorological conditions	Not applicable.

BIOLOGICAL TREATMENT OF WASTE: ANAEROBIC METHODS

38	Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:	
	<i>Implement a manual and/or automatic monitoring system to:</i>	
	Ensure a stable digester operation	Not applicable.
	Minimise operational difficulties and associated odour emissions	Not applicable.
	Provide sufficient early warning of system failures	Not applicable.
	Windrow porosity, height and width	Not applicable.
	<i>Monitoring and/or control of key waste and process parameters – examples below:</i>	
	pH and alkalinity of the digester feed	Not applicable.
	Digester operating temperature	Not applicable.
	Hydraulic and organic loading rates of the digester feed	Not applicable.
	Volatile fatty acids and NH ₃ concentrations within digester & digestate	Not applicable.
	Biogas quantity, composition (e.g. H ₂ S) and pressure	Not applicable.
	Liquid and foam levels in the digester	Not applicable.

MECHANICAL BIOLOGICAL TREATMENT (MBT) OF WASTE

	Reduce emissions to air. Generally applicable to new plants, existing plants may have layout constraints. Use <u>BOTH</u> of the following techniques:	
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BATc number	Summary of BAT Conclusion requirement		Status / comment
	a.	Segregation of the waste gas streams (refer to inventory described in BAT 3)	Not applicable.
	b.	Recirculation of waste gas. Waste gas treatment is described in BAT 34 and recirculation in BAT 35.	Not applicable.

PHYSICO-CHEMICAL TREATMENT OF SOLID AND/OR PASTY WASTE

40	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.		
	Monitoring the waste input		
	Content of organics, oxidising agents, metals, salts, odorous compounds		Not applicable.
	H2 formation potential upon mixing of flue-gas treatment residues/ashes with water		Not applicable.
41	Reduce emissions to air of dust, organic compounds and NH3 by applying BAT 14d AND using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable.
	b.	Biofilter – see S6.1	Not applicable.
	c.	Fabric filter – see S6.1.	Not applicable.
	d.	Wet scrubbing – see S6.1	Not applicable.
	BAT-AEL for channelled NH3, odour, dust and TVOC emissions to air from the physico-chemical treatment of solid and/or pasty waste (mg/Nm3) <i>Table 6.8. Monitoring requirements are outlined in BAT 8</i>		
	Dust	2.0-5.0	Not applicable.

RE-REFINING OF WASTE OIL

42	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.		
	Monitoring the waste input		
	Chlorinated compounds e.g. solvents or PCBs		Not applicable.
43	Reduce quantity of waste sent for disposal by using ONE OR BOTH of the following techniques:		
	a.	Material recovery e.g. organic residues in asphalt products	Not applicable.
	b.	Energy recovery	Not applicable.
44	Reduce emissions to air of organic compounds by applying BAT 14d AND using one or a combination of the following techniques:		

BATc number	Summary of BAT Conclusion requirement		Status / comment
	a.	Adsorption – see S6.1	Not applicable.
	b.	Thermal oxidation – see S6.1	Not applicable.
	c.	Wet scrubbing – see S6.1	Not applicable.
	<i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i>		
	<i>Monitoring requirements are outlined in BAT 8</i>		

PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CALORIFIC VALUE

	Reduce emissions to air of organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable.
	b.	Cryogenic condensation – see S6.1	Not applicable.
45	c.	Thermal oxidation – see S6.1	Not applicable.
	d.	Wet scrubbing – see S6.1	Not applicable.
	<i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i>		
	<i>Monitoring requirements are outlined in BAT 8</i>		

REGENERATION OF SPENT SOLVENTS

	Improve overall environmental performance by using <u>ONE OR BOTH</u> of the following techniques:		
46	a.	Material recovery (by evaporation from distillation residues)	Not applicable.
	b.	Energy recovery e.g. using distillation residues	Not applicable.
	Reduce emissions to air of organic compounds by applying BAT 14d <u>AND</u> using a combination of the following techniques:		
	a.	Recirculation of process off-gases in a steam boiler. Avoid generating PCBs and/or PCDD/Fs	Not applicable.
	b.	Adsorption – see S6.1	Not applicable.
47	c.	Thermal oxidation – see S6.1. Avoid generating PCBs and/or PCDD/Fs	Not applicable.
	d.	Condensation or cryogenic condensation	Not applicable.
	e.	Wet scrubbing – see S6.1	Not applicable.
	<i>The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies.</i>		
	<i>Monitoring requirements are outlined in BAT 8</i>		

BATc number	Summary of BAT Conclusion requirement	Status / comment
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BAT-AEL FOR EMISSIONS OF ORGANIC COMPOUNDS TO AIR – SECTION 4.5
(RE-REFINING OF WASTE OIL)
(PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CV)
(REGENERATION OF SPENT SOLVENTS)

BAT-AEL for channelled TVOC emissions to air from the re-refining of waste oil, physico-chemical treatment of waste with calorific value and regeneration of spent solvents (mg/Nm³) <i>Table 6.9 and its supporting note. Monitoring requirements are outlined in BAT 8</i>		
TVOC	5.0-30	Not applicable.

THERMAL TREATMENT OF SPENT ACTIVATED CARBON, WASTE CATALYSTS AND EXCAVATED CONTAMINATED SOIL

48	Improve overall environmental performance by using <u>ALL</u> of the following techniques:	
	a.	Heat recovery from the furnace off-gas e.g. for preheating combustion air or steam generation
	b.	Indirectly fired furnace i.e. avoids contact between the furnace contents and the burner flue-gases. Note applicability constraints.
	c.	Process-integrated techniques to reduce emissions to air – see examples
49	Reduce emissions to air of HCl, HF, dust and organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:	
	a.	Cyclone – see S6.1
	b.	Electrostatic precipitator (ESP) – see S6.1
	c.	Fabric filter – see S6.1
	d.	Wet scrubbing – see S6.1
	e.	Adsorption – see S6.1
	f.	Condensation – see S6.1
	g.	Thermal oxidation – see S6.1
<i>Note supporting text for BAT 49g (thermal oxidation)</i> <i>Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.</i>		

WATER WASHING OF EXCAVATED CONTAMINATED SOIL

BATc number	Summary of BAT Conclusion requirement		Status / comment
50	Reduce emissions to air of dust and organic compounds from the storage, handling and washing steps by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable.
	b.	Fabric filter – see S6.1	Not applicable.
	c.	Wet scrubbing – see S6.1	Not applicable.
	Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.		
Decontamination of equipment containing PCBs			
51	Reduce emissions to air of PCBs and organic compounds and improve overall environmental performance by using <u>ALL</u> of the following techniques:		
	a.	Coating of the storage and treatment areas – see examples	Not applicable.
	b.	Implementation of staff access rules to prevent dispersion of contamination – see examples	Not applicable.
	c.	Optimised equipment cleaning and drainage – see examples	Not applicable.
	d.	Control and monitoring of emission to air – see examples	Not applicable.
	e.	Disposal of waste treatment residues – see examples	Not applicable.
	f.	Recovery of solvent when solvent washing is used	Not applicable.
	Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.		
TREATMENT OF WATER-BASED LIQUID WASTE			
52	Improve overall environmental performance by monitoring the waste input as part of the waste pre-acceptance and acceptance procedures. See also BAT 2.		
	Monitoring the waste input		
	Bioeliminability e.g. BOD, BOD-COD ratio, Zahn-Wellens test, biological inhibition potential		Not applicable.
	Feasibility of emulsion breaking e.g. lab testing		Not applicable.
53	Reduce emissions to air of HCl, NH3 and organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:		
	a.	Adsorption – see S6.1	Not applicable.
	b.	Biofilter – see S6.1	Not applicable.
	c.	Thermal oxidation – see S6.1.	Not applicable.

BATc number		Summary of BAT Conclusion requirement	Status / comment
	d.	Wet scrubbing – see S6.1	Not applicable.
	BAT-AELs for channelled HCl and TVOC emissions to air from the treatment of water-based liquid waste (mg/Nm3)		
	<i>Table 6.10 and its supporting notes. Monitoring requirements are outlined in BAT 8</i>		
	HCl	1.0-5.0	Not applicable.
	TVOC	3.0-20	Not applicable.