Environment Agency Permit Variation
BAT assessment
Shropshire IVC
May 2025

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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		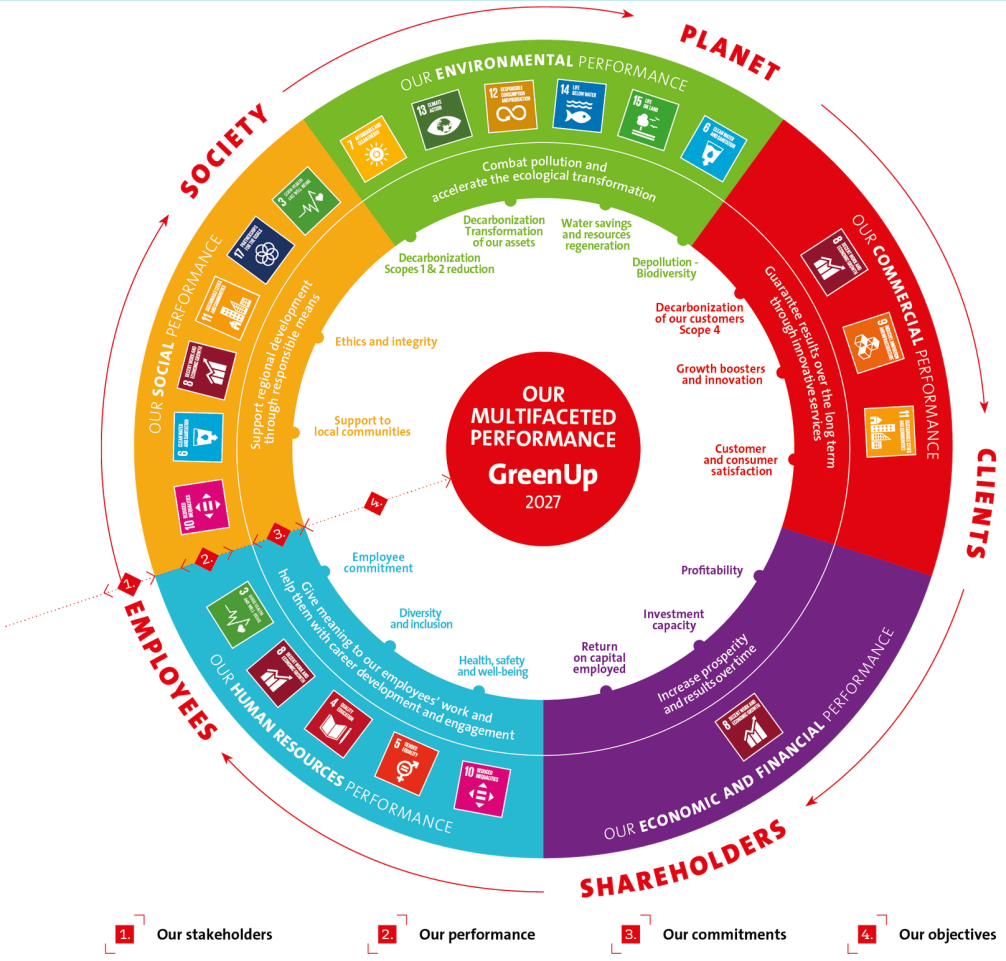 Veolia has the following accreditations: • ISO 14001 - Environmental Management • Competence Management System - Energy & Utility Skills (Private Standard) Version 5 • ISO 45001:2018 - Occupational health and safety management systems • ISO 9001 2015 - Quality Management System • ISO 50001:2018 - Energy 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 certification includes both in-vessel and open windrow composting sites. 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, composting in this case, 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	Relevant parameters are tightly controlled by a SCADA system installed as part of an integrated project. As a minimum the following Parameters are measured at each tunnel: • Air temperature (inlet) • Air temperature (outlet) • Air volume (based on RPM, temperature and pressure difference, calculated via fan curves) • Pressure in the header • Oxygen level The following Parameters are controlled at each tunnel: • Fan capacity (flow rate) • Inlet air temperature - in fresh / recirculation • Valves for the tunnel water supply The following parameters are measures within each external windrow • Temperature via probe arrays • Fan capacity (flow rate)

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			• Moisture manually (Industry grab test) • Structure / porosity / manually The following air treatment system Parameters are measured • Temperature before and after scrubber • Pressure before and after scrubber • Water level scrubber • Water pH scrubber and biofilter • Water EC scrubber • Pressure exhaust duct The following air treatment system Parameters are controlled: • Fans Capacity • Biofilter inlet Air temperature • Fresh water supply valve scrubber / humidifier • Drainage valve scrubber / humidifier • Acid dosing pump
		(g) Maintenance programmes	The VMR / CMS toolkit includes a composting 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', Odour Management Plan 'OMP', Noise Management Plan 'NMP', Dust and Emissions Management Plan 'DEMP' and Pest Management Plan 'PMP'.
		(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.
	V.	***Checking performance and taking corrective action***	
		(a) Monitoring & measurement	The site specific VMR requires completion of all permit specific monitoring. Role specific training includes monitoring requirements.
		(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.

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			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 ● Raw Materials ● Waste Hierarchy ● The site

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			• 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. These include odour, H_2S and ammonia.
	XII.	Residues Management Plan – S6.5	Nearly all inputs into the process are converted into compost with minimal residue production. There are some plastics and metals extracted as contamination and some minor associated wastes like engineering waste and general waste / recyclables. See 202502_REF_SHROPSHIREBANKIVC_SS
	XIII.	Accident Management Plan – S6.5	An accident management plant will be in place including risk of spillage.
	XIV.	Odour Management Plan (BAT 12)	The site will operate in accordance with a site specific odour management plan. See 202501_ REF_SHROPSHIREBANKIVC_OMP

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	XV.		Noise & Vibration Management Plan (BAT 17)	A site specific noise assessment has been carried out as part of the application. A noise management plan has been submitted. See 202501_ REF_SHROPSHIREIVC_NMP
2	**Improving overall environmental performance – <u>ALL</u> of the following:**			
	a.		Set up and implement waste characterisation & pre-acceptance procedures	Procedures for ABPR, HACCP and BS PAS 100 HACCP are in place. See 0 - IVC Facilities - IVC ONLY
	b.		Set up and implement waste acceptance procedures	EWC list in place which is based on equivalent standard rules permits ensuring all waste is appropriate for the IVC process. Waste acceptance procedures in place.
	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 configures using the list of waste authorised by the permit
	d.		Set up and implement an output quality management system	Veolia successfully produces PAS100 quality compost at two other IVC facilities. Procedures are in place to monitor, record and test to demonstrate output material has achieved the required set points and thresholds to meet product standard. See VES PAS 100 Batch Monitoring Sheet - COMPOSTING ONLY
	e.		Ensure waste segregation	The Facility operates in accordance with the following procedures / management plans: ● ABPR HACCP ● BS PAS 100 HACCP ● 202501_ REF_SHROPSHIREIVC_FPMP These procedures ensure the segregation of waste as required to produce PAS100 compliant product and manage the risk from storage of combustible waste. Quarantine arrangements are in place as required.
	f.		Ensure waste compatibility prior to mixing or blending	This is not relevant as the permitted activity is compositing and feedstock is green / food waste.
	g.		Sort solid incoming waste – S6.4	There is no routine sorting of incoming waste other than manual removal of any contraries e.g. if there was a large piece of rope, lawn mower etc present in the waste. Waste with excessive contamination would be rejected, principally because a) it may damage the shredder and b) it could result in failure to meet PAS100 specification. See 202502_REF_SHROPSHIREIVC_SS for a list of non conforming waste types

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3	**Establish and maintain a waste water and waste gas inventory as part of the EMS - ALL of the following:**		
	Information on characteristics of waste and waste treatment processes		
	(i)(a)	Simplified process flow sheets showing emission sources	A simplified process flow diagram has been provided with the application. See 202502_REF_SHROPSHIREIVC_SS
	(i)(b)	Process-integrated and waste water/waste gas treatment descriptions including performance	Shropshire In-Vessel Composting Facility, Air Quality Assessment, ref UF00174-0030-0001SMN, 23 May 2025 202502_REF_SHROPSHIREIVC_SS
	Information on characteristics of waste water streams		
	(ii)(a)	*Mean and variability of:*	
		Flow	There are no discharges of waste water from the site.
		pH	As above
		Temperature	As above
		Conductivity	As above
	(ii)(b)	*Mean concentration, load and variability of:*	
		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)	*Bioeliminability data (see BAT 52):*	
		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)	*Mean and variability of:*	
		Flow	See AQA (ref)
		Temperature	As above

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	(iii)(b)	*Mean concentration, load and variability of relevant substances:*	
		Organic compounds	As above
		POPs e.g. PCBs	Not expected to be a concern for the subject facility
		Any other relevant compounds	Not expected to be a concern for the subject facility
	(iii)(c)	Flammability	Not expected to be a concern for the subject facility
		Lower and Higher Explosive Limits	Not expected to be a concern for the subject facility
		Reactivity	Not expected to be a concern for the subject facility
	(iii)(d)	*Presence of other substances that may affect the gas treatment system or plant safety:*	
		O2	Not expected to be a concern for the subject facility
		N2	Not expected to be a concern for the subject facility
		Water vapour	Water vapour is required in the gas stream to maintain the health of the biofilter and abatement systems are designed accordingly to include a humidifier.
		Dust	Specific dust abatement technology is not required, the small amount of particulates present will be removed by the acid scrubber / humidifier.
4	**Reducing environmental risk associated with waste storage – <u>ALL</u> of the following:**		
	a.	Optimised storage location	The design of the site including waste storage locations matches waste flow through the site from input to sanitisation to stabilisation, refining then product storage and does not require unnecessary waste movements or unnecessary double handling. See VES_TD_WREXIVC_100_002 Rev - Shropshire IVC - Proposed FPP Layout-500
	b.	Adequate storage capacity	Site treatment capacity is a core remit of site design. Waste input, internal and external maturation areas and product storage areas are designed to meet the requirement of the treatment capacity. The site infrastructure has been designed specifically to match proposed throughput. The site operates in accordance with management plans, FPMP, OMP which manage, residence time, storage location and maximum volumes.
	c.	Safe storage operation	Acceptance, rejection and quarantine protocols are in place. The site operates in accordance with an FPMP which includes arrangements for acceptable storage of waste. See 0 - IVC Facilities - IVC ONLY, 202501_ REF_SHROPSHIREBANKIVC_FPMP
	d.	Separate area for storage & handling of packaged hazardous waste	Not applicable, there is no storage of hazardous waste.

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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) Version 5 'CMS'. The CMS requires all relevant operational staff to have competence assessment including Composting Supervisor, Compost Operative, Compost Supervisor, Composting Maintenance Technician, Composting Site Manager, and Composting Weighbridge operative.
	Duly documented, validated and verified	Waste movements through the process are logged and tracked.
	Spill prevention, detection and mitigation measures	Spill training and procedures are in place. See example handout 'VMR Version- Spill response - handout'.
	Take precautions when mixing or blending wastes	Waste handling procedures are in place. See See 0 - IVC Facilities - IVC ONLY
	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 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

BATc number	Summary of BAT Conclusion requirement		Status / comment
	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)		Monitoring of point source emissions from the biofilter stack will be carried out 6 monthly in accordance with BAT requirements for H_2S and NH_3. Monitoring of point source odour emissions from the biofilter stack will be carried out 6 monthly.
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	There are no proposed solvent related activities.
	b	Emissions factor calculation	As above
	c	Mass balance calculation	As above
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		Odour emissions will be monitored in accordance with BS EN 13725 - Stationary source emissions. Determination of odour concentration by dynamic olfactometry and odour emission rate.
	Use equivalent methods e.g. ISO / national / international monitoring standards		Daily sniff testing is undertaken if required either to investigate a complaint or if implemented by the site manager.
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.

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12	**Set up, implement and review an Odour Management Plan (as part of the site EMS) where nuisance is expected and/or has been substantiated. Include <u>ALL</u> of the following:**		
	Protocol containing actions and timelines		See 202501_ REF_SHROPSHIREIVC_OMP
	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)	Residence times are minimised in accordance with a site specific odour management plan 'OMP'. See 202501_ REF_SHROPSHIREIVC_OMP
	b.	Use chemical treatment (N/A if desired output is hampered)	Not applicable
	c.	Optimising aerobic treatment – see examples. Refer to BAT 36 for wastes other than water-based liquid waste.	See 'Windrow Formation and Monitoring Record - IVC ONLY', 'IVC Facilities - IVC ONLY'
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	Minimising diffuse emissions is managed in accordance with the following documentation. ● 202501_ REF_SHROPSHIREIVC_OMP ● Planned Preventative Maintenance including, biofilter media management and exchange ● Maintenance check sheet
	b.	Select and use high-integrity equipment – see examples	The provider for the IVC equipment is a company who specialise in composting of organic waste including advanced in-vessel composting technology See https://wtt.nl/composting/
	c.	Corrosion prevention – see examples	The design and retrofit of the building has been developed on the basis that waste inputs have a high moisture content including a water resistant insulation system. We are able to draw on experience at other IVC facilities using the same technology.
	d.	Containment, collection and treatment of diffuse emissions – see examples	Containment, collection and treatment is undertaken in the IVC building using air extraction and filter through a scrubber and a biofilter.
	e.	Dampening (with water or fog)	Generally not applicable to input streams as they have a high moisture content. Recirculation of water or use of bowsers to dampen access roads is an option.

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			See 202501_REF_SHROPSHIREIVC_DEMP_V1
	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	Written time bound procedures are in place to manage cleaning. See - ● Composting - Veolia Minimum Requirements V1.1 January 2024 ● 202501_ REF_SHROPSHIREIVC_OMP ● 202501_REF_SHROPSHIREIVC_PMP ● 202501_ REF_SHROPSHIREIVC_FPMP
	h.	Leak Detection And Repair (LDAR) programme for organics – S6.2	Not considered necessary for either the IVC or external forced air systems proposed.
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	See Noise Impact Assessment For In-Vessel Composting (IVC) Facility at Former Befesa Salt Slags Site Fenns Bank Near Whitchurch For Veolia ES (UK) Ltd Report No.: R25.0506/DRK Date: 27th May 2025
	II.	Noise and vibration monitoring plan/protocol	See 202505_REF_SHROPSHIREIVC_NMP_V1
	III.	Noise & vibration complaint response plan/protocol	See 202505_REF_SHROPSHIREIVC_NMP_V1
	IV.	Noise and vibration reduction programme	See 202505_REF_SHROPSHIREIVC_NMP_V1

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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	The site will reuse an existing building however the location of the maturation pad and tech room are sited to the west away from receptors. The Biofilter and external processing area on the northern side of the main building, which provides some local screening of the closest NSR to the east.
	b.	Operational measures – see examples	See 202505_REF_SHROPSHIREIVC_NMP_V1
	c.	Low-noise equipment – see examples	See Noise Impact Assessment For In-Vessel Composting (IVC) Facility at Former Befesa Salt Slags Site Fenns Bank Near Whitchurch For Veolia ES (UK) Ltd Report No.: R25.0506/DRK Date: 27th May 2025
	d.	Noise & vibration control equipment – see examples	See Noise Impact Assessment For In-Vessel Composting (IVC) Facility at Former Befesa Salt Slags Site Fenns Bank Near Whitchurch For Veolia ES (UK) Ltd Report No.: R25.0506/DRK Date: 27th May 2025
	e.	Noise attenuation – see examples	A noise barrier is in place around refining plant.

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	A water balance calculation has been undertaken including recirculation to reduce fresh water usage. See below (water balance):

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			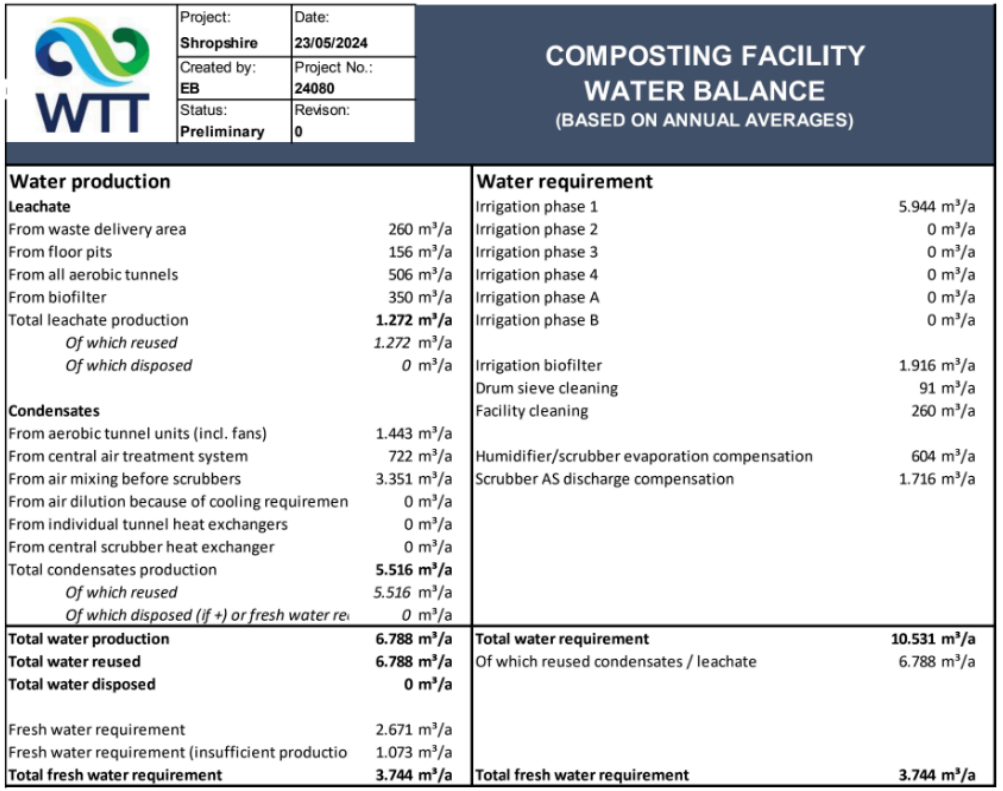
	b.	Water recirculation	See above (water balance)
	c.	Impermeable surface	All waste treatment and storage activities take place on a solid impermeable concrete surface.
	d.	Reduce likelihood and impact of tank/vessel overflows and failures – see examples	Leachate storage tanks are sized in accordance with predicted water balance by a competent well proven technology provider. Leachate storage tanks have secondary containment in accordance with CIRIA736. Leachate storage tanks have high level alarms.
	e.	Roofing of waste storage and treatment areas	Input storage, shredding activities and reactors are situated within an enclosed building. The forced air maturation area is situated externally by design with leachate directed to a storage tank.
	f.	Segregation of water streams (being mindful of existing plant constraints)	See VES_TD_WREXIVC_100_003 Rev - Shropshire IVC - Proposed Drainage Layout

WTT

Project:	Date:
Shropshire	23/05/2024
Created by:	Project No.:
EB	24080
Status:	Revison:
Preliminary	0

COMPOSTING FACILITY WATER BALANCE
(BASED ON ANNUAL AVERAGES)

Water production		Water requirement	
Leachate		Irrigation phase 1	5.944 m³/a
From waste delivery area	260 m³/a	Irrigation phase 2	0 m³/a
From floor pits	156 m³/a	Irrigation phase 3	0 m³/a
From all aerobic tunnels	506 m³/a	Irrigation phase 4	0 m³/a
From biofilter	350 m³/a	Irrigation phase A	0 m³/a
Total leachate production	**1.272 m³/a**	Irrigation phase B	0 m³/a
Of which reused	*1.272* m³/a		
Of which disposed	*0* m³/a	Irrigation biofilter	1.916 m³/a
		Drum sieve cleaning	91 m³/a
Condensates		Facility cleaning	260 m³/a
From aerobic tunnel units (incl. fans)	1.443 m³/a		
From central air treatment system	722 m³/a	Humidifier/scrubber evaporation compensation	604 m³/a
From air mixing before scrubbers	3.351 m³/a	Scrubber AS discharge compensation	1.716 m³/a
From air dilution because of cooling requiremen	0 m³/a		
From individual tunnel heat exchangers	0 m³/a		
From central scrubber heat exchanger	0 m³/a		
Total condensates production	**5.516 m³/a**		
Of which reused	*5.516* m³/a		
Of which disposed (if +) or fresh water re	*0* m³/a		
Total water production	**6.788 m³/a**	**Total water requirement**	**10.531 m³/a**
Total water reused	**6.788 m³/a**	Of which reused condensates / leachate	6.788 m³/a
Total water disposed	**0 m³/a**		
Fresh water requirement	2.671 m³/a		
Fresh water requirement (insufficient productio	1.073 m³/a		
Total fresh water requirement	**3.744 m³/a**	**Total fresh water requirement**	**3.744 m³/a**

BATc number		Summary of BAT Conclusion requirement	Status / comment
	g.	Adequate drainage infrastructure	Rainwater storage requirements will be modelled and incorporated into site / drainage design to ensure no surface ponding even under flood conditions with an allowance for climate change.
	h.	Design and maintenance provisions to allow risk-based leak detection and repair. Minimise use of underground components.	Contaminated water including leachate and condensate are stored in fixed, bunded, above ground tanks with high level alarms linked to to a SCADA system. Use of underground storage is minimised.
	i.	Appropriate buffer storage capacity (being mindful of existing plant constraints)	Leachate storage tanks are sized in accordance with predicted water balance by a competent well proven technology provider.
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
	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

BATc number	Summary of BAT Conclusion requirement		Status / comment
	BAT-AELs for DIRECT discharges to a receiving waterbody (mg/l)		
	Table 6.1 and its supporting notes. Monitoring requirements are outlined in BAT 7		
	TOC	10.0-60 10-100 for water-based liquid waste	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
	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

BATc number	Summary of BAT Conclusion requirement		Status / comment
	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
	BAT-AELs for INDIRECT discharges to a receiving waterbody (mg/l) *Table 6.2 and its supporting notes. Monitoring requirements are outlined in BAT 7*		
	HOI	0.5-10 applying to specific waste treatments	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

BATc number		Summary of BAT Conclusion requirement	Status / comment
	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

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	See: 202501_ REF_SHROPSHIREIVC_FPMP 202501_ REF_SHROPSHIREIVC_OMP_V1 202501_REF_SHROPSHIREIVC_DEMP_V1
	b.	Management of incidental or accidental emissions	See: 202501_ REF_SHROPSHIREIVC_FPMP Spill procedure / training
	c.	Incident/accident registration and assessment system – see examples	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).

BATc number	Summary of BAT Conclusion requirement		Status / comment
	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 compost production process.
	ENERGY EFFICIENCY		
23	**Use energy efficiently by using <u>both</u> of the following techniques:**		
	a.	Energy efficiency plan	Energy usage is monitored at all veolia sites and reported annually.
	b.	Energy balance record	Normalised energy usage will be monitored in accordance with permit conditions.
	REUSE OF PACKAGING		
24	**Maximise the reuse of packaging as part of a Residues Management Plan (see BAT 1 XII.)**		There is no use of packaging in the waste management activity.
	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
	b.	Fabric filter – see S6.1	Not applicable
	c.	Wet scrubbing – see S6.1	Not applicable
	d.	Water injection into the shredder	Not applicable
	BAT-AEL for channelled dust emissions to air from the mechanical treatment of waste (mg/Nm3) *Table 6.3 and its supporting note. Monitoring requirements are outlined in BAT 8*		
	Dust	2.0-5.0	Not applicable
	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

BATc number		Summary of BAT Conclusion requirement	Status / comment
	(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. AND ONE OR BOTH 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

29	**Techniques to prevent, or where not practicable reduce emissions of organic compounds to air. Apply BAT 14d AND BAT14h AND technique a. AND ONE OR BOTH of techniques b. and c.**		
	a.	Optimised removal and capture of refrigerants and oils	Not applicable
	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) *Table 6.4. Monitoring requirements are outlined in BAT 8*		
	TVOC	3.0-15	Not applicable
	CFCs	0.5-10	Not applicable
30	**Prevent emissions due to explosions when treating WEEE containing VFCs and/or VHCs. Use EITHER of the following techniques:**		
	a.	Inert atmosphere e.g. N2	Not applicable
	b.	Forced ventilation	Not applicable

MECHANICAL TREATMENT OF WASTE WITH CALORIFIC VALUE

31	**Reduce emissions to air of organic compounds by applying BAT 14d AND using one or a combination of the following techniques:**		
	a.	Adsorption – see S6.1	Not applicable
	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-AEL for channelled TVOC emissions to air from the mechanical treatment of waste with calorific value (mg/Nm3) *Table 6.5 and its supporting note. Monitoring requirements are outlined in BAT 8*		
	TVOC	10.0-30.0	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 ALL 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
	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 (µg/Nm3) *Table 6.6. Monitoring requirements are outlined in BAT 8*		
	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
34	**Reduce emissions to air of dust, organic compounds and odorous compounds (including H2S & NH3) by using one or a combination of the following techniques:**		
	a.	Adsorption – see S6.1	BAT 34 requires 'one or a combination of' techniques a – e, BAT is achieved by use of a biofilter (b) and wet / acid scrubber (e) which is consistent with other facilities in the sector.
	b.	Biofilter – see S6.1	The site uses biofilter technology to treat gasses extracted from the biological treatment process removing odorous compounds. Hydrogen sulphate treatment is not applicable as the IVC activity treats the waste aerobically.

BATc number		Summary of BAT Conclusion requirement	Status / comment
	c.	Fabric filter – see S6.1.	BAT 34 requires 'one or a combination of' techniques a – e, BAT is achieved by use of a biofilter and wet acid scrubber which is consistent with other facilities in the sector.
	d.	Thermal oxidation – see S6.1	BAT 34 requires 'one or a combination of' techniques a – e, BAT is achieved by use of a biofilter and wet acid scrubber which is consistent with other facilities in the sector.
	e.	Wet scrubbing – see S6.1	Pretreatment is carried out by acid scrubbing to reduce ammonia content. The air stream is also preconditioned by humidification to maintain the health of the biofilter.
	BAT-AEL for channelled NH3, odour, dust and TVOC emissions to air from the biological treatment of waste (mg/Nm3) (ou_E/m3) *Table 6.7 and its supporting notes. Monitoring requirements are outlined in BAT 8*		
	NH_3	0.3-20	Abatement systems are designed to ensure that emissions are kept below 3.5 mg/Nm^3. Air dispersion modelling has confirmed that this is protective of human and environmental receptors. Monitoring will be carried out every 6 months in accordance with BAT8.
	Odour	200-1000	The interpretation to BAT34 in the BREF states that "Either the BAT-AEL for NH_3 or the BAT-AEL for the odour concentration applies." Odour modelling has confirmed that the odour emission concentration would need to be less than 2,940 OUE/m^3 for the impact to be less than 1.5 OUE/m^3 criterion at the receptor with the highest impact. Odour monitoring will be carried out every 6 months in accordance with BAT8 to ensure emissions remain in scope of the modelling predictions.
	Dust	2.0-5.0	Not applicable
	TVOC	5.0-40	Not applicable
35	**Reduce the generation of waste water and reduce water usage by using ALL of the following:**		
	a.	Segregation of water streams (see also BAT 19f)	See - VES_TD_WREXIVC_100_003 Rev - Shropshire IVC - Proposed Drainage Layout
	b.	Water recirculation	Water is recirculated if appropriate. See water balance calculation provided in BAT19
	c.	Minimisation of the generation of leachate	Moisture application in the reactors is monitored and controlled by a SCADA system.

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		Each accepted load will be assessed to identify the processing requirements such as blending with structural materials and water contentAny required mixing of input material to obtain the optimum composition (bulking material, C:N ratio, moisture etc) is performed as necessary. The material is shredded -and blended at the same time- with a low speed shredder fitted with a screen basket which guarantees that any shredded product is maximum 40 mm in one plane. See See 0 - IVC Facilities - IVC ONLY
	Temperature and moisture content within windrows (Moisture monitoring not needed for enclosed processes where H&S issues have been identified)		A SCADA system automatically controls process ventilation, airflows, temperature, and moisture.
	Aeration of the windrow		The tunnels are individually controlled with forced aeration. Each composting tunnel has its own aeration system, water and heating modules. The stabilisation area consists of a forced air system with 2 fans supplying 16 pads. Temperature of the forced air at the stabilisation stage is monitored by a fixed probe array. Air flow to the composting system is controlled by a SCADA system.
	Windrow porosity, height and width		Height and width of the material in the vessels is controlled by the geometry of the individual reactors 32x5.5x5.5m. Windrows within the forced aeration system are maintained within the footprint of 16 individual pads. Windrow height is kept below 6m. Porosity of the windrows is checked and monitored by hand.
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 proposed at the facility.
	b.	Adaptation of operations to the meteorological conditions	The facility is designed so that higher risk activities like turning are avoided due to the use of forced aeration. External windrows are aligned so that the smallest possible area of composting mass is exposed to the prevailing wind. Site topography is flat offering no further advantage in terms of windrow location. The dust management plan includes measures related to extreme weather conditions such as very high winds. See:

BATc number		Summary of BAT Conclusion requirement	Status / comment
			202501_REF_SHROPSHIREIVC_DEMP_V1

BIOLOGICAL TREATMENT OF WASTE: ANAEROBIC METHODS

38	**Reduce emissions to air and improve overall environmental performance by monitoring and/or controlling key waste and process parameters. Include following elements:**		
	Implement a manual and/or automatic monitoring system to:		
	Ensure a stable digester operation		Not applicable
	Minimise operational difficulties and associated odour emissions		As above
	Provide sufficient early warning of system failures		As above
	Windrow porosity, height and width		As above
	Monitoring and/or control of key waste and process parameters – examples below:		
	pH and alkalinity of the digester feed		Not applicable
	Digester operating temperature		As above
	Hydraulic and organic loading rates of the digester feed		As above
	Volatile fatty acids and NH3 concentrations within digester & digestate		As above
	Biogas quantity, composition (e.g. H2S) and pressure		As above
	Liquid and foam levels in the digester		As above

MECHANICAL BIOLOGICAL TREATMENT (MBT) OF WASTE

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

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.**

BATc number		Summary of BAT Conclusion requirement	Status / comment
	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		As above
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	As above
	c.	Fabric filter – see S6.1.	As above
	d.	Wet scrubbing – see S6.1	As above
	BAT-AEL for channelled NH3, odour, dust and TVOC emissions to air from the physico-chemical treatment of solid and/or pasty waste (mg/Nm3) *Table 6.8. Monitoring requirements are outlined in BAT 8*		
	Dust	2.0-5.0	Not applicable

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

PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CALORIFIC VALUE

45	**Reduce emissions to air of organic compounds by applying BAT 14d 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.	Cryogenic condensation – see S6.1	As above
	c.	Thermal oxidation – see S6.1	As above
	d.	Wet scrubbing – see S6.1	As above
	The BAT-AEL for TVOC emissions to air set in Section 4.5 (below) applies. *Monitoring requirements are outlined in BAT 8*		

REGENERATION OF SPENT SOLVENTS

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

BAT-AEL FOR EMISSIONS OF ORGANIC COMPOUNDS TO AIR – SECTION 4.5
(RE-REFINING OF WASTE OIL)
(PHYSICO-CHEMICAL TREATMENT OF WASTE WITH CV)
(REGENERATION OF SPENT SOLVENTS)

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

BATc number	Summary of BAT Conclusion requirement		Status / comment
	THERMAL TREATMENT OF SPENT ACTIVATED CARBON, WASTE CATALYSTS AND EXCAVATED CONTAMINATED SOIL		
48	**Improve overall environmental performance by using <u>ALL</u> of the following techniques:**		
	a.	Heat recovery from the furnace off-gas e.g. for preheating combustion air or steam generation	Not applicable
	b.	Indirectly fired furnace i.e. avoids contact between the furnace contents and the burner flue-gases. Note applicability constraints.	As above
	c.	Process-integrated techniques to reduce emissions to air – see examples	As above
49	**Reduce emissions to air of HCl, HF, dust and organic compounds by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:**		
	a.	Cyclone – see S6.1	Not applicable
	b.	Electrostatic precipitator (ESP) – see S6.1	As above
	c.	Fabric filter – see S6.1	As above
	d.	Wet scrubbing – see S6.1	As above
	e.	Adsorption – see S6.1	As above
	f.	Condensation – see S6.1	As above
	g.	Thermal oxidation – see S6.1	As above
	Note supporting text for BAT 49g (thermal oxidation) *Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.*		
	WATER WASHING OF EXCAVATED CONTAMINATED SOIL		
50	**Reduce emissions to air of dust and organic compounds from the storage, handling and washing steps by applying BAT 14d <u>AND</u> using one or a combination of the following techniques:**		
	a.	Adsorption – see S6.1	Not applicable
	b.	Fabric filter – see S6.1	As above
	c.	Wet scrubbing – see S6.1	As above
	Monitoring requirements are outlined in BAT 8. No BAT-AELs have been set for this BATc.		
	Decontamination of equipment containing PCBs		

BATc number		Summary of BAT Conclusion requirement	Status / comment
51	**Reduce emissions to air of PCBs and organic compounds and improve overall environmental performance by using ALL 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	As above
	c.	Optimised equipment cleaning and drainage – see examples	As above
	d.	Control and monitoring of emission to air – see examples	As above
	e.	Disposal of waste treatment residues – see examples	As above
	f.	Recovery of solvent when solvent washing is used	As above
	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		As above
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	Not applicable
	b.	Biofilter – see S6.1	As above
	c.	Thermal oxidation – see S6.1.	As above
	d.	Wet scrubbing – see S6.1	As above
	BAT-AELs for channelled HCl and TVOC emissions to air from the treatment of water-based liquid waste (mg/Nm3) *Table 6.10 and its supporting notes. Monitoring requirements are outlined in BAT 8*		
	HCl	1.0-5.0	Not applicable
	TVOC	3.0-20	As above