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**SUPPORTING INFORMATION
for
CLAYTON HALL MRF
CHORLEY, LANCASHIRE**

Report No 110/3

December 2023

For



DOCUMENT CONTROL

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1. INTRODUCTION

1.1 Starling Environmental Limited (SEL) has been commissioned by Quercia Limited to prepare an environmental permit variation application for the Materials recycling Facility (MRF) at Clayton Hall, Dawson Lane, Whittle-le-Woods, Chorley, PR6 7DT. The site is regulated under environmental permit EPR/AP389CJ.

1.2 The information contained in this document is required to answer specific questions in application forms C2 and C3 as follows:

Section 2: BAT Assessment

Section 3: Raw Materials

Section 4: Resource Efficiency and Climate Change

Section 5: Assessment of Stack Sampling Location

2. BAT ASSESSMENT

BAT Reference	Requirement	BAT Compliance	Document Reference
1	Implement an Environmental Management System (EMS)	√	Site operates under an integrated management system accredited to ISO14001 and 9001.
2	Use all of the following techniques: Pre-acceptance procedures	√	Hazardous waste Operations Manual (HWOM) Waste Pre-acceptance Procedure
2	Waste acceptance procedures	√	HWOM Waste Acceptance Procedure
2	Waste tracking and inventory	√	HWOM Storage, Tracking and Recording
2	Output quality management system	√	HWOM Waste Acceptance Procedure
2	Waste segregation	√	HWOM Storage, Tracking and Recording
2	Waste compatibility	√	
2	Sort incoming solid waste	√	HWOM Waste Acceptance Procedure HWOM Storage, Tracking and Recording
3	Maintain an inventory of wastewater and gas streams	√	No waste waters or waste gas streams but there will be emission of extracted air from processing building following abatement which is detailed in the Risk Assessment Report No 110/1.
4	Waste storage: Optimised storage location	√	Storage within the building at convenient locations to the treatment plant to prevent double handling. Storage locations shown on Drawing No 110/04
4	Adequate storage capacity	√	Max storage capacity detailed in HWOM Storage, Tracking and Recording
4	Safe storage operation	√	HWOM Storage, Tracking and Recording
4	Separate area for storage and handling packaged hazardous waste	n/a	Packaged hazardous waste not accepted, only bulk deliveries of fragmentiser waste
5	Waste handling and transfer procedures	√	HWOM Storage, Tracking and Recording
6 & 7	Monitoring of emissions to water from waste water streams	n/a	No process emissions to water, yard drainage only
8	Monitor channelled emission to air: Dust, TVOC and ammonia required to be monitored 6 monthly for physico-chemical treatment of solid and/or pasty waste	√	HWOM Emissions Monitoring Plan

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BAT Reference	Requirement	BAT Compliance	Document Reference
10	Periodically monitor odour emissions	√	Odour monitoring will be undertaken in accordance with the Odour Management Plan
11	Monitor annual consumption of water, energy, raw materials and generation of waste	√	Detailed in Sections 3 and 4 of this report
12	Emissions to air (odour) – set up and implement odour management plan	√	Odour Management Plan
13	Minimise odour emissions using proscribed techniques	√	Odour Management Plan
14	Reduce diffuse emissions to air - proscribed techniques	√	Measures detailed in Odour Management Plan and Dust management Plan and in HWOM Waste Treatment Operations and Maintenance Schedule
17	Noise and vibration – noise and vibration management plan if required	√	Not required as no additional plant proposed, no outside processing and no sensitive receptors within 250 m.
18	Reduce noise and vibration emissions: proscribed techniques	√	Noise management measures detailed in EP43A Nuisance and Health Procedures
19a	Optimise water consumption, reduce volume of waste water generated and reduce emissions: water management/reducing consumption	n/a	The waste treatment process does not use water. Water available for emergency fire fighting.
19b	Water recirculation	n/a	No process water to recirculate
19c	Impermeable surface	√	The site is concrete surfaced with sealed drainage
19d	Reduce impacts from overflows and failures of tanks and vessels	√	Secondary containment: fuel stored in bunded storage tank
19e	Roofing of waste storage and treatment areas	√	Waste stored inside or under cover with the exception of baled waste which is stored outside
19f	Segregation of water streams	n/a	No process water, only yard drainage
19g	Adequate drainage infrastructure	√	Yard water drainage collected in sump and pumped to leachate treatment plant for discharge to sewer
19h	Design and maintenance provision to allow leak detection and repair	n/a	No wastewater treatment or production, no direct discharges
20	Treatment of wastewater	n/a	No wastewater treatment or production, no direct discharges

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BAT Reference	Requirement	BAT Compliance	Document Reference
21a	Emissions from accidents and incidents: Protection measures	√	Plant situated inside buildings; Site locked outside working hours; CCTV monitoring; Fire detection and suppression system Pollution control equipment – contained buildings/sealed drainage/ spill kits
21b	Management of accidental emissions	√	Accident, Incident and Environmental Incident Management Plan
21c	Incident/accident registration and assessment system	√	Site diary recording system and review of incidents/complaints
22	Material efficiency: substitution of raw materials with waste	n/a	No waste products used to substitute raw materials
23a	Energy efficiency (proscribed techniques): energy efficiency plan	√	Energy use recorded and reported
23b	Energy balance record	√	
24	Reuse of packaging	n/a	Waste received in bulk deliveries, no packaged waste received
25	Mechanical treatment of waste – reduction of dust emissions using proscribed techniques and associated emission levels.	√	Processing building subject to extraction and dust filtration to remove emissions to air before exhaust. Monitoring to be carried out to meet BAT 8
31	Mechanical treatment of waste with calorific value - reduction of VOC emissions using proscribed techniques and associated emission levels.	√	Processing building subject to extraction and carbon abatement to remove emissions to air before exhaust. Monitoring to be carried out to meet BAT 8
40	For the physico-chemical treatment of solid waste – Monitor waste input as part of waste acceptance procedures	√	HWOM Waste Acceptance Procedure
41	For the physico-chemical treatment of solid waste – reduce emissions to air of dust, organic compounds and ammonia using proscribed techniques	√	Processing building subject to extraction, dust filtration and carbon abatement to remove emissions to air before exhaust. Monitoring to be carried out to meet BAT 8

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BAT Reference	Requirement	BAT Compliance	Document Reference
45	For the physico-chemical treatment of waste with calorific value (drying process) - reduction of emissions of organic compounds to air using proscribed techniques	√	As above

Beyond the scope of site activities:

BAT 9/15/16/26/27/28/29/30/32/33/34/35/36/37/38/39/42/43/44/46/47/48/49/50/51/52/53

3. RAW MATERIALS

Product/Use	Chemical Nature	Utilisation rate	Fate	Environmental Impact	Practical Alternatives
Engine oil (site machinery)	Mineral oil	200 litres/year	100% to air: small percentage burnt in the engine, remainder collected as recovered fuel oil and burnt as fuel.	Low impact: Combustion products mainly carbon dioxide and water	None
Hydraulic oil (site machinery)	Mineral oil	200 litres/year	100% to air: small percentage burnt in the engine, remainder collected as recovered fuel oil and burnt as fuel.	Low impact: Combustion products mainly carbon dioxide and water	None
Fuel Oil – mobile plant	Diesel	30,000 litres/year	100% to air: burnt mainly to carbon dioxide and water with some remaining hydrocarbons and carbon monoxide.	Medium impact: exhaust gases and particulates contribute to localised air pollution and more widely to global warming.	None
Antifreeze (site machinery)	Ethylene glycol	200 litres/year	100% to air: gradually breakdown in solution and evaporate	Low impact: biodegradation results in carbon dioxide and water	None
Electricity (MRF plant, lighting, site office, welfare facilities)	n/a	2,500,000 kW/hr per year	n/a	Use of energy contributing to global warming	None

Table 2: Raw Materials

Notes:

1. Values stated in Table 2 are based on previous usage.

4. RESOURCE EFFICIENCY AND CLIMATE CHANGE

- 4.1 In answer to question 6a on form C3, measures for improving energy efficiency are listed below:
- Machinery and mobile plant is switched off when not in use to limit the use of fuel and electricity
 - Lights are switched off when building vacated at the end of the working day to save electricity
 - Computers are shut down at the end of the working day
 - Material is processed in batches or campaigns – plant is not run all day with sporadic inputs, only when enough material has accumulated so that machinery is used efficiently
 - No engine idling – engines are shut down whilst waiting to load/unload
- 4.2 Question 6b on form C3 requires a breakdown of changes to energy used and created. The energy used is detailed in section 3 'Raw Materials'. Energy is produced on the adjacent landfill site through landfill gas combustion however that is under a separate environmental permit.
- 4.3 A climate change levy agreement has not been entered into. Specific measures for improving energy efficiency are listed in paragraph 4.1 above.
- 4.4 Raw material usage is explained and justified in section 3.
- 4.5 Site operations involve processing of waste, however no additional waste is produced by site operations other than the waste processed.

5. ASSESSMENT OF STACK SAMPLING LOCATION

5.1 The application includes three proposed exhaust points to effectively disperse emissions following abatement. These are listed as emission points to atmosphere. The emission points have not yet been constructed, however they will be constructed with sampling ports following BS EN 15259 and M1 guidance, with the following minimum requirements:

- They should be positioned in a section of parallel walled, ideally circular, vertical stack, with an upward flow;
- They should be **at least** 5 HD from the stack exit. HD is the hydraulic diameter defined as 4 times the sampling plane area (πr^2) divided by the length of the sample plane perimeter;
- They should be **at least** 2 HD upstream and 5 HD downstream of any bend or obstruction;
- If monitoring in a horizontal duct is unavoidable, the duct should be square or rectangular (unless it is less than or equal to 0.35 m in diameter, in which case circular ducts are acceptable);
- MCERTS-accredited monitoring contractors must be able to gain access to all the required sample points, in order to undertake periodic monitoring using their own equipment;
- Ports should be a BS 10 flange with a minimum 125 mm internal diameter or, if the duct is less than 0.7 m in diameter, be an appropriately standardised port (e.g. 2" BSP);
- Ports should be located in accordance with section 6 and appendix A of BS EN 15259;
- No part of the port should project into the flow of the gas stream. The pipe stub outside the duct should be kept to a minimum;
- A space adjacent the ports should provide sufficient working area, support and clearance for a sample team to work safely with their equipment. This is normally considered to include a **minimum** area of 5 m²; clearance of at least 2 m, or the probe length + 1.5 m; whichever is longer.
- If the platform is at height, it needs to have a suitable lifting point fitted to allow equipment to be lifted safely, without the need to lean on handrails. Alternatively, access to the platform can be made via stairs or a lift, if this is suitable and practical for moving equipment;
- Access ladders to elevated platforms should have gates or other suitable self-closing facilities at the platform, to prevent falls from height.



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