

ORTHIOS FEEDSTOCK (ANGLESEY) LTD (OFAL) - BEST AVAILABLE TECHNIQUES CONCLUSIONS REVIEW - Permit Application PAN-011274

BAT Conclusion No.	Topic	Brief Description	BAT	OFAL comments
General BAT conclusions				
1	Overall environmental performance	EMS	In order to improve the overall environmental performance, BAT is to implement and adhere to an environmental management system (EMS)	Orthios Feedstock (Anglesey) Ltd (OFAL) is to implement an Environmental Management System (EMS) at the site pursuant to the requirement to do so within any future Environmental Permit for the site. The EMS, will include an Environmental Policy which sets out the commitment of the management team, including senior management, to assess and review the potential environmental impacts of the activities to inform the procedures and investment necessary to afford continuous improvement of the environmental performance of the installation. The environmental aspects to be addressed by the management system will include air emissions, energy, gas, water and fuel usage, nuisance (noise, vibration, odour, dust, pests, etc), storage of chemicals/materials, water and land pollution, waste recycling/reduction/reuse, emergency planning, environmental legislation updates, monitoring, inspection and review, complaints and controlling contractors. Based on the assessment and review of the potential environmental aspects a series of procedures and management plans have been developed including waste acceptance procedures and an odour management plan (further details in respect of specific aspects are presented in the sections below against the relevant BAT conclusions).
2	Overall environmental performance	Waste pre-acceptance, acceptance and tracking	In order to improve the overall environmental performance of the plant, BAT is to use all of the techniques listed	
3	Overall environmental performance	Inventory of waste water and waste gas streams	In order to facilitate the reduction of emissions to water and air, BAT is to establish and to maintain an inventory of waste water and waste gas streams, as part of the environmental management system (see BAT 1), that incorporates all of the following features	<p>The EMS includes the requirement to maintain an inventory of waste water streams. As there are no waste gas streams relevant to the permitted activities undertaken at the site it is not necessary to maintain an inventory of waste gas streams. Consistent with the applicability note in BAT3, the scope and nature of the inventory is consistent with the relatively simple nature of the treatment processes undertaken at the site comprising the mechanical separation and sorting of dry non hazardous wastes.</p> <p>The waste inventory is recorded in the form of a process flow diagram which identifies each of the inputs and outputs to the treatment processes. There will be no direct waste water produced by the waste management operation itself. However sewage from the Site welfare facilities is directed to the sites foul water system where it is will join other foul water from adjacent buildings and operations, for downstream treatment.</p>
4	Overall environmental performance	Storage procedures	In order to reduce the environmental risk associated with the storage of waste, BAT is to use all of the techniques given below	<p>The aspects of BAT 4 which are identified in the BAT conclusions as generally applicable are: <i>adequate storage capacity, safe storage operation and separate area for storage and handling of packaged hazardous waste</i>. These aspects are addressed in turn below:</p> <p>Adequate storage capacity: The waste storage areas for storing incoming wastes have been suitably sized based on the throughput of the activities. The quantity of waste stored at the site will be monitored during regular site walkover surveys and waste acceptance and waste tracking procedures will be implemented at the site to ensure that the quantity of waste stored at the site will not exceed the permitted storage capacity of the site. The throughput of waste at the site will be managed on the principle that once the waste treatment process has been completed and the output is suitable for its onward destination (recovery or disposal) the output will be removed from site as soon as is practicable to provide capacity for further incoming wastes.</p> <p>Safe storage operation: The waste storage areas will be clearly identified and their contents will be recorded as part of the waste tracking system. The storage areas are to be custom built and constructed from materials which are compatible with and resistant to the stored wastes. Storage and treatment areas will be monitored and inspected on a regular basis by site staff who will undertake regular site walkover surveys including visual inspections of the integrity of the hard surfaces, bund walls and doorways, to identify any waste spillages or leaks.</p> <p>Separate area for storage and handling of packaged hazardous waste: As the site will not be permitted to accept hazardous wastes this aspect of BAT 4 is not relevant.</p>
5	Overall environmental performance	Handling and transfer procedures	In order to reduce the environmental risk associated with the handling and transfer of waste, BAT is to set up and implement handling and transfer procedures	All relevant staff employed at the site will be suitably trained to handle waste including in respect of measures to prevent, detect and mitigate spills and will be trained to operate the plant associated with the waste treatment processes. Relevant operational procedures will be in place for the handling and transfer of waste and these will be included in the Site EMS. OFAL recognise that waste handling and transfer operations have the potential to allow waste to escape and become uncontrolled. This aspect of the operation will be a key aspect of the operator training. Training records will be retained as part of the site EMS.

6	Monitoring	Monitor key process parameters	For relevant emissions to water as identified by the inventory of waste water streams (see BAT 3), BAT is to monitor key process parameters (e.g. waste water flow, pH, temperature, conductivity, BOD) at key locations (e.g. at the inlet and/or outlet of the pretreatment, at the inlet to the final treatment, at the point where the emission leaves the installation).	BAT 6 requires the operator to monitor key process parameters identified by the inventory of waste water streams. For the purpose of addressing BAT 6 (and BAT 7 below) there are not expected to be any key processes where waste water is produced. No waste waters (other than general sewage from welfare facilities) are expected to be produced at the Site and it is therefore deemed unnecessary to give further consideration to BAT 6.
7	Monitoring	monitor emissions to water	BAT is to monitor emissions to water with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality.	Footnote 3 to BAT 7 specifies that " <i>The monitoring only applies when the substance concerned is identified as relevant in the waste water inventory mentioned in BAT 3</i> ". As described above there will be no waste waters generated from the waste operations at the Site and therefore it is deemed unnecessary to give further consideration to BAT 7.
8	Monitoring	monitor channelled emissions to air	BAT is to monitor channelled emissions to air with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. Dust - EN 13284-1 - once every 6 months	OFAL propose to install a dust extraction system which is managed through filters housed on the side of the building. This will be an automated system and filter changes will be managed through software, indicating to the operator when filter cleaning is necessary. All air within the building which has the potential to contain dust or particulates will therefore be collected and filtered ensuring that dust and particles are contained. Monitoring of the clean air exhaust will be undertaken at the required 6 monthly interval.
9	Monitoring	monitor diffuse emissions of organic compounds to air	BAT is to monitor diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents, and the physico-chemical treatment of solvents for the recovery of their calorific value, at least once per year using one or a combination of the techniques given below.	BAT 9 is relevant to the monitoring of diffuse emissions of organic compounds to air from the regeneration of spent solvents, the decontamination of equipment containing POPs with solvents and the physico-chemical treatment of solvents for the recovery of their calorific value. As none of these activities are undertaken at the site it is unnecessary to give further consideration to BAT 9.
10	Monitoring	monitor odour	BAT is to periodically monitor odour emissions.	Under the applicability heading for BAT10 it is stated: "The applicability is restricted to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated". The Environmental Risk Assessment (ERA) for the Site does not predict odour to be a significant concern at the Site, the closest residential property is approximately 400m from the Site and the closest public footpath approximately 250m from the Site. An simple Odour Management Plan (OMP) will be produced for the operation. This OMP will include a section in respect of odour complaints. Based on the likely absence of odour complaints in respect of the permitted activities, BAT 10 is not considered relevant, however, notwithstanding this, the OMP will identify that olfactory odour monitoring will be carried out where elevated levels of odour are reported by a member of the public and (or) under instruction from NRW/Local Authority. The frequency of odour monitoring (ie on receipt of a complaint) will therefore satisfy the requirement of BAT, 10 which states that the monitoring frequency should be determined in the odour management plan.
11	Monitoring	monitor consumption of water, energy and raw materials, and generation of residues and waste water	BAT is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year.	The annual consumption of water, energy and raw materials will be recorded at the site to satisfy the annual reporting requirements specified in the future permit. The annual generation of residues and wastewater will also be recorded at the site to satisfy the reporting requirements of the future permit.
12	Emissions to air	odour management plan	In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to set up, implement and regularly review an odour management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:	Under the applicability heading for BAT 12 it is stated: " <i>The applicability is restricted to cases where an odour nuisance at sensitive receptors is expected and/or has been substantiated</i> ". As described in the response to BAT 10 above, the location of the Site and the proximity of sensitive receptors suggests that odour complaints are unlikely. Notwithstanding this, an OMP is to be implemented at the site (see BAT 10 above).
13	Emissions to air	reduce odour emissions	In order to prevent or, where that is not practicable, to reduce odour emissions, BAT is to use one or a combination of the techniques given below.	BAT is to use one or a combination of the following techniques: (a) minimising residence times, (b) using chemical treatment, (c) optimising aerobic treatment. A combination of these three techniques is used at the site. The nature of the wastes to be processed at the Site i.e. non hazardous commercial and industrial wastes means that odour generation will be very unlikely. Nevertheless waste acceptance procedures and pre acceptance systems will stipulate that odourous waste will not be accepted. No single streams of biodegradable waste are proposed to be accepted at the Site. The efficient handling and processing of wastes as it arrives at the site means that residence times will be minimised. Good housekeeping practices, e.g. preventing waste build up around equipment and in inaccessible areas of the building will be prioritised.

14	Emissions to air	reduce diffuse emissions to air	In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given below.	The BAT conclusions document explains that the applicability of BAT 14d (containment, collection and treatment of diffuse emissions) depends on the risk posed by the waste in terms of diffuse emissions to air. OFAL do not expect any significant dust or particulate emissions to air from the operations at the Site as all waste processing operations are undertaken within buildings. As the conclusions of the ERA are that the potential for airborne odour is low, it is considered unnecessary to install abatement on the processing area of the Site operations. A combination of the techniques specified in BAT 14 are used at the site to reduce diffuse emissions to air including: minimising the drop height of material, the use of shrouds and material screens to control dust escape; the transfer and processing of wastes within enclosed buildings; good housekeeping of roads and hard surfaces and the use of dust suppression on roads and hard surfaces via tractor and bowser when required; the use of mists and fine sprays to control dust emissions within buildings; regular inspection and maintenance of all facilities and equipment where dust and air borne particulates could be generated. Notwithstanding the above, OFAL propose to install a dust extraction system which is managed through filters housed on the side of the building. This will be an automated system and filter changes will be managed through software, indicating to the operator when filter cleaning is necessary. All air within the building which has the potential to contain dust or particulates will therefore be collected and filtered ensuring that dust and particles are contained. Monitoring of the clean air exhaust will be undertaken at the required 6 monthly interval.
15	Emissions to air	Minimise use of flaring	BAT is to use flaring only for safety reasons or for non-routine operating conditions (e.g. start-ups, shutdowns) by using both of the techniques given below.	As there is no flare associated with or necessary for the waste treatment processes it is unnecessary to give further consideration to BAT 15.
16	Emissions to air	reduce emissions to air from flares	In order to reduce emissions to air from flares when flaring is unavoidable, BAT is to use both of the techniques given below.	As there is no flare associated with or necessary for the waste treatment processes it is unnecessary to give further consideration to BAT 16.
17	Noise and vibrations	noise and vibration management plan	In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to set up, implement and regularly review a noise and vibration management plan, as part of the environmental management system (see BAT 1), that includes all of the following elements:	Under the applicability heading for BAT 17 it is stated: "The applicability is restricted to cases where a noise or vibration nuisance at sensitive receptors is expected and/or has been substantiated". OFAL have undertaken an ERA and assessed the risk from noise and vibration from the Site to be low. As there is a low risk of the site activities causing unacceptable levels of noise or vibration then a formal Noise Management Plan is not required. As noise or vibration nuisance at sensitive receptors is not expected it is unnecessary to give further consideration to BAT 17.
18	Noise and vibrations	reduce noise and vibration emissions	In order to prevent or, where that is not practicable, to reduce noise and vibration emissions, BAT is to use one or a combination of the techniques given below.	Notwithstanding the assessment of the BAT 17 conclusion above, good operational practices will be implemented to include a combination of the noise reduction techniques specified in BAT 18 will be implemented at the site, regular including inspections and maintenance of site vehicles and plant, restriction of operational hours consistent with the planning permission for the site and the operation of plant and equipment by experienced operators who are trained to operate the plant and equipment in a noise sensitive manner.
19	Emissions to water	optimise water consumption, reduce waste water and prevent or reduce emissions to soil and water	In order to optimise water consumption, to reduce the volume of waste water generated and to prevent or, where that is not practicable, to reduce emissions to soil and water, BAT is to use an appropriate combination of the techniques given below.	A combination of the techniques specified in BAT 19 are planned to be implemented at the site including: the implementation of a water saving plan; the installation of an impermeable surface to collect rainwater to be used for other operations if needed; the use of safety measures on any tanks including high level alarms, leak detection, secondary containment (bunding) and tertiary containment (impermeable surface). The site surfacing, any bunded tank enclosures and site drainage system will be subject to periodic inspections to confirm the integrity of the containment.
20	Emissions to water	waste water treatment	In order to reduce emissions to water, BAT is to treat waste water using an appropriate combination of the techniques given below.	As described above (BAT 6 and BAT 7) there will be no waste waters generated from the waste operations at the Site and therefore it is deemed unnecessary to give further consideration to BAT 20.
21	Emissions from accidents and incidents	prevent or limit the environmental consequences of accidents and incidents	In order to prevent or limit the environmental consequences of accidents and incidents, BAT is to use all of the techniques given below, as part of the accident management plan (see BAT 1).	An Environmental Accident Risk Assessment (EARA) was submitted with the permit application for the Site as part of the ERA and is to be implemented at the site. The Site has a Fire Prevention and Management Plan which was also submitted with the permit application. The EARA and ERA address the following hazards: fuel/oil leaks, fire, explosion, reactions between incompatible wastes and vandalism. The ERA concludes that the residual risk of accidents is low taking into consideration the control measures and procedures to be implemented at the site to minimise the potential for accidents to occur. The EARA includes actions necessary to record accidents, incidents and the findings of inspections and the EMS will include procedures to identify and respond to incidents and accidents.
22	Material efficiency	substitute materials with waste	In order to use materials efficiently, BAT is to substitute materials with waste.	BAT is to substitute materials with waste. Wherever possible and as set out in the EMS, OFAL will seek to replace materials with waste, subject to ensuring that NRW's requirements for the further use of wastes are followed.
23	Energy efficiency	Energy efficiency plan, energy balance record	In order to use energy efficiently, BAT is to use both of the techniques given below. a. Energy efficiency plan b. Energy balance record	Both techniques will be employed at the Site. The annual energy consumption will be recorded to satisfy any reporting requirements specified in the Environmental Permit and in order to optimise energy efficiency at the site. One of the objectives identified in the EMS is the reduction of energy costs by promoting energy efficiency and identifies a number of energy saving measures in relation to lighting, fuel usage and equipment specification. The use of fuel additives for use in machinery is proposed as too is the use of LED lights in all buildings.

24	Reuse of packaging	maximise reuse of packaging	In order to reduce the quantity of waste sent for disposal, BAT is to maximise the reuse of packaging, as part of the residues management plan (see BAT 1).	BAT is to maximise the reuse of packaging, as part of a residues management plan. Where feasible and safe to do so packaging (drums, containers, IBCs) will be reused for containing waste when they are in good condition and sufficiently clean and depending on a compatibility check between the substances contained in the materials during consecutive uses. If necessary, packaging is sent for appropriate treatment prior to reuse (e.g. reconditioning, cleaning). If there is an unacceptable risk of contamination of the waste posed by the reuse of packaging then the packaging will not be reused and will be dispatched for rehabilitation off site. Any non-reusable packaging will be managed using waste hierarchy principles.
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General BAT conclusions for the mechanical treatment of waste

25	Emissions to air	reduce emissions to air of dust and particulate-bound metals	In order to reduce emissions to air, BAT is to use one or a combination of the techniques given below; both of the techniques given below; a. Cyclone b. Fabric Filter c. Wet Scrubber d. Water injection into the shredder	Please refer to the response above to BAT 14. The BAT conclusions document explains that the applicability of BAT 14d (containment, collection and treatment of diffuse emissions) depends on the risk posed by the waste in terms of diffuse emissions to air. OFAL do not expect any significant dust or particulate emissions to air from the operations at the Site as all waste processing operations are undertaken within buildings. As the conclusions of the ERA are that the potential for airborne odour is low, it is considered unnecessary to install abatement on the processing area of the Site operations. A combination of the techniques specified in BAT 14 are used at the site to reduce diffuse emissions to air including: minimising the drop height of material, the use of shrouds and material screens to control dust escape; the transfer and processing of wastes within enclosed buildings; good housekeeping of roads and hard surfaces and the use of dust suppression on roads and hard surfaces via tractor and bowser when required; the use of mists and fine sprays to control dust emissions within buildings; regular inspection and maintenance of all facilities and equipment where dust and air borne particulates could be generated. Notwithstanding the above OFAL propose to install a dust extraction system which is managed through filters housed on the side of the building. This will be an automated system and filter changes will be managed through software, indicating to the operator when filter cleaning is necessary. All air within the building which has the potential to contain dust or particulates will therefore be collected and filtered ensuring that dust and particles are contained. Monitoring of the clean air exhaust will be undertaken at the required 6 monthly interval.
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BAT Conclusions 26 to 53 inclusive, are not applicable to the proposed mechanical treatment of waste and are therefore not considered further in this review.