

Odour Management Plan

1.0 PURPOSE AND SCOPE

To provide a detailed Odour Management Plan that will be used to minimise the risk of odour arising from Dunbia (Llanybydder) and ensure compliance with Condition 2.2.6 and Improvement Condition 10 of EPR Permit Number BV9683IH at Dunbia (Llanybydder).

2.0 DEFINITIONS

N/A

3.0 RESPONSIBILITIES

The Site Manager is responsible for the implementation of this procedure.

4.0 PROCEDURE

Locations where odours may occur will be assessed and the likely source and release point for odours will be identified.

Existing odour emissions limits will be identified if applicable.

Possible fugitive/potential release points within the facilities will be identified (see 5.6 of this procedure).

Actions taken to prevent and minimise emissions will be identified and relevant measures that will prevent, or minimise the risk of, any failure or emission will be implemented (see 5.6 of this procedure).

Regular assessments of the environment surrounding Dunbia (Llanybydder) to assess potential odorous emissions from processing and storage areas will be carried out as documented in the Odour Monitoring Programme LLA-ENV33B.

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Source	Fugitive/ Potential Release Points	Potential Odour Source	Emissions Limit	Existing/ New Potential Source	Actions Taken To Control/ Prevent / Minimise Emissions
Lairage	Entrance to lairage / under lairage	Manure / slurry build- up below and in lairage	None	Existing	Regular 'dry' cleaning during production and final wash down daily. The storage area below the lairage is cleaned out several times a year reducing the time manure/slurry is stored. Wool clippings will be stored in dolavs and covered with lids. The screen & new T4 location will allow solids to be removed from the lower lairage on a daily basis greatly reducing the quantity of material that can build up.
Spell Tank	Beside Skins Shed	Sump tank for effluent pumping	None	New	Regular maintenance of pumps and inspection of the tank. Tank and pumps are spec'd such that their velocity cleans the tank the tank not allowing solids to settle out.
Drum Screen	Beside T5	Screening of solids off of liquid effluent	None	New	The screen has a rinse feature which will spray high pressure water internally at set intervals to prevent buildup of material that could contribute to odour.
SRM (Specified Risk Material) Screenings Storage From Drum Screen	Drum Screen by T5	Storage of SRM	None	Existing	SRM from the drum screen is removed regularly throughout the day. The SRM is then stored in a covered ABP trailer.
T5 (Balance Tank)	Beside Skins Shed	Tank becoming septic causing odour to arise which may be carried off site by wind.	None	Existing	The tank is constantly mixed and air is introduced, the throughput is also at a level that effluent will not be standing for long enough to allow it to go septic.
Rotary Screener	In effluent treatment plant (ETP) building	Collection of solids build up	None	Existing	Regular cleaning and maintenance of screen. The location of the screen within the main effluent treatment building within an allocated dirty area, with dedicated foul drainage also allows regular planned wash down.
Pump Pit	ETP, under the gantry.	Sump pit for effluent pumping.	None	Existing	There is regular maintenance of pumps and cleaning of the pump sump to remove solids build up. Effluent is kept in suspension and does not remain in the pump pit for an extended period of time before it is pumped through the system. Therefore effluent does not become anaerobic. This pit is also covered.

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Flocculator	In the ETP	During shutdown/ maintenance as this is a sealed unit	None	Existing	Located within an enclosed building with local foul drainage allowing regular wash down.
Diffused Air Flotation Unit	In the ETP	Separation of sludge from water.	None	Existing	Located within the enclosed effluent treatment plant building. Effluent remains in flotation unit for a short period of time, diffused air carries any particles to the surface where they can be scraped off. This is not a turbulent process and as such there is minimal odour generation.
Selector Pit	In the ETP	Sump tank for effluent pumping.	None	Existing	There is regular maintenance of pumps and cleaning of pump sump to remove solids build up. Effluent is constantly flowing and so will not get the chance to stagnate and create an odour. This pit is also covered.
Anoxic Tank	Outside the ETP	Treatment of effluent by allowing oxygen levels to drop – bacteria will search for oxygen elsewhere finding it in ammonia and thus breaking it down. If mixed or aerated with surface mixers could contribute to odour which may be carried off site by wind.	None	Existing	The tank is kept continually mixed with below surface mixers, not by aeration so greatly reducing the risk of odour generation. The effluent is moved between the anoxic and aeration tanks constantly and as such never spends enough time in the anoxic tank for it to go septic.
Aeration Tank	Outside the ETP	Aeration of the tank may carry odour from the effluent.	None	Existing	The tank is aerated through fine bubble submerged aeration rather than surface aeration reducing the possibility for an aerosol effect causing odour dispersion. The oxygen level in this tank is closely monitored by a probe and the blowers shut off automatically when the effluent is sufficiently oxygenated so there is no unnecessary aeration. . The maximum fill level will also be well below the top of the tank.

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Sludge Tank	Outside the ETP	Potentially emitted from sludge build up	None	Existing	The sludge tank is an enclosed tank. The tank is constantly pumped out and into the dewatering equipment and as such is never able to build up excessively.
Screw Press	Inside effluent treatment plant building	Dewatering of the sludge	None	New	The screw press is a replacement machine for the centrifuge. It is a slow moving machine which gently squeezes the sludge to dewater it. Because of the low-velocity action it has a greatly reduced potential for odour emission in comparison to the very turbulent work done by the centrifuge. Therefore expected to reduce odour emissions further.
Sludge Cake Storage	Below Centrifuge within the ETP	Storage of Sludge	None	Existing	The sludge cake skip is fully enclosed within a dedicated section of the ETP and will be covered prior to removal from site. The storage area drains to foul and so will be washed down on a regular basis. This section of the effluent treatment plant has air extracted via an activated carbon filter. Sludge cake is removed on a regular basis so it is 'fresh' and has limited time to decay and cause odour.
Discharge Tank	Inside new effluent treatment plant building	During normal operation none, however if for some reason the effluent is not correctly treated at this point potentially from effluent storage.	None	Existing	During normal operation no controls necessary as this tank will contain treated effluent without odour. However if the process has a failure for some reason then inadequately treated effluent may enter this tank. Controls in this instance are effluent quality being monitored in line and a fault will be identified quickly and action taken to restore correct operation of plant. Inadequately treated effluent will not remain in this tank for an extended period of time as it will be re-circulated to the Anoxic / Aeration tanks.
By-Products Trailers	Lower Yard	Storage of by-products (bones, SRM, fat, wool clippings etc.)	None	Existing	Trailers are removed regularly so any trailers on site always contain 'fresh' material which has limited time to decay and cause odour. Trailers are covered before removal from site and are covered when not being filled.
By Products Collection Area	Below the offal sorting area	Collection of by-products (bones,	None	Existing	Dolavs are removed regularly throughout the day and the contents disposed into the by-products trailers, soft offal refrigerated storage and hides and skins processing

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		SRM, fat, wool clippings, soft offal, hides and skins, fat etc.)			area. Therefore these areas contain 'fresh' material which has limited time to decay and cause odour. These areas drain to foul and have all by-products removed each evening and are then washed down.
Blood Tanks	Blood Tank Pump	Blood	None	Existing & New	Blood is removed on a regular basis to reduce the chance of foul odour. Blood pumping procedure in place by which the tanker is filled halfway by gravity before the pump is turned on, the exhaust from the pump on the tanker is returned to the blood tank as not to release this 'tank air' to atmosphere and thus minimising any odour release. Odour abatement in form of carbon trap is installed at blood tanks. Stored beef blood will be refrigerated.
General Waste Skip	Skip in lower yard to left of main entrance	General waste storage	None	Existing	Waste is bagged and tied and the skip is removed regularly. No putrescible waste such as food waste or ABP will be stored in the skip as these have separate waste streams and containers.
General Waste Collection Points	Dolavs at intake area, by-products storage area and beside condenser/ and beside door next to crate wash	General waste storage	None	Existing	Dolavs are emptied daily into the general waste skip and are covered.
Soft Offal Refrigerated Storage	Soft Offal Storage	Soft Offal Odour	None	Existing	Offal stored within sealed refrigerated containers, and transported off site regularly.
Skins and Hides Processing Area	Beside truck wash area.	Storage of skins and hides	None	Existing	The processing of skins and hides occurs inside a building and the door to the skins processing area remains closed during processing apart from vehicle entrance and

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					egress with skins and hides. The skins area drains to foul and is washed down each evening.
Truck Wash Area	Truck wash area	Manure / Slurry	None	Existing	Washdown area is continually cleaned both as a dry clean and cleaned at least once per day, lorry wash is angled to assist drainage.
Screening from Auger	Next to the lairage	Odour from screenings	None	New	Dolav containing screenings is covered and is regularly moved.
Meva screen for wash water	Tripe wash area	Screenings	None	Existing	Dolav containing screenings is covered and is regularly moved. The Meva screen is a slow moving screen and will not cause turbulence leading to odour.
ABP Dolavs for pet food	Loweryard	Offal Odour	None	Existing	Dolavs containing ABP for pet food have ice throughout, and are covered and stored in a sealed trailer. These are also collected regularly to prevent generation of odour.

5.0 SAFETY

All relevant Health and Safety Policies and Procedures must be adhered to.

6.0 RECORDS

N/A

7.0 ASSOCIATED DOCUMENTS

Odour Monitoring Programme (LLA-ENV33B)

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