

Document reference: ECGE B2.8

**PROCESSING OF ANIMAL BY-PRODUCTS TO PRODUCE
TALLOW AND MEAT AND BONE MEAL BY HEATING AND
CENTRIFUGAL EXTRACTION**

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UNINTENTIONAL RELEASES

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1. UNINTENTIONAL RELEASES

1.1 A HACCP (Hazard Analysis and Critical Control Points) assessment and plan has been undertaken – Document ECGE HACCP. The report is an analysis of the process and also potential emissions and emission points. The HACCP report and plan also includes identifies unscheduled events, the risks of these amounting to a significant hazard and the measures taken to combat potential harm to the environment and rectify such events. This Document should be read in combination with ECGE HACCP.

1.2 The Installation activity is new and involves an innovative method of processing animal by-products. Many of the items of plant and means of containment are in common usage and there is historical evidence of their efficacy and reliability. There is little or no historical evidence of the efficacy and reliability of the most innovative part of the processing line, the three-phase centrifuge, nor of the plant as a whole in this form. However, the following unintentional events and releases are identified:

1. Spillage of raw material – carcasses and animal by-products (ABP) – meat and bone meal (MBM), tallow and waste water
2. Plant malfunction – resulting in inability to process and thus accept raw material from adjoining knackery site
3. Catastrophic failure of item of plant – resulting in potential release of malodorous air, spillages or noise
4. Failure of storage tanks – potential release of impounded liquids
5. Failure of odour abatement equipment (charcoal filters)

2. CONTROL TECHNIQUES

2.1 Spillage etc

- 2.1.1 Spillage of raw material during loading into the reception hopper is to be expected, less so spillage of MBM. The risk to the environment, notably to land and groundwater, is removed by the use of impermeable floor surfaces, as required by the Animal By-Products Regulations, maintenance of those surfaces and regular cleaning. Measures are in place to minimise spillage of MBM which could occur during discharge into a trailer within the Installation building.
- 2.1.2 Spillage of animal oil (tallow) is highly unlikely as it will be contained at all times – also see below. The presence of impermeable floor surfaces militates against any such spillages reaching a pathway which could result in harm to the environment.
- 2.1.3 Spillage of waste water is highly unlikely as it is contained at all times – also see below. The presence of impermeable floor surfaces militates against any such spillages reaching a pathway which could result in harm to the environment.
- 2.1.4 Wash down waters will be collected via the in-built drainage system. This system will be surveyed on an occasional basis to ensure its integrity. The risk to the environment is limited as the contamination of the wash down waters is from short life bio-degradable material (ABP). It should be noted that wash down waters from the knackery are permitted to go to land without the need for prior treatment, apart from passing through a 6mm sieve to remove ABP.

2.2 Plant Malfunction

- 2.2.1 In the event of a malfunction, the potential harm, predominantly in the form of malodours, to the environment would arise outside of the Installation in the wider knackery site as the Installation would no new raw material could be accepted into the process, there is no on-site storage for raw material and there would be limited amounts of material, at various stages of processing, within the process line and fully contained in any event.
- 2.2.2 Any material in the process line, and carcasses from the knackery and Intermediate Plant would be collected and removed together with all associated material, bedding, faeces, liquids, etc, and deposited into a trailer parked in the front (south) yard to the knackery for onward shipment to and disposal at a rendering plant. The ABPR requires expeditious treatment or disposal of animal by-products and statutory guidance (SG 8) indicates this should normally be within 24 hours (of receipt at a rendering plant). It is common practice within the rendering industry to divert material when there are breakdowns or planned maintenance.

2.3 Catastrophic Failure

- 2.3.1 It is unlikely that such an event would occur as each item of plant within the process line, with the exception of the centrifuge, is tried and tested and not “new”.
- 2.3.2 Failure of ductwork and pipelines removing malodorous air from the identified vent points, buffer tank or drier (see ECGE B2.3) would initially be contained within the Installation building. This would allow for personnel on site to perceive (by smell) the failure and take corrective action to cease processing and ensure all doors are closed and kept closed. The malodours in such an event would seep out of the building but would be expected to be short lived, diluted by

external air and hard to distinguish, or at least partly hidden, by the existing odours of the wider knackery site.

2.3.3 Spillages from a catastrophic failure would be dealt with in line with 2.1 above.

2.3.4 A failure of the sound attenuation box around the generating set or of the attenuation features of the Installation building are highly unlikely. In such an occurrence operation of the plant would be shut down and the harm limited to a brief noise event.

2.4 Storage Tanks – Failure

2.4.1 Tallow and waste water are stored in external tanks; waste water is passed to the tanks either directly from drier and from the centrifuge as it is extracted, or via the sump and drainage installed to allow for collection of all wash down waters. The sump is contained within its own bund within the Installation building. Tallow must be heated to retain liquidity; a failure of the tallow storage tank is unlikely, therefore, to lead to the release of the product into the environment. The tallow tank will also be within a bund as described below.

2.4.2 There is potential risk of harm to land and groundwater in the event of a failure or leakage from the external tanks, but it is limited as the waste water stream is contaminated by short life bio-degradable material (ABP). The tanks will be within a bund, removing any reasonable risk of any spillage resulting in a release of harmful substances to the environment; the bund will be maintained and rainwater removed on a regular basis.

2.5 Odour abatement failure

2.5.1 Apart from the generating set via which collected malodorous air is oxidised as combustion air, the odour air abatement equipment will be attached to the vents from the waste water storage tanks; these are charcoal filters. The filters are static items and do not fail. They can become ineffective if they are not maintained. A

schedule of maintenance of equipment on site, including odour abatement equipment, will be in place.