Attachment-8-2-1-Waste Hierarchy

1 Waste Hierarchy

In accordance with Articles 11(3) and 12(1)(h) of the Industrial Emissions Directive 2010/75/EU this attachment demonstrates how the waste hierarchy has been taken into account in the prevention and management of waste generated on site. A hierarchy of waste management favouring elimination of wastes over minimisation and disposal is practiced at the Glanbia facility in Belview.

Where waste generation at the facility cannot be prevented, measures are in place to ensure that waste is collected separately (where technically, environmentally and economically practicable) and will not be mixed with other waste or other material with different properties.

Glanbia as an IE licensed facility is subject to the waste management requirements of Conditions 8.1 to 8.9 of the IE Licence with regards to materials handling and the associated IED amendment Condition 2D which states that:

> *"The licensee shall ensure that waste generated in the carrying on of the activity shall be prepared for re-use, recycling or recovery or, where that is not technically or economically possible, disposed of in a manner which will prevent or minimise any impact on the environment."*

Waste Management Procedure BLVSOP5216 applies to the management of all hazardous and non-hazardous wastes generated at the existing facility and will be implemented in all aspects of the Project Topaz development.

This procedure outlines how waste is to be prepared for re-use, recycling, and recovery or where that is not technically or economically possible, disposed of in a manner which prevents or minimises impact on the environment.

The Glanbia EHS Department is responsible for the management of waste documentation. This includes waste tracking forms, waste inventory data and waste shipment documentation. Glanbia employs a number of appropriately licensed waste disposal contractors for the reduction, recovery and disposal of different waste streams generated by the facility.

It is conservatively estimated that waste volumes will increase by approximately 80% given the approximate 80% increase in production capacity. This is a conservative estimate as production levels will vary throughout the year between peak seasons of milk production.

ISO 14001:2015 Environmental Management System (EMS)

Glanbia's waste management practices and procedures are further enhanced by the site's Environmental Management System which is accredited to ISO 14001:2015 since November 2015. The site's Environmental Management Programme (EMP) ensures that improvements in environmental performance are encouraged by setting a series of objectives and targets commonly associated with reducing and minimising resource/material use and waste production generally. A summary of these objectives and targets are submitted to the EPA annually within the site's Annual Environmental Report (AER).

Hazardous Waste Streams

There are relatively small quantities of hazardous waste produced at the Glanbia site.

As detailed within Attachment-8-1-Waste (Generated), a range of hazardous wastes are generated on site, including:

- waste oils;
- spent fluorescent tubes;

- waste sample needles;
- waste laboratory chemicals;
- Maintenance department waste solvents;
- Oil Interceptor waste;
- Miscellaneous Hazardous waste streams.

Waste oils are generated from the overhaul of the forklift trucks, compressors and other equipment on the site. The waste oil is held in bunded 200 litre drums in the Waste Yard while awaiting collection for recovery**.**

Waste fluorescent tubes are generated during routine maintenance and re-lamping programmes. The waste tubes are held in the Waste Yard while awaiting collection for recycling.

Waste needles are generated during Q.A. testing. The waste needles are held in a metal bin in the laboratory while awaiting collection for disposal.

Maintenance department waste solvent is generated within the maintenance workshop. The waste solvent is held in a 90-litre drum in the workshop while awaiting collection for disposal.

Oil Interceptor waste is generated on occasion when the oil interceptor tank requires inspection or maintenance. This waste is sucked from the tank using a permitted contractor and removed off site for recovery or disposal.

At times miscellaneous hazardous waste may be generated due to once off projects etc. These are held in suitable containers on appropriate bunds while awaiting collection for disposal.

The EHS team ensures that all the relevant waste transfer documentation is provided by the waste contractor for the disposal of the hazardous waste streams. Following disposal, the EHS team receives a certificate of disposal from the waste contractor and both the Waste Transfer Form and the certificate of disposal are kept on file in the waste document register file.

As detailed within Attachment-8-1-Waste (Generated), hazardous waste generated during the operational phase of the Project Topaz development will be similar to the existing facility. The total amount of hazardous waste produced by the facility in 2016 was 0.79 tonnes. It has been conservatively estimated that there will be an increase in hazardous waste generated at the facility to 1.42 tonnes when the project Topaz expansion is operational in 2019.

Segregation will be carried out at source as described above with wastes sent for recovery or recycling where feasible, by a licensed contractor.

Non-Hazardous Waste Streams

As detailed within Attachment-8-1-Waste (Generated), a range of non-hazardous wastes are generated on site, including:

- packaging waste (cardboard, plastic);
- pallets;
- office waste (paper);
- canteen waste;
- scrap metal;
- building rubble;
- waste powders;
- waste sludge.

The general waste streams except scrap metal, paper and cardboard are collected into 4 large bins on site. When these bins are full, they are moved to the waste yard for compacting in the general

waste compactor. This is then collected by the appropriately licensed waste contractor for recycling/recovery. A monthly report on the quantity and destination of the waste is provided to the site by the waste contractor and is held on file by the EHS department.

Scrap metal is deposited in a dedicated skip in the waste storage area pending collection for recycling.

Waste paper and cardboard is collected in dedicated paper recycling bins in each office or control room. These are then deposited into paper only wheelie bins and moved to the recycled waste compactor for collection by an appropriately licenced waste contractor for recycling.

Waste powders that are generated on site are sent for anaerobic digestion at an appropriately licensed waste facility. These powders are stored in dedicated receptacles in the waste compound pending collection.

Sludge that is separated from the Dissolved Air Floatation Unit (DAF) at the onsite Waste Water Treatment Plant (WWTP) and also from the separators in the Wet Process Area is also sent for anaerobic digestion at an appropriately licensed waste facility. This sludge is stored at the WWTP in a sludge tank, pending collection and removal to an appropriately licensed facility for anaerobic digestion. This is the only waste sludge that will be generated at the on-site WWTP.

As detailed within Attachment-8-1-Waste (Generated), non-hazardous waste generated during the operational phase of the Project Topaz Development will be similar to that generated at the existing facility and no additional waste type is expected to be generated by operations at the facility.

In 2016 there was 2083 tonnes of non-hazardous waste produced by the existing Glanbia facility. This is conservatively expected to increase to 3749 tonnes of non-hazardous waste when the Project Topaz Expansion is operational in 2019.

Segregation will be carried out at source as described above with wastes sent for reuse, recovery or recycling in accordance with the Waste Management Hierarchy where feasible, by a licensed contract.

Waste storage

All wastes are stored as segregated waste streams according to hazard classes and potential incompatibilities should a spillage occur. The waste storage area is secure and access is limited to authorised personnel only. The waste storage compound area is being re-located to the southwest corner of the site as part of the Project Topaz development (see Drawing IE0312141-DR-0002 in Section 2 of this Licence Review Application) and has the following features;

- Located within a covered structure that prevents direct contact with rain water;
- Has suitable fire-fighting and spill control equipment located in or near the storage area;
- Arranged to separate incompatible waste so that in the event of a spill, incompatible chemicals will not mix;
- Provides sufficient space between containers to enable the identification of each container's label and the inspection of each container's condition.