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Bord na Móna

BORD NA MÓNA

IED LICENCE REVIEW APPLICATION

SCREENING FOR BASELINE REPORT

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1. INTRODUCTION

Bord na Móna Plc. (Bord na Móna) operates the Drehid Waste Management Facility (WMF), situated at Cadbury, Co. Kildare. The existing facility currently holds an Industrial Emissions (IE) Licence issued by the Environmental Protection Agency (EPA) (Reg. Ref. W0201-03) to accept non-hazardous waste for landfilling and suitable organic waste for composting.

The Drehid facility is an active facility which has been operational at the site since 2008. It is currently licensed by the EPA and is subject to the strict controls and regulations associated with the holding of an IE Licence.

Bord na Móna is applying to the EPA (herein referred to as the Agency) for a review of their IE Licence for the proposed developments to the WMF. The activities proposed at the site are outlined herein. This Baseline Screening Report has been prepared to support the new IE Licence application review in accordance with the guidance outlined in the *Licence Application Form Guidance* published by the EPA in 2021[1].

1.1 BASELINE REPORT

This Baseline Report is prepared in accordance with the requirements of Article 22 of the Industrial Emissions Directive (IED)(2010/75EU).

As per Article 22(2) of the Directive:

"*Where the activity involves the use, production or release of relevant hazardous substances and having regard to the possibility of soil and groundwater contamination at the site of the installation, the operator shall prepare and submit to the component authority a baseline report before starting operation of an installation or before a permit for an installation is updated for the first time after 7 January 2013*".

The European Commission has adopted a Communication on the elaboration of baseline reports under Article 22(2) of the IED[2]. The European Commission (EC) Guidance has been followed in the preparation of this report.

1.2 EC GUIDANCE (2006)

The EC Guidance '*Concerning Baseline Reports*' (2006) identifies key tasks that should be undertaken to both determine whether a baseline report needs to be produced for a particular situation and in order to produce the baseline report itself.

Eight stages have been identified in this process, covering the following main elements.

- Stages 1-3: to decide whether a baseline report is required;
- Stages 4-7: to determine how a baseline report has to be prepared; and
- Stage 8: to determine the content of the report.

[1] EPA, *Licence Application Form Guidance – Industrial Emissions (IE), Integrated Pollution Control and Waste Version 2.1* (June 2021)

[2] European Commission (EC), *Communication from the Commission – European Commission Guidance Concerning Baseline Reports under Article 22(2) of Directive 2010/75/EU on industrial emissions* (2006)

These stages are outlined further in Table 5.1 of the guidance document which is reproduced in Table 1-1 below. This Baseline Report has been produced following each of the required stages from the guidance.

Table 1-1 Main stages of preparing the Baseline Report (from Table 5.1 in EC Guidance)

Stage	Activity	Objective
1	Identify which hazardous substances are used, produced or released at the installation and produce a list of these hazardous substances.	Determine whether or not hazardous substances are used, produced or released in view of deciding on the need to prepare and submit a baseline report.
2	Identify which of the hazardous substances from Stage 1 are 'relevant hazardous substances' (see Section 4.2 (of EC Guidance)). Discard those hazardous substances that are incapable of contaminating soil or groundwater. Justify and record the decisions taken to exclude certain hazardous substances.	To restrict further consideration to only the relevant hazardous substances in view of deciding on the need to prepare and submit a baseline report.
3	For each relevant hazardous substance brought forward from Stage 2, identify the actual possibility for soil or groundwater contamination at the site of the installation, including the probability of releases and their consequences, and taking particular account of: ▪ the quantities of each hazardous substance or groups of similar hazardous substances concerned; ▪ how and where hazardous substances are stored, used and to be transported around the installation; ▪ where they pose a risk to be released; ▪ In case of existing installations also the measures that have been adopted to ensure that it is impossible in practice that contamination of soil or groundwater takes place.	To identify which of the relevant hazardous substances represent a potential pollution risk at the site based on the likelihood of releases of such substances occurring. For these substances, information must be included in the baseline report.
4	Provide a site history. Consider available data and information: ▪ In relation to the present use of the site, and on emissions of hazardous substances which have occurred, and which may give rise to pollution. In particular, consider accidents or incidents, drips or spills from routine operations, changes in operational practice, site surfacing, changes in the hazardous substances used. ▪ Previous uses of the site that may have resulted in the release of hazardous substances, be they the same as those used, produced or released by the existing installation, or different ones.	Identify potential sources which may have resulted in the hazardous substances identified in Stage 3 being already present on the site of the installation.

Stage	Activity	Objective
	Review of previous investigation reports may assist in compiling this data	
5	Identify the site's environmental setting including: • Topography; • Geology; • Direction of groundwater flow; • Other potential migration pathways such as drains and service channels; • Environmental aspects (e.g., particular habitats, species, protected areas etc.); and • Surrounding land use.	Determine where hazardous substances may go if released and where to look for them. Also identify the environmental media and receptors that are potentially at risk and where there are other activities in the area which release the same hazardous substances and may cause them to migrate onto the site.
6	Use the results of Stages 3 to 5 to describe the site, in particular demonstrating the location, type, extent and quantity of historic pollution and potential future emissions sources noting the strata and groundwater likely to be affected by those emissions – making links between sources of emissions, the pathways by which pollution may move and the receptors likely to be affected.	Identify the location, nature and extent of existing pollution on the site and to determine which strata and groundwater might be affected by such pollution. Compare with potential future emissions to see if areas are coincident.
7	If there is sufficient information to quantify the state of soil and groundwater pollution by relevant hazardous substances on the basis of Stages (1) to (6) then go directly to Stage 8. If insufficient information exists, then intrusive investigation of the site will be required in order to gather such information. The details of such investigation should be clarified with the competent authority.	Collect additional information as necessary to allow a quantified assessment of soil and groundwater pollution by relevant hazardous substances.
8	Produce a baseline report for the installation that quantifies the state of soil and groundwater pollution by relevant hazardous substances.	Provide a baseline report in line with the IED.

2. STAGES 1-3: TO DECIDE WHETHER A BASELINE REPORT IS REQUIRED

2.1 STAGE 1: IDENTIFYING THE HAZARDOUS SUBSTANCES THAT ARE CURRENTLY USED, PRODUCED OR RELEASED AT THE INSTALLATION

The list of hazardous materials that are currently used or produced at the Drehid WMF are identified in Table 2-1, along with the maximum quantity stored onsite at any one time.

There are no hazardous substances released or discharged from the Drehid WMF. Any hazardous waste materials are contained within storage tanks or areas which are bunded. These bunds are subject to periodic integrity testing.

Table 2-1 Hazardous materials used or produced at Drehid WMF

Bund/Tank No.	Substance	Storage Location	Physical Form	Storage Capacity (tonnes)
	Engine, gear & hydraulic oil - New	Landfill Gas Utilisation Facility	Liquid	39.5 m^3
	Engine, gear & hydraulic oil - Used	Landfill Gas Utilisation Facility	Liquid	9.5 m^3
	Kerosene	Bunded Fuel Storage Area	Liquid	15 m^3
	Diesel	Bunded Fuel Storage Area	Liquid	45 m^3
	AdBlue	Bunded Fuel Storage Area	Liquid	1 m^3
	Leachate treatment chemical (32% w/v sodium hydroxide)	Leachate Storage Facility – Main Bunded Area (RO Plant)	Liquid	2 m^3
	Sulphuric acid	Leachate Storage Facility – Main Bunded Area (RO Plant)	Liquid	2 m^3
	Sulphuric acid	Compost facility with extension – odour abatement	Liquid	20 m^3
	Engine Oil	Maintenance Workshop	Liquid	0.6 m^3
	Hydraulic Oil	Maintenance Workshop	Liquid	0.6 m^3
	Coolant (engine)	Maintenance Workshop	Liquid	0.4 m^3

The following materials are generated or important to the facility, see Table 2-2.

Table 2-2 Hazardous waste generated at Drehid WMF

Waste Code	Substance	Storage Location	Physical Form	Storage Capacity (tonnes)
191202	Leachate from landfill and compost	Leachate Storage Facility - Concrete bund	Liquid	600 m^3

Leachate is considered to have a toxicity to aquatic environments when untreated, and the toxicity would be unlikely to decline over time without treatment. All of the components of the leachate are soluble in water and have therefore become mobilised within the leachate.

2.2 STAGE 2: IDENTIFYING THE RELEVANT HAZARDOUS SUBSTANCES

This stage of the process is required to determine the potential pollution risk of each hazardous substances by considering its chemical and physical properties.

Article 3 of *Regulation (EC) No. 1272/2008* on the classification, labelling and packaging of substances and mixtures (referred to as the Classification, Labelling and Packaging (CLP) Regulations) defines a hazardous substance as:

"A substance or a mixture fulfilling the criteria relating to physical hazards, health hazards or environmental hazards, laid down in Parts 2 to 5 of Annex I is hazardous and shall be classified in relation to the respective hazard classes provided for in that Annex."

Part 2 (of Annex I to the CLP Regulations) sets out the list of physical hazards (oxidising, flammable etc.); Part 3 sets out the health hazards (toxicity, irritants, etc.); Part 4 sets out the environmental hazards (hazards to the aquatic environment); and Part 5 sets out additional EU hazard classes.

The substances listed in Table 2-1 and Table 2-2 have been reviewed to identify substances that are defined as relevant hazardous substances as per the above definition. The potential pollution risk of each relevant hazardous substance has been identified by considering its physical and chemical properties. These substances are listed in Table 2-3 and Table 2-4.

Table 2-3 Relevant hazardous substances

Bund/Tank No.	Substance/Material	Physical Form	Hazard Statements	Potential to Cause Pollution
Fuels				
	Diesel	Liquid	H304, H315, H351, H332, H373, H411	Hydrocarbons in this material are regarded as inherently biodegradable since their hydrocarbon components can be degraded by microorganisms. Would be regarded as having the potential to bioaccumulate. On release to water, hydrocarbons will float on the surface and since they are sparingly soluble, the only significant loss is volatilization to air.
	Kerosene	Liquid	H226, H351, H304, H410	Readily biodegradable in water. No information on bioaccumulation potential available. Product is easily volatile. Adsorbs into the soil.
Substance				
	AdBlue	Liquid	N/A	Readily biodegradable
	Leachate	Liquid	N/A	
	Engine Oil	Liquid	N/A	
	Hydraulic Oil	Liquid	N/A	
	Coolant (engine)	Liquid	N/A	
Products				
	Sodium Hydroxide	Liquid	N/A	
	Sulphuric acid	Liquid	N/A	Contact with metals may evolve flammable hydrogen gas. Reacts violently with water.

Table 2-4 Relevant hazardous wastes

List of Waste Code	Description	Physical Form	Hazardous Waste?
13 02 08	Other engine, gear and lubricating oils	Liquid	Yes
16 01 07	Used oil filters	Solid / Liquid	Yes
19 07 03	Leachate	Liquid	Yes
15 01 10	packaging containing residues of or contaminated by hazardous substances	Solid	Yes
16 03 05	organic wastes containing hazardous substances	Liquid	Yes

2.3 STAGE 3: ASSESSMENT OF THE SITE SPECIFIC POLLUTION POSSIBILITY

This Stage brings forward the relevant substances identified in Stage 2 which must be considered in the context of the site to determine whether circumstances exist which may result in the release of the substances in sufficient quantities to represent a pollution risk, either as a result of a single emission or as a result of accumulation from multiple emissions.

The Guidance identifies circumstances under which emissions occur, which may include accidents/incidents, routine operations or planned emissions.

The Guidance sets out the specific issues to be considered in Stage 3 as:

i. The quantity of each hazardous substance handled, produced or emitted in relation to its environmental effects. Caution must be exercised given that a continuous leakage of a limited quantity over a period of time may cause significant pollution. Where input-output information is held on hazardous substances this should be examined to determine possible emissions to soil and groundwater;

ii. The location of each hazardous substance on site e.g., where it is or will be delivered, stored, used, moved around the site, emitted etc., in particular in view of the characteristics of the soil and groundwater at that part of the site; and

iii. In case of existing installations: the presence and integrity of containment mechanisms, nature and condition of site surfacing, location of drains, services or other potential conduits for migration.

Quantity

As per the table in Section 2.1 of this report there are a number of relevant hazardous substances which are stored at the Drehid facility. While the Guidance does not specify a particular quantity, the stored amounts at the facility are deemed small. As a result, there is no significant risk of soil or groundwater contamination based on these limited quantities.

As per the table in Section 2.2, on-site generated leachate is categorized as hazardous and stored in large quantities. However, the existing storage and containment arrangements on-site are robust enough to prevent any potential contamination of soil or groundwater in the event of a breach or similar emergency.

Substance Storage

The fuel storage configuration for the existing facility and proposed development is detailed as follows, the addition of a new 60,000-litre double-walled, two-chamber above-ground storage tank, as specified in Drawing No. 11290-2096 of Appendix A. This tank is divided into 45 tonnes of diesel for site machinery and 15 tonnes for kerosene, designated for heating the administration building and welfare areas. The Fuel Storage Area also incorporates a 1 m^3 AdBlue store to support site vehicle operations

The Landfill Gas Utilisation Facility houses a 30-tonne and a 9.5-tonne tank for new engine oil for maintaining four LGUP engines, and a 9.5-tonne tank for used oils from LGUP engine servicing.

Smaller volumes of 0.6 tonnes of engine oil, 0.6 tonnes of hydraulic oil, and 0.4 tonnes of engine coolant will be stored on bunded pallets in the maintenance workshop area.

For chemical storage, 2 m^3 of sulphuric acid and 32% w/v sodium hydroxide will be stored in the bunded leachate storage facility for use with the Reverse Osmosis Plant. An additional 20 m^3 of sulphuric acid allocated for will be stored within a bunded tank for use with the acid scrubbers and will be stored at the Compost Facility's odour abatement extension.

Concrete bund and bund spill pallets will be subject to regular testing and inspection in accordance with the conditions of the IED Licence. The potential of fuels to leak to ground from the containers is not likely to occur given the robust bund inspection and maintenance programme in place. The consumption and usage of fuels and raw materials is closely monitored by Bord na Móna staff.

In compliance with the EPA's IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities (July 2013), the double walled storage tank will be equipped with leak detection monitoring to identify any issues with the internal containment system.

Leachate

The leachate from landfill and excess leachate from the composting process is pumped to the raw leachate storage tanks. There are two existing 200 m^3 each, glass reinforced plastic (GRP) leachate storage tanks installed within a concrete bund located adjacent to the landfill gas management compound. An additional 200 m^3 GRP tank will be installed within this bund at the location to facilitate storage of additional leachate generated from the new landfill as well as additional sanitary wastewater. Suitably permitted waste contractors collect leachate from the storage tanks on a regular basis and remove off-site to WWTPs or other suitably licensed waste facilities.

Location

Bunding at the Drehid facility is managed by bund integrity testing as well as construction testing procedure that ensure the relevant area managers are responsible for any existing bunds in their respective areas as well as any new bunds that may be required.

All bunds are constructed to satisfy the requirements of these internal procedures as well as to comply with the requirements of the EPA IPC Guidance Note on *Storage and Transfer of Materials for Scheduled Activities* (2013) and relevant amendments, and BS EN 1992:2006 Design of Concrete Structures. Liquid retaining and containing structures.

Bunds are monitored using an internal Bund Monitoring Procedure. The purpose of the bunds is primarily to contain relevant material in the bunded area in the event of tank rupture, overflow etc. and therefore the functionality and integrity of the bunds is of primary importance and is monitored accordingly. Bunds are checked for the following as a minimum on a regular basis:

- Cracks;
- Leaks;
- Damaged walls and flooring;
- Anything that could potentially affect integrity.

In accordance with the current IE Licence requirements (W0201-03), bund integrity testing is carried out every three years and reported to the EPA.

Existing Site Conditions

There are no emissions of hazardous substances or wastes from the Drehid WMF nor are any planned.

All areas where hazardous substances and wastes are currently stored or will be stored on construction of the proposed new infrastructure will comprise concrete hardstanding and run-off from these areas will be directed to the process water holding tank.

Concrete hardstanding areas will be constructed in accordance with the engineer's requirements to ensure an impermeable surface and will be maintained and inspected on a regular basis to identify any cracks or repairs required.

For the reasons as set out above, it is considered that there is not a significant possibility for contamination of soil or groundwater to occur.

2.4 SUMMARY OF STAGES 1-3

In accordance with the EC Guidance:

"Where it is apparent that due to the quantities of the hazardous substances used, produced or released at the installation, or due to the soil and groundwater characteristics of the site there is no significant possibility for contamination of soil or groundwater, then a baseline report is not required.

In case of existing installations, where measures are taken which make it impossible in practice that contamination of soil or groundwater occurs, a baseline report is also not required."

Considering Drehid WMF is an existing facility and considering the measures outlined in Section 2.3 and the contaminates previously mentioned, do not pose a risk of contaminating the soil or groundwater. The current storage procedures are effective in preventing potential contamination, and the storage infrastructure at the facility is robust enough to withstand any contamination incidents. This includes the use of storage tanks in bunded containment areas and hard paving surfaces that direct water to an interceptor. Therefore, there is no need to complete Stages 4 – 8, and a full Baseline Report is not necessary.

3. CONCLUSION

This Screening for Baseline Report has been carried out in accordance with EC Guidance concerning baseline reports under Article 22(2) of *Directive 2010/75/EU (Industrial Emissions Directive).*

Stages 1 to 3 of the guidance are set out in this report. A list of the hazardous materials that are currently used at the Drehid facility are identified and it is determined whether circumstances exist which may result in the release of the substances in sufficient quantities to represent a pollution risk, either as a result of a single emission or as a result of accumulation from multiple emissions.

This Screening has determined that the substances identified are not considered to present a risk of contamination of soil or groundwater on the basis of the existing storage, bunding and tank monitoring procedures in place, and the presence of impermeable paved surfaces across the site which divert surface water run-off to the stormwater drainage network which in turn provides shut-off valves, interceptors and monitoring points.

On this basis, the completion of Stages 4-8 is not required, and a full Baseline Report is not required.

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