



**OFFICE OF
LICENSING &
GUIDANCE**

INSPECTORS REPORT ON A LICENCE APPLICATION

To:	DIRECTORS	
From:	PERNILLE HERMANSEN	- LICENSING UNIT
Date:	09/06/06	
RE:	APPLICATION FOR AN WASTE LICENCE FROM BORD NA MÓNA ENERGY LIMITED, LICENCE REGISTER 49-2	

Application Details

Type of facility:	Landfill
Class(es) of Activity	3 rd Schedule: Class 1
Quantity of waste managed per annum:	70,000 tonnes
Classes of Waste:	Bottom and fly ash from Edenderry Power Limited
Location of facility:	Clonbullogue Ash Repository, Cloncreen, Clonbullogue, Co. Offaly
Licence application received:	7/12/05
Third Party submissions:	One
EIS Required:	Yes
Site Inspection:	11/5/06 Site notice inspection by PH - Compliant

1. Facility

This application relates to an application by Bord na Móna Energy Limited (BNM) for a review of the existing waste licence (WL 49-1, issued on 20/04/00). This landfill, which is operated by BNM, accepts only ash from the nearby Edenderry power station. The proposed landfill facility is located in a rural setting on the edge of a cut-away raised bog some 3km from the power station.

Since September 2005 about 143,000 tonnes of ash has been deposited at the facility. Ash is currently being deposited into Cell 2 which is expected to reach its capacity in late 2006. It is expected that the facility will continue operating for another 20 years.

The principle amendments proposed in the review application to the existing waste licence (WL 49-1) are:

- **allow for the acceptance of ash containing ash from the co-fuelling of peat with meat and bone meal (MBM) and biomass (clean untreated wood material).** Condition 1 and Schedule A in the Recommended Decision (RD) allows for this.
- **allow road access to the facility:** The RD allows for the road access to the facility (currently bog-rail delivery only).
- **allow for a number of lining options dependent on the type of waste ash accepted at the facility.** Condition 3 of the RD is drafted cognisant of the allowance in the Landfill Directive for agreement of alternative engineering solutions depending on the risks.
- **increase the annual waste tonnage to be accepted at the facility from 50,000 tpa to 70,000 tpa.** Condition 1 and Schedule A in the RD allows for this.
- **increase the cell size.** Condition 3 specifies the footprint of the landfill.
- **remove the need of intermediate peat layer over the compacted ash material.** The RD allows for this.
- **extend the timeframe from one week to a month before a temporary cap is required to be installed.** The RD allows for this (Condition 8).
- **revise the final profile of the facility.** The RD allows for the revised final profile (Condition 10).
- **extension of the waste acceptance and operational hours at the facility.** The RD allows for this (Condition 1).

The class of activity applied for is the same as is allowed under the existing licence (WL 49-1).

The applicant has proposed to extend the hours of waste acceptance to facilitate the increase in the quantity of waste being accepted. The recommended licence allows for the waste acceptance hours as proposed by the applicant (Condition 1). The RD sets operational hours as detailed below. The applicant proposes emergency acceptance hours on Sundays from 8:00 to 16:00. The RD only allows for acceptance of waste on Bank Holidays and Sundays pending written agreement of the Agency.

	Existing licence 49-1 provisions.	Proposed operation and acceptance hours for revised licence.
Hours of operation	<i>The existing licence does not detail hours of operation</i>	8:00 –20:30 Monday to Friday 8:00 – 18:30 Saturday
Hours of waste acceptance	8:30 – 18:00 Mon to Fri 8:00 – 16:00 Sat	8:00 – 20:00 Monday to Friday 8:00 – 18:00 Saturday

2. Operational Description

Currently landfilling is taking place in Cell 2 which the applicant estimates will be filled in late 2006. Cell 1 has been filled and restored with a final cap. Cell 3 is under construction. The applicant is proposing to accept bottom and fly ash from co-fuelling of peat with MBM, peat with biomass and/or a combination of peat, biomass and MBM.

The applicant proposes to accept 70,000 tonnes per annum. The RD allows the facility to accept up to 70,000 tonnes per annum of industrial non-hazardous solids further specified as ash from co-fuelling peat, biomass and/or category 3 meat and bone meal (MBM) from Edenderry Power Limited (Reg. No. 654) (Schedule A).

The licence for Edenderry Power Limited (EPL) specifies that only Category 3 MBM is allowed for combustion at the power plant.

This material *does not* include MBM derived from:

- Animals suspected of being infected by a Transmissible Spongiform Encephalopathy (TSE);
- Animals killed in the context of TSE eradication measures;
- Specified Risk Material;
- Entire bodies of animals containing specified risk material.

EPL do not propose to co-incinerate Specified Risk Material, therefore there will be no release of BSE prions. Based on this it is considered that the human health risk of disposing the ash from co-fuelling of peat, biomass and MBM is negligible.

The applicant states that the levels of dioxins in the ash material besides any potential BSE infectivity is considered to be the only notable health risks to be addressed when handling the MBM ash. The applicant has submitted results of combustion of a peat and MBM sample (90% peat and 10% MBM) showing the levels of Dioxins and Furans at 3.3 I-TEQ ng/kg. According to the applicant this is less than the level 10-256 I-TEQ ng/kg present in municipal waste as detailed in the Health and Environmental Effects of Landfilling and Incineration of Waste – A literature Review, Health Research Board, 2003.

Infrastructure Development

The applicant proposes a final cap of 1m depth consisting of 20:80 mix of peat:clay. The RD allows for this capping (Condition 3).

3. Use of Resources

The applicant proposes to use the subsoil excavated from the site (peat and clay materials) in the final cover. In addition peat will have to be sourced and excavated from the adjacent peatland to ensure for enough peat to be used in the construction works at the facility.

4. Emissions

4.1 Emissions to Surface Waters

The Inspector's report accompanying the existing licence (WL 49-1) details the surface water catchment surrounding the facility.

Surface water monitoring results submitted by the applicant indicates that the facility has not had a negative impact since operations and monitoring commenced in 2001.

The monitoring requirements for the discharge from the silt pond (SWR-1) are set in Schedule C of the RD. The RD also sets monitoring requirements for a limited range of parameters at the discharge point (SWR-2) from the peat borrow area. An emission limit value is set for the parameter suspended solids for the surface water run-off from the peat barrow area. The discharge from the silt pond may not exceed the emission limit values set for suspended solids and pH (Schedule B).

Leachate Management

The applicant has identified leachate generation as a potential impact on the surface water. However, the applicant states that the generation of leachate is minimal and monitoring of the leachate quality indicates that with the exception of elevated pH, the leachate produced is considered environmentally benign. Monitoring results of the leachate shows varied quality with ammonia levels ranging from 0.05 to 11 mg/l, COD from 69 to 1314 mg/l, TON from less than 0.2 to 0.41 mg/l and suspended solids from 5 to 123 mg/l.

Ecotoxicological tests of the leachate have shown high toxic units for the species vibrio fischeri only which was attributed to the high pH levels of the leachate. With pH corrected samples of leachate the recorded toxic units were less than 2.2 for both 5 minute EC₅₀ and 15 minute EC₅₀ which indicates that pH is causing the exotoxicological response.

Leachate generated at the site is recirculated into the landfill as dampening agent. Discharges from the leachate lagoon into the west-east drain have only occurred twice since the granting of the existing licence. One prior to commencement of ash disposal and the other after very heavy rainfall in February 2002. The RD allows for the discharge of leachate from the leachate lagoon into the west-east drain when 100 dilutions of effluent are available in the west-east drain. The RD sets emission limit values for pH, suspended solids and toxic units for any discharges from the leachate lagoon to measured at monitoring point L-2 (Schedule B). Schedule C details the leachate monitoring requirements to be carried out at the leachate sumps and the leachate lagoon.

4.2 Emissions to ground/groundwater:

The Inspector's Report that accompanied the existing waste licence (WL 49-1) outlines the geology and hydrogeology of the site.

The applicant has agreed the lining system to be used for peat or peat and biomass with the OEE on 26/8/05. However the applicant proposes to use a composite lining system including clay layer, geotextile layer, high density polyethylene (HDPE) layer and a composite drainage layer should they commence the disposal of ash containing peat, biomass and MBM.

Unless otherwise agreed by the Agency, Condition 3 of the RD allows for the use of 0.5m proven in-situ clay overlain with a geotextile clay liner (GCL) with a hydraulic conductivity of $1 \times 10^{-10} \text{ m}^3/\text{m}^2/\text{s}$ as part of the proposed lining system. This design

solution provides a superior level of leakage control to the 1 m clay with hydraulic conductivity of $1 \times 10^{-9} \text{ m}^3/\text{m}^2/\text{s}$ as set out in the Agency's publication *Landfill Manual Landfill Site Design*.

The submitted groundwater monitoring results shows elevated levels of ammonia, manganese and iron: this is considered to be due to the natural geological conditions at the facility.

4.3 Noise:

The landfill facility is very remote. The nearest dwelling to the facility is located c.900m away. The noise survey results from 2001 to 2005 records Leq levels ranging from 29 –62 dB(A) measured at the site boundary and a noise sensitive receptor. The noise emission limit has only been exceeded once over the past four years. The exceedance (62 dB(A)) was measured at the noise sensitive location (N5) which is located about 580m from the site boundary. This exceedance was attributed to passing traffic in the area of the monitoring location.

4.4 Nuisance:

Dust monitoring results from 2001 to 2004 submitted by the applicant show 4 exceedances (DM-01: $82057 \text{ mg}/\text{m}^2/\text{day}$ and $977 \text{ mg}/\text{m}^2/\text{day}$; DM-02: $528 \text{ mg}/\text{m}^2/\text{day}$; DM-03: $455 \text{ mg}/\text{m}^2/\text{day}$) of the dust deposition limit set in the existing licence. The exceedances are attributed to construction works and peat harvesting on the adjacent peat-lands. PM10 monitoring carried out from 2001 to 2004 shows no significant impact on the surrounding environment from the facility.

The RD sets emission limit value for dust deposition (Schedule B).

5. Restoration

The applicant proposes a change to the final elevations of the site to allow for one dome to blend into the landscape. The RD allows for this (Condition 10).

6. Cultural Heritage, Habitats & Protected Species

According to the applicant there is no evidence to suggest that the facility is situated in an area of cultural or historical importance or infringes on any areas of heritage value.

The applicant states that the closest designated area is Long Derries (SAC) comprising of a low esker ridge running from Edenderry to Rathangan. The esker ridge is about 8km northeast of the facility. The applicant states that the overall conservation value of the site is considered low and the facility is not considered to have a significant impact on the existing habitat.

7. Waste Management, Air Quality and Water Quality Management Plans

Offaly County Council adopted the Waste Management Plan for the Midlands Region 2005 –2010 in February 2006. The plan contains details of the quantities of ash residue arising at the facility in 2003. The landfill in question is a dedicated facility and does not accept any other waste from the region other than the ash from the power station.

8. Environmental Impact Statement

I have examined and assessed the EIS and am satisfied that it complies with the EIA and Waste Licensing Regulations.

9. Compliance with Directives/Regulations

The facility falls under the scope of the IPPC and Landfill directives and complies with both. In relation to the Groundwater Directive, the facility will not have any direct emission to groundwater.

The facility as conditioned by the RD implements the requirements of the Landfill Directive. The systems specified/conditioned by the RD for lining, leachate collection and capping comply with BAT.

10. Compliance Record

At the last audit carried out at the facility on 1/10/03 four non-compliances and eleven observations were noted. The non-compliances were in relation to handling of ash, final/intermediate capping, landscaping and waste acceptance procedures. The inspector notes, "the facility appears to be operating smoothly. However, greater effort is required with respect to maintaining written procedures up to date, the provision of training and seeking the Agency's prior agreement to proposed changes that require agreement".

11. Fit & Proper Person Assessment

The applicant - Bord na Móna - is a semi-state organisation. The applicant states that since 2000 it has been committing financial resources to ensure that the disposal of ash at the facility is carried out in accordance with the conditions of the existing licence (WL 49-1). BNM are one of the largest holders of licences from the EPA (13 N^o waste & IPPC licences) and are thus experienced operators. I am satisfied in respect of their competence, legal compliance and financial ability.

12. Submissions

There was one submission made in relation to this application.

12.1 Submission from Mr Ray Mulrennan, Ballynowlart, Clonbullogue, Edenderry, County Offaly

Mr Mulrennan makes seven points in his submission. His house is located approximately 1.5km from the landfill cells and his nearest lands are 800m from the cells. The issues in relation to traffic and property value are not under the remit of the waste licence application process.

(i) Health Hazard

Mr Mulrennan contends that the ash from the mixed fuels is a health hazard as the prions are still toxic as they leave the power station in wagons.

Comment: The applicant will only be allowed to dispose of ash from co-fuelling peat, biomass and Category 3 MBM (Schedule A). No Specified Risk Material is allowed for co-incineration so there will be no release of BSE prions. Based on this it is considered that the human health risk of disposing the ash from co-fuelling of peat, biomass and MBM is negligible.

(ii) Nuisances

Mr Mulrennan details that ash has blown from the facility onto his property.

Comment: As noted above , Mr Mulrennan's lands are located approximately 800m from the landfill. The bog-rail delivering ash does not pass near to his property. The RD details measures for dust control (Condition 6) considered adequate as the dust monitoring for the last four years have shown very few exceedances and these exceedances could be attributed to peat harvesting and construction works.

(iii) Edenderry Power station

Mr Mulrennan states that if the permission is given this will allow for other toxic fuels to be incinerated at the power station.

Comment: The RD for Cloncreen Ash Repository only allows for the acceptance of bottom and fly ash from the cofuelling of peat, category 3 meat and bone meal (MBM) and biomass (Schedule A).

13. Charges

The charge set in the existing licence (WL 49-1 issued on 20 April 2000) is £9,402 (€1,938). In 2005 the facility was invoiced €16,023. The recommended decision requires that the applicant shall pay an annual contribution of € 11,275 (Condition 12).

14. Recommendation

I recommend that a licence be granted subject to the conditions set out in the attached RD and for the reasons as drafted.

In making the recommendation for a waste licence I have taken into account all information submitted as part of the application including the Environmental Impact Statement and the submissions.

I am satisfied, on the basis of the information available, that the waste activity, or activities, licensed hereunder will comply with the requirements of Section 40(4) of the Waste Management Acts, 1996-2005.

Signed

Dr J Derham on behalf of Pernille Hermansen
Office of Licensing & Guidance

Procedural Note

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2005.