Environmental Protection Agency An Ghníomhaireacht um Chaomhnú Comhshaoil	**OFFICE OF ENVIRONMENTAL SUSTAINABILITY**
ENVIRONMENTAL LICENSING PROGRAMME	
TO:	Eimear Cotter, Director
FROM:	Brian Meaney, Inspector, Environmental Licensing Programme
DATE:	13 March 2018
RE:	Technical amendment to an Industrial Emissions licence, register number W0090-01, held by Donegal County Council in respect of Balbane Landfill.

On 2/5/2017 Donegal County Council requested an amendment to Industrial Emissions licence register number W0090-01. The request relates to a desire to alter the specification of the landfill cap that is set out in the licence.

This memo recommends that the change may be accommodated by a technical amendment of the licence in accordance with Section 96(1)(c) of EPA Act 1992, as amended.

1. Background

Donegal County Council was granted a waste licence on 13/11/2001 for a landfill located at Balbane, near Killybegs. On 19/12/2013, the licence became an Industrial Emissions licence. The installation is licenced under classes 11.5 (landfills) and 11.1 (other waste activities) of the First Schedule to the EPA Act 1992, as amended.

The landfill is located 6.5km north of Killybegs and covers an area of 2.9 hectares. The landfill was designed on the basis of dilute and disperse whereby rainfall-generated leachate would discharge into the surrounding environment.

The landfill closed for waste acceptance in January 2004. The site is secured to prevent entry. Capping and restoration of the landfill has not been completed.

2. Technical Amendment request

Donegal County Council wish to draw down funding to enable restoration and capping works at the landfill. The proposal includes the construction of a constructed wetland on top of the landfill and flexibility is required on the design of the landfill cap so it can be constructed to a reduced specification, mainly regarding its thickness. Condition 4.4 of the licence specifies what the cap should comprise in terms of the thickness of soil layers, drainage layers and gas collection layers. Unlike some other landfill licences, there is no provision in condition 4.4 for alternative cap designs to be considered and approved under the licence. This is the sole change sought for this licence. Thus, instead of condition 4.4 stating:

> "The final capping shall consist of the following: …"

The licensee wants the condition to state:

> "The final capping shall consist of the following:…

Or as agreed by the Agency."

Some of the reasons for proposing that a reduced cap is appropriate are as follows:

- there will be no amenity, agricultural or forestry use proposed for the landfill post-restoration – only grass will be sown and deep-rooting vegetation prevented;
- a supply of up to 30,000m^3 of subsoil and topsoil for the cap as specified in the licence might not be readily available given the site's remoteness.

3. Consultation with the Office of Environmental Enforcement (OEE)

I have consulted with the OEE team in Castlebar and the amendment is supported there. The proposed change to the landfll cap specification and design cannot be accommodated under the existing licence.

4. Assessment

A remediation scoping report dated August 2016, prepared by RPS for Donegal County Council, was provided with the licence amendment request. The report sets out a number of options for restoring the landfill. The common objective of each of the options is to minimise impacts on surface water (the primary environmental receptor of concern). Options were explored for leachate management at the landfill, whether off-site or on-site. The options for the collection and disposal of leachate off-site are limited due to a lack of available waste water treatment plants. On-site leachate treatment options are preferred and RPS recommended the option that involves a reduced specification cap and construction of an integrated constructed wetland at the landfill. This recommended option is subject to detailed design and an environmental risk assessment to demonstrate no impact on receiving surface waters due to the discharge of treated leachate. I note that no discharge of treated leachate to water is currently authorised under the licence.

The AER for 2016 describes environmental monitoring of groundwater and surface water.

In groundwater, exceedences[1] in 2016 are observed for ammonia, potassium, iron, pH and ortho-phosphate. Ammonia is also detected in upgradient samples indicating that the landfill is not necessarily the source (or the only source) of contamination. It is also noted that groundwater sampling locations are located adjacent to or within the waste body. The licensee expects that groundwater contamination will reduce further down-gradient from the landfill. The AER refers to a hydrogeological risk assessment dated December 2015 which, according to the licensee, indicates a relatively minor impact on groundwater quality relative to the catchment area of the Northwest Donegal GWB.

In surface water, exceedences[2] are observed for ammonia (on one occasion, upstream), BOD (including upstream), COD (upstream only). The AER concludes, as does the 2015 hydrogeological risk assessment, that the site in its present condition is impacting significantly on surface waters immediately downstream of the landfill predominantly via surface water discharges from leachate breakout followed by overland flow and shallow groundwater flow.

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[1] Compared to interim guidelines values and quality standards expressed in drinking water regulations and the Environmental Objectives (Groundwater) Regulations.

[2] Compared to drinking water regulations and the Environmental Objectives (Surface Water) Regulations.

A water balance calculation estimates that 7,910m^3 of leachate were generated in 2016 within the waste body. Any leachate leaving the landfill is dispersing into the surrounding water environment.

The restoration of the landfill and the installation of a landfill cap should reduce the infiltration of rainwater and reduce the driving force for and volume of leachate discharging from the landfill. This is so described in the options report and the hydrogeological risk assessment prepared for the licensee. Thus it is imperative that final decisions are made and works proceed on the restoration of the landfill.

5. Appropriate Assessment

A screening for Appropriate Assessment was undertaken and is documented separately and in the proposed technical amendment document.

The following table lists the European Sites assessed, their associated qualifying interests and conservation objectives:

European Site (site code)	**Distance from installation**	**Qualifying interests (* denotes a priority habitat)**	**Conservation objectives**
St. John's Point SAC [000191]	13.5km	1160 Large shallow inlets and bays 1170 Reefs 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) 6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) 7230 Alkaline fens 8240 Limestone pavements* 8330 Submerged or partially submerged sea caves	As per NPWS (2015) Conservation Objectives: St. John's Point SAC 000191. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. 10/3/2015.
Inishduff SPA [004115]	>15km	A018 Shag *Phalacrocorax aristotelis*	As per NPWS (2016) Conservation objectives for Inishduff SPA [004115]. Generic Version 5.0. Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. 15/8/2016.

6. Recommendation

I recommend that the licence amendment be approved as set out in the attached Recommended Technical Amendment and in accordance with section 96(1)(c) of the EPA Act 1992 as amended. The making of the amendment will not result in the relevant requirements of Section 83(5) of the EPA Act 1992 as amended ceasing to be satisfied.

The recommended amendment will allow for completion of discussions between the licensee and the OEE regarding options for addressing the implementation of outstanding licence conditions on leachate management. It will allow for works to commence on an alternative cap design and restoration of the landfill. It will not allow for authorisation of a discharge of treated leachate from the landfill.

Signed

Brian Meaney
Environmental Licensing Programme