

 Environmental Protection Agency An Ghníomhaireacht um Cloimníú Comhshaoil	OFFICE OF CLIMATE, LICENSING & RESOURCE USE
ENVIRONMENTAL LICENSING PROGRAMME MEMORANDUM	
TO:	LAURA BURKE, DIRECTOR
C.C:	Frank Clinton, Programme Manager
FROM:	Brian Meaney, Senior Scientific Officer
DATE:	2 nd September 2009
RE:	Request for a Technical Amendment to Waste Licence Register Number W0165-01, held by Greenstar Recycling Holdings Ltd in relation to Ballynagran Landfill

Introduction

Ballynagran Landfill is located just off the N11 about 5km southwest of Wicklow Town (at the Beehive Junction). It is a non-hazardous landfill authorised to accept up to 175,000 tonnes per annum of household, commercial and industrial waste for disposal, as well as up to 28,000 tonnes per annum of construction and demolition waste for recovery, restoration and site development works. The facility was licensed on 5 September 2003 and the licence was technically amended on 17 October 2005. Of 21 proposed cells, seven have been developed for receipt of waste in accordance with SEW agreements.

The Agency initiated a review of the licence on 18 June 2009 under the licence register number W0165-02. This technical amendment will facilitate interim developments at the landfill facility.

Details of Request For Technical Amendment

The licensee has requested three technical amendments under Section 42B of the Waste Management Acts 1996 to 2008. The technical amendments relate to condition 3.12 of the licence that deals with landfill lining and formation levels of the landfill. Amendment to the following specific conditions is sought: 3.12.1(c), 3.12.1(d) and 3.12.5.

Condition 3.12.1(c)

The condition states:

The landfill liner shall comprise ... (c) a 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m/s, of pre-washed, uncrushed, granular, rounded stone (16 - 32mm grain size) incorporating leachate collection drains.

The licensee is seeking to have the text in parentheses – 16-32mm grain size – removed. It is claimed that the “size range of the stone is not required because the intent of the condition is to have a layer that is 0.5m thick with a hydraulic conductivity less than 1×10^{-3} m/sec. The size

range is redundant, as the material is sufficiently specified by the thickness and hydraulic conductivity.”

In response, it is noted that the grading specification for drainage stone is a requirement set in all waste licences issued for non-hazardous landfills to date. It is also noted that this requirement is included in the landfill licence template and was included in recent licensing decisions. It is therefore inappropriate to remove the requirement in one particular licence without carrying out an assessment to establish whether there is a sound engineering basis for amending the requirement in *all* landfill licences and indeed removing the provision from the licence template.

Recommendation: Refuse the amendment.

Condition 3.12.1(d)

The condition states:

The landfill liner shall comprise ... (d) the side walls shall be designed and constructed to achieve an equivalent protection.

The condition requires that the side walls of the landfill be constructed to achieve an equivalent protection for underlying groundwater as set out in condition 3.12.1(c), reproduced above. The licensee is seeking to amend the condition as follows:

(d) the side walls shall be designed and constructed to achieve an equivalent protection which may include a geosynthetic clay liner on a one metre thickness of mineral soil.

I consider that the provision within the condition for the licensee to demonstrate “equivalent protection” provides adequate flexibility for alternative engineering solutions to be considered as part of assessment of any SEW proposal. It is also noted that this condition is included in the landfill licence template and was included in recent licensing decisions. It is therefore inappropriate to remove the requirement in one particular licence without carrying out an assessment to establish whether there is a sound engineering basis for amending the requirement in *all* landfill licences and indeed amending the provision in the licence template.

Recommendation: Refuse the amendment.

Condition 3.12.5

The condition states:

Formation levels of the cells shall be as shown on Drawing No. 2001-144-02-02 Rev. A) of the EIS.

The licensee argues that tying the formation levels in to a drawing submitted with the Environmental Impact Statement is overly prescriptive and restrictive in terms of the development of the landfill. The EIS contained design information based on ground investigations carried out in 1996. The licensee states that in light of the findings of more recent ground investigations at the site, there will be difficulties in achieving the formation levels in some areas of the site. In other areas the licensee claims it would be beneficial to excavate to a deeper formation level due to the quality of clay available at varying depths. The licensee therefore seeks an amendment of the condition to one of the following:

Formation levels of the cells shall be as agreed by the Agency based on SEW proposals submitted pursuant to Condition 3.2.1.

or

Formation levels of the cells shall be as shown on Drawing No. 2001-144-02-02 (Rev. A) of the EIS or as otherwise agreed with the Agency.

Recent excavations at the site have revealed “a bedrock surface which shows greater variability than expected from the information gained during ground investigations carried out during the EIA process.” This variability includes varying overburden thicknesses and localised variability in the quantity and quality of glacial deposits as well as rock-head topography. The licensee has determined that:

- the newly revealed presence of a sand-dominant layer,
- as well as variable rock-head topography, and
- the presence of desirable clay layers at depths below the prescribed formation levels

will inform and influence the future development of the landfill. It is claimed that failure to amend the licence condition will result in new materials being imported from off-site to construct the mineral layer. It is also claimed that BAT is best served by allowing optimal cell design that will minimise the pumping of leachate as well as closure and aftercare management costs.

In response, it is apparent that good landfill design for future cells at the landfill will rely on an amended licence condition. However, the Agency must be sure in making a technical amendment that the commitments given under section 40(4) of the Waste Management Acts 1996 to 2008 will not be broken. By allowing future formation levels to be subject to variation (from the EIS drawing) and requiring ongoing agreement, SEW proposals will need to assess whether compliance with any other conditions of the licence will be affected. Thus there will be an ongoing safeguard to ensure that construction and operation of the facility will not cause environmental pollution.

It may be that lowering the bottom of the landfill will win more void space for the operator. Winning more void space will allow the operator to dispose of more waste at the landfill than might have been originally envisaged at the landfill proposal stage. It is likely that, given the geology of the site, the operator would win more void space in one instance, but lose it in another. However, it is not appropriate that the operator should be entitled to avail of more void space by virtue of this technical amendment. Therefore, to mitigate against the likelihood of a gain in void space, a new schedule is proposed limiting the total void space to that originally provided for in the EIS. In support of this proposed new schedule, it is noted that the Landfill Directive (1999/31/EC) requires that a landfill licence state “the total quantity of waste which [is] authorised to be deposited in the landfill.” It is appropriate, given the variability of waste densities and compression rates in a landfill, to express the “total quantity of waste” in terms of volume.

Recommendation:

1. Amend condition 3.12.5 to read:

Formation levels of the cells shall be as shown on Drawing No. 2001-144-02-02 (Rev. A) of the EIS or as otherwise agreed by the Agency.

Note the slight change in wording from the licensee’s proposal above.

2. Insert new table A.3 in Schedule A, as follows:

Table A.3 Total Permitted Landfill Capacity

Total quantity of waste permitted to be placed at the landfill facility (over authorised life of facility)	2,770,000 m ³
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Recommendations

In relation to the requested amendments of conditions 3.12.1(c) and (d), I recommend refusal.

In relation to the requested amendment of condition 3.12.5, I recommend acceptance of the licensee's request, subject to a minor change of wording, and the placing of an additional restriction on the quantity of waste that may be deposited at the landfill. I recommend making the amendment in accordance with section 42B(1)(c) of the Waste Management Acts 1996 to 2008.

I have consulted and discussed the licensee's proposal with the Office of Environmental Enforcement, whose views conform with this recommendation.

For the reasons outlined above I recommend that the Agency agree to a technical amendment of the Ballynagran Landfill Licence (Reg. No. W0165-01) under Section 42B of the Waste Management Acts 1996 and 2008.

Signed:



Brian Meaney
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