



Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland

TECHNICAL AMENDMENT A
To
WASTE LICENCE

Licence Register Number:	W0168-01
Licensee:	Greenstar Recycling Holdings Limited
Location of Facility:	Usk Residual Landfill, Usk, Kilcullen, County Kildare

Reasons for the Decision

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of licence Reg. No. W0168-01 granted on 08/06/2004, as well as any amendments noted herein, any emissions from the activity will comply with and not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 to 2005.

Technical Amendment

In pursuance of the powers conferred on it by Section 42B(1)(c) of the Waste Management Acts 1996 to 2005, the Agency amends Licence Reg. No. W0168-01, granted to Greenstar Recycling Holdings Limited, for a facility located at Usk Residual Landfill, Usk, Kilcullen, County Kildare.

Henceforth, the licence shall be read in conjunction with the amendments set out below, which shall be cited as Amendment A.

This technical amendment is limited to the following Condition(s) of Licence Reg. No. W0168-01:

Amendments

Conditions of Licence

Amend condition 3.13 of the existing licence to read as follows:

3.13 Landfill Lining

3.13.1 The landfill base for all waste deposition areas shall comprise, as a minimum:-

- a) A leak detection/underdrainage layer (natural or synthetic) draining to a sump (or sumps); and
- b) Formation levels of landfill base shall higher than the watertable.

3.13.2 Where inert waste or materials are to be placed outside the non-hazardous liner, the landfill liner, in addition to the landfill base requirements referred to above, shall as a minimum comprise of:-

- a) A Bentonite Enhanced Soil (BES) layer of a minimum thickness of 0.5m and with a hydraulic conductivity of less than or equal to 1×10^{-11} m/s, or equivalent approved by the Agency.
- b) The side walls shall be designed and constructed to achieve an equivalent protection.

3.13.3 Where non-hazardous waste is to be placed, the landfill liner, in addition to the landfill base requirements referred to above, shall comprise of:-

- a) A composite liner consisting of a 0.5m layer of BES with a hydraulic conductivity of less than or equal to 1×10^{-11} m/s overlain by a 2mm thick high density polyethylene (HDPE) layer, or equivalent approved by the Agency;
- b) A geotextile protection layer (of proven protection performance) placed over the HDPE layer;
- c) A 500mm thick drainage layer placed over the geotextile layer with a minimum hydraulic conductivity of 1×10^{-3} m/s, of prewashed, uncrushed, granular, rounded stone (16 – 32 mm grain size) incorporating leachate collection drains (or equivalent to be agreed with the Agency); and
- d) The side walls shall be designed and constructed to achieve an equivalent protection.

3.13.4 The liner detailed design and its construction shall be in accordance with the general guidelines provided in the Agency's Landfill Manual, Landfill Site Design.

3.13.5 A comprehensive Construction Quality Control / Construction Quality Assurance protocol for all containment engineering works shall be submitted to the Agency for approval as part of the Specified Engineering Works (Condition 3.2). The BES layer may not be covered by the HDPE liner until fully certified to the satisfaction of the Agency.

3.13.6 All boreholes located in proposed landfilling areas shall be adequately sealed prior to the emplacement of the liner.

Amend Condition 8 with the addition of the following:

8.14 Underdrainage Monitoring

Unless otherwise agreed in writing with the Agency, the sump(s) in the underdrainage/leak detection layer (refer Condition 3.13.1) shall be monitored on a fortnightly basis for Electrical Conductivity and Ammoniacal Nitrogen, the results of which shall be reported to the Agency on a quarterly basis with the Groundwater Quality results.

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Sealed by the seal of the Agency on this the 17th day of September 2007

**PRESENT when the seal of the Agency
was affixed hereto:**

Padraic Larkin, Director