STATUTORY RULES OF NORTHERN IRELAND

# 2007 No. 258

# ENVIRONMENTAL PROTECTION

## The Landfill (Amendment No.2) Regulations (Northern Ireland) 2007

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| *Made - - - -* | *24th April 2007* |
| *Coming into operation* | *4th June 2007* |

The Department of the Environment makes the following Regulations in exercise of the power conferred by Article 4 of the Environment (Northern Ireland) Order 2002(**1**).

In accordance with Article 4(4) of that Order, the Department has consulted district councils and such bodies or persons appearing to it to be representative of the interests of district councils as it considers appropriate; such bodies and persons appearing to it to be representative of the interests of industry, agriculture and business as it considers appropriate; and such other bodies or persons as it considers appropriate.

### Citation, commencement and interpretation

**1.**—(1) These Regulations may be cited as the Landfill (Amendment No.2) Regulations (Northern Ireland) 2007 and shall come into operation on 4th June 2007.

(2) In these Regulations "the Landfill Regulations" means the Landfill Regulations (Northern Ireland) 2003(**2**).

### Amendment of the Landfill Regulations

**2.** The Landfill Regulations are amended in accordance with the following regulations.

**3.** In regulation 2 (interpretation), at the appropriate place insert—

""L/S = 10 1/kg" means a liquid to solid ratio of 10 litres to one kilogram;".

**4.** In regulation 4 (cases where regulations do not apply), for paragraph (c)(i) substitute—

"(i) non-hazardous dredging sludges alongside small waterways from where they have been dredged out;".

**5.** In regulation 10 (waste which may be accepted in the different classes of landfill), delete paragraph (2).

(**1**) S.I.2002/3153 (N.I.7)
(**2**) S.R. 2003 No.496 as amended by S.R.2004 No. 297, S.R.2005 No.300, S.R.2006 No.280 and S.R.2007 No.179

**Amendment of Schedule 1 (Criteria and Procedures for the acceptance of waste at landfills)**

**6.** In paragraph 5 of Schedule 1(basic characterisation) at the end of sub-paragraph (4)(c)(i) for "or" substitute "and".

**7.** In paragraph 8 of Schedule 1 (interpretation of Part III), at the end insert—

"(c) "PAHs (Polycyclic Aromatic Hydrocarbons)" shall mean Naphthalene, Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Chrysene, Coronene, Dibenzo(a,h)anthracene, Fluorene, Fluoranthene, Indeno(1,2,3-c,d)pyrene, Phenanthrene and Pyrene.".

**8.** In paragraph 11 of Schedule 1 (limit values for waste acceptable at landfills for inert waste), at the foot of the columns in Table 3 headed "Parameter" and "Value" insert "PAHs (Polycyclic aromatic hydrocarbons) (total of 17)" and "100" respectively.

**9.** In paragraph 12 of Schedule 1 (criteria for landfills for non-hazardous waste), in sub-paragraph (a) delete "granular".

**10.** For paragraph 14 of Schedule 1 (criteria for granular stable non-reactive hazardous waste and non-hazardous waste deposited in the same cell with such waste) substitute—

"**Criteria for stable non-reactive hazardous waste and non-hazardous waste deposited in the same cell with such waste**

**14.** Stable, non-reactive hazardous waste and non-hazardous waste which is to be landfilled in the same cell with such waste shall only be accepted if—

(a) in the case of granular waste–

(i) it meets the limit values for leaching set out in Table 4;

(ii) it meets the additional criteria set out in Table 5; and

(iii) it will have either–

(aa) if it is cohesive waste, a mean in situ shear strength of at least 50kPa; or

(bb) if it is non-cohesive waste, an in situ bearing ratio of at least 5%;

(b) in the case of monolithic waste–

(i) it meets either–

(aa) the limit values for leaching set out in Table 4; or

(bb) the limit values for leaching set out in Table 5A;

(ii) it meets the additional criteria set out in Table 5B;

(iii) it has a mean unconfined compressive strength of at least 1MPa after 28 days curing;

(iv) it has either–

(aa) dimensions of greater than 40cm along each side; or

(bb) a depth and fracture spacing when hardened of greater than 40cm; and

(v) where the waste was subjected to treatment to render it monolithic, prior to such treatment it met the following limit values—

(aa) Loss on Ignition of 10%; or

(bb) Total Organic Carbon of 6%.

**Table 4**

| *Component* | *Symbol* | *L/S = 10 l/kg[(a)]* |
|---|---|---|
| | | *mg/kg dry substance* |
| Arsenic | As | 2 |
| Barium | Ba | 100 |
| Cadmium | Cd | 1 |
| Total Chromium | $Cr_{total}$ | 10 |
| Copper | Cu | 50 |
| Mercury | Hg | 0.2 |
| Molybdenum | Mo | 10 |
| Nickel | Ni | 10 |
| Lead | Pb | 10 |
| Antimony | Sb | 0.7 |
| Selenium | Se | 0.5 |
| Zinc | Zn | 50 |
| Chloride | Cl | 15,000 |
| Fluoride | F | 150 |
| Sulphate | $SO_4^{2-}$ | 20,000 |
| Dissolved Organic Carbon | DOC | 800[(b)] |
| Total Dissolved Solids | TDS | 60,000[(c)] |

**(a)** These values must be determined using EN 12457/1 to 3 (applied, in the case of monolithic waste, to a sample which has been crushed).

**(b)** If the waste does not meet this value for Dissolved Organic Carbon (DOC) at its own pH, it may alternatively be tested at L/S = 10 l/kg and a pH of between 7.5 and 8.0. The waste shall be considered as complying with the acceptance criterion for DOC if the result of this determination does not exceed 800 mg/kg.

**(c)** The value for Total Dissolved Solids can be used alternatively to the values for Sulphate and Chloride.

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**Table 5**

| *Parameter* | *Value* |
|---|---|
| Total Organic Carbon (TOC) | 5%[(a)] |
| pH | Minimum 6 |
| Acid Neutralisation Capacity (ANC) | Must be evaluated |

**(a)** If this value is not achieved, a higher limit value may be permitted by the Chief Inspector, provided that the Dissolved Organic Carbon value of 800 mg/kg is achieved at L/S=10l/kg, either at the material's own pH or at a pH value between 7.5 and 8.0.

**Table 5A**

| *Component* | *Symbol* | *$mg/m^{2(a)}$* |
|---|---|---|
| Arsenic | As | 1.3 |
| Barium | Ba | 45 |
| Cadmium | Cd | 0.2 |
| Total Chromium | $Cr_{total}$ | 5 |
| Copper | Cu | 45 |
| Mercury | Hg | 0.1 |
| Molybdenum | Mo | 7 |
| Nickel | Ni | 6 |
| Lead | Pb | 6 |
| Antimony | Sb | 0.3 |
| Selenium | Se | 0.4 |
| Zinc | Zn | 30 |
| Chloride | Cl | 10,000 |
| Fluoride | F | 60 |
| Sulphate | $SO_4^{2-}$ | 10,000 |
| Dissolved Organic Carbon | DOC | Must be evaluated |

**(a)** These values must be determined using EA NEN 7375:2004. Where it is appropriate for compliance testing, the Chief Inspector may specify use of a shortened version of the 64-day tank test provided for in EA NEN 7375:2004 comprising only the first four steps, and in such cases, the limit values shall be a quarter of the values in the table.

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**Table 5B**

| *Parameter* | *Value* |
|---|---|
| pH of the eluate from the monolith or crushed monolith | Must be evaluated |
| Electrical conductivity ($\mu S.cm^{-1}m^{-2}$) of the eluate from the monolith or crushed monolith | Must be evaluated |
| Acid Neutralisation Capacity (ANC) of the crushed monolith | Must be evaluated.” |

**11.** For paragraph 17 of Schedule 1 (criteria for waste acceptable at landfills for hazardous waste) substitute—

“**Criteria for waste acceptable at landfills for hazardous waste**

**17.** Waste shall only be accepted at a landfill for hazardous waste if—

(a) in the case of granular waste–

(i) it meets the limit values for leaching set out in Table 6;

(ii) it meets the additional criteria set out in Table 7; and

(iii) it will have either–

(aa) if it is cohesive waste, a mean in situ shear strength of at least 50kPa; or

(bb) if it is non-cohesive waste, an in situ bearing ratio of at least 5%;

(b) in the case of monolithic waste–

(i) it meets either–

(aa) the limit values for leaching set out in Table 6; or

(bb) the limit values for leaching set out in Table 8;

(ii) it meets the additional criteria set out in Table 5B;

(iii) it has a mean unconfined compressive strength of at least 1MPa after 28 days curing;

(iv) it has either–

(aa) dimensions of greater than 40cm along each side; or

(bb) a depth and fracture spacing when hardened of greater than 40cm; and

(v) where the waste was subjected to treatment to render it monolithic, prior to such treatment it met the following limit values—

(aa) Loss on Ignition of 10%; or

(bb) Total Organic Carbon of 6%.