



**OFFICE OF
LICENSING &
GUIDANCE**

**REPORT OF THE TECHNICAL COMMITTEE ON
OBJECTIONS TO LICENCE CONDITIONS**

TO:	Directors	
FROM:	Technical Committee	- LICENSING UNIT
DATE:	01/02/06	
RE:	Objection to Proposed Decision for KTK Landfill Ltd., Kilcullen, Co. Kildare, Reg: 81-3	

Application Details	
Class(s) of activity:	Third Schedule: Class 1(P), 5, 11,13 Fourth Schedule: Class 3, 4,13
Location of activity:	Kilcullen, Co. Kildare
Licence application received:	3 rd December, 2004
PD issued:	21 st September, 2005
First party objection received:	18 th October, 2005
Third Party Objection received	None
Submissions on Objections received:	None

Company

This report relates to an application received from KTK Landfill Ltd. for a review of the existing waste licence (Reg. No. 81-2) at Kilcullen, Co. Kildare (issued the 8thApril, 2002). The waste licence review is for the redesignation of an inert waste disposal area to a commercial and industrial waste area. This area, which is currently occupied by facility services infrastructure, was originally intended to be restored with inert materials upon completion of landfilling in the rest of the site. Consequently, a reorganisation of landfill support infrastructure (moving of roads) is required. This relocation will be within the current site boundaries as defined in the existing licence. Also, amendments to the restoration plan are facilitated. This is to ensure that the final settled surface meets the requirements of the Agency with regard to slopes and gradients recommended in the EPA's Landfill Manual. There will be no change to the annual waste intake to the site.

Consideration of the Objection

The Technical Committee, comprising of Dr. Karen Creed (Chair) and Ms. Pernille Hermansen, has considered all of the issues raised in the Objection and this report details the Committee's comments and recommendations following the examination of the objection. The Technical Committee consulted Senior Inspector Dr. Jonathan Derham (Expert for sector), in relation to Objection A4.

This report considers the first party objection. No third party objections were received.

First Party Objection

The applicant makes 7 points of objection in relation to the proposed decision.

A.1. Condition 3.7.1(iv)

KTK Landfill Ltd objects to this specification on the basis that precedent has been set for shallower slopes than this on all previous development phases to date at the site. KTK Landfill Ltd proposes base slopes not shallower than 1: 100 on the floor of the landfill. KTK's consultants Golder Associates Ireland (ERML) have indicated that this slope will allow adequate drainage of leachate on the proposed relatively narrow base of the new cell. KTK objects to this condition and requests that it be amended to state a minimum slope of 1: 100.

Technical Committee's Evaluation: This condition is in accordance with the EPA Landfill Manuals: Landfill Operational Practices, 1997 and is considered best practice. Basal slopes of 1:50 are considered BAT. The Agency did not provide written authorisation for shallower slopes.

Recommendation: No Change

A.2. Condition 5.5.2

The applicant objects to the specific wording of this condition and requests that it be amended to say *"The quantity disposed of shall be restricted to on average 55 m³ per day annually with a maximum of 70m³ per day"*. They contend that there will be natural fluctuations in the amount of leachate generated and requiring removal and as such these natural fluctuations should be allowed for in the operation of the facility and reflected in the licence conditions.

Technical Committee's Evaluation: The operation of Athy Waste Water Treatment Plant is a matter for Kildare County Council and discharge to the plant is subject to their consent and such conditions as they consider appropriate. In their response to a Section 52 (Waste Management Acts 1996 to 2005) notice issued by the Agency in connection with the previous licence, Reg. No 81-2, Kildare County Council stipulated a number of conditions, one of which was the restriction of the quantity of leachate

to be disposed to 55 m³ per day. This was further reiterated in their response to a Section 52 notice issued on foot of the current review which stated that “Kildare County Council have no objection to the discharge subject to the inclusion of the Sanitary Consent conditions as outlined in Waste Licence Reg. No. 81-2”. Consequently and in accordance with Section 52 of the Waste Management Acts 1996 to 2005, the Agency is required to include such conditions or stricter conditions. The applicant is free, subject to compliance with relevant national legislative requirements to arrange alternative leachate disposal arrangements with another sanitary authority or private waste disposal/treatment contractor subject to Agency approval.

Recommendation: No Change

A.3. Condition 6.19.2

KTK Landfill Ltd objects to the requirement to restrict working face to no more than 2.5 metres high after compaction and no more than 25 metres wide. Reasons for this objection are as follows:

Condition 5.5.1 (b) of waste licence 81-2 stipulates that working face shall be no more than 3.5 metres high after compaction and no more than 35 metres wide. KTK Landfill Ltd requests retention of these dimensions for safety reasons, i.e. at 275,000 tonnes per annum or approximately 1,000 tonnes per day requires, for the initial operational hours of the day, two vehicles tipping simultaneously. This, in addition with two landfill compactors operating in parallel, requires a working face minimum 35 metres wide and 3.5 metres high to ensure the safety of operating personnel, particularly waste inspection personnel.

Technical Committee's Evaluation: The applicant previously applied for an extended working face due to the quantities of waste being placed daily and the fact that two compactors operate at the working face. This was agreed with the Agency through the enforcement of the initial waste licence (Reg. No. 81-1) and was provided for in Condition 5.5.1 in the subsequent review (Reg. No. 81-2). The Technical Committee recommends that this condition be changed in line with previous agreements and licences.

Recommendation: Amend Condition 6.19.2 to read

The working face of the landfill shall be no more than **3.5** metres in height after compaction, no more than **35** metres wide and have a slope no greater than 1 in 3.

A.4. Condition 8.5.6

KTK Landfill Ltd objects to the asbestos containing waste limit of 1% of the total annual waste intake for the landfill. Reasons for this objection are as follows.

The acceptance of construction materials containing asbestos at KTK Landfill is in full compliance with the requirements of the landfill directive and associated Council Decision 2003/33/EC. The acceptance and placement of asbestos at KTK Landfill is carried out as per the direction in UK EA Landfill Directive Regulatory Guidance Note 11. There is no basis in either the Landfill Directive (1999/31/EC) or the Council Decision (2003/33/EEC) for restricting the amount of asbestos that can be accepted in a landfill to a percentage of the overall tonnage accepted.

The UK Environment Agency, with which the Agency is currently involved in an EU funded programme on hazardous waste prevention (HAZRED), does not link the volumes of asbestos waste deposited at non-hazardous waste landfills to the overall volume accepted. Similarly, SEPA which has issued guidance on the procedures for the management of asbestos waste at non-hazardous landfills does not limit the volumes based on the total amount accepted.

The National Hazardous Waste Management Plan (2001) sets out national policy on the management of hazardous waste and identifies priority objectives that must be achieved. It is a long term priority to achieve self sufficiency in hazardous waste management. (Ref Section 9.8). A detailed review of progress in achieving the objectives of the Plan, completed by the National Hazardous Waste Implementation Committee in 2004 and described in its 2004 Annual Report, reconfirmed the priority of achieving self-sufficiency in the management of hazardous waste. Section 2.4 of the Annual Report states that 'Infrastructure needs to be put in place to achieve self-sufficiency in the management of hazardous waste'

The report also recommends against an almost complete dependency on the use of overseas facilities for the disposal of hazardous waste. In relation to asbestos wastes Appendix E of the report, which deals with Hazardous Waste Categories and their Management, states that 'the continued provision of landfill capacity of asbestos is required in order to avoid the often unnecessary expense of export.'

KTK Landfill wrote to the Agency on the 15th August 2005 (Ref 81-2EPA (03-08-2005)) requesting agreement, in compliance with condition 1.4 of waste licence 8 1-2, for a re-distribution of tonnages as prescribed in Schedule A: Waste Acceptance Categories and Quantities of waste licence 81 -2. The requested re-distribution is a transfer of 3,000 tonnes from Construction and Demolition waste category to Construction Materials containing Asbestos category. This re-distribution of waste tonnages would therefore be 7,750 tonnes for Construction and Demolition waste and 6,000 tonnes for Construction Materials containing, Asbestos.

The reason for this requested re-distribution is that KTK Landfill has seen a significant increase above 2004 level in the quantity of construction material containing asbestos presented for disposal in the first half of 2005. KTK Landfill Ltd attributes this increase to the recent implementation date of 16th July 2005 of Section 2 of Council Decision 2003/33/EC on establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 11 and Annex II of Council Directive 1999/31/EC on the landfill of waste. KTK is one of a few, if not the only, landfill site in the country with a dedicated cell for asbestos disposal. Restrictions on

the use of other landfills since the 16th July deadline are most likely to be the reason for the 2005 increase. The Agency has not as yet responded to this request. KTK Landfill Ltd has employed consultants, Golders Associates, to carry out a risk assessment into the acceptance of 6,000 tonnes per annum of construction materials containing asbestos. This report, demonstrates that there is no increased risk of the acceptance of 6,000 tonnes per annum asbestos over 3,000 tonnes per annum.

The restriction on the amount of asbestos waste that can be accepted at the facility to 1% of the total annual waste intake is purely arbitrary and is not based on any scientific or engineering principles. It is not consistent with EU regulations, nor is it in line with practice applied in the UK. The restriction is also contrary to national policy objectives in relation to the management of hazardous waste and asbestos waste in particular. KTK Landfill Ltd objects to condition 8.5.6 on the grounds that there is no basis for this limit and therefore this condition should be removed from the licence. The overall site limit of 275,000 tonnes per annum will not be affected.

Technical Committee's Evaluation: KTK Landfill is classified as a non-hazardous landfill and currently accept 275,000 tonnes of commercial, industrial and construction and demolition waste, 3,000 tonnes of which is construction materials containing asbestos (CMCA). KTK Landfill Ltd., have requested to increase this amount by a further 3,000 tonnes by way of a redistribution in tonnages. The requested redistribution is a transfer of 3,000 tonnes from the Construction and Demolition waste category to CMCA waste category. CMCA is classified as hazardous waste under European waste legislation, and a specific EWC code applies (EWC 17-06-05*). There is a dedicated cell for asbestos disposal at KTK landfill. They have also objected to the restriction in Condition 8.5.6 limiting the amount of asbestos containing waste to 1% of the total annual waste intake for the landfill. Their basis for each of these objections is outlined above.

Asbestos is a term used to describe a number of naturally occurring fibrous silicate minerals. There are three main types of asbestos; chrysolite (white asbestos), amosite (brown asbestos) and crocidolite (blue asbestos). Asbestos is known for its unique properties of being resistant to abrasion, inert to acid and alkaline solutions and stable at high temperatures and because of these attributes it was used widely in construction and industry. Most common applications include moulded thermal lagging around pipes and boilers, sprayed asbestos fire protection, insulation panels and ducts as well as cement bonded asbestos used as roofing and gutters.

The proportion of asbestos in CMCA can vary hugely between products. Asbestos insulation and lagging can contain up to 85% asbestos and asbestos cement; depending on its use, can contain anything from 20- 30% for roofing to 50% for products used near heat sources such as fireplaces (from 'Guidance for Controlling Asbestos-Containing Materials in Buildings' US, EPA).

There are a number of EU rules regulating the disposal of asbestos containing construction material (ACCM) at non-hazardous landfills. Article 6(c)(iii) of Council Directive 1999/31/EC on the landfill of waste specifies those wastes which may be accepted in a non-hazardous landfill and allows for certain hazardous wastes to be deposited provided they are stable and non-reactive.

(c) landfill for non-hazardous waste may be used for:

- (i) municipal waste;*
- (ii) non-hazardous waste of any other origin, which fulfill the criteria for the acceptance of waste at landfill for non hazardous waste set out in accordance with Annex II;*
- (iii) stable, non-reactive hazardous wastes (e.g. solidified, vitrified), with leaching behavior equivalent to those of the non-hazardous wastes referred to in point (ii), which fulfill the relevant acceptance criteria set out in accordance with Annex II. These hazardous wastes shall not be deposited in cells destined for biodegradable non-hazardous waste,*

CMCA can be determined to meet the definition and criteria of a stable¹ non-reactive hazardous waste suitable for disposal in a non-hazardous landfill provided it is landfilled in accordance with the requirements of Section 2.3.3 (outlined below) of the Annex to the Council Decision, 2003/33/EC, on the criteria and procedures for the acceptance of waste at landfills.

2.3.3 Asbestos waste

Construction materials containing asbestos and other suitable asbestos waste may be landfilled at landfills for non-hazardous waste in accordance with Article 6(c)(iii) of the Landfill Directive without testing. For landfills receiving construction materials containing asbestos and other suitable asbestos waste the following requirements must be fulfilled:

- the waste contains no other hazardous substances than bound asbestos, including fibers bound by a binding agent or packed in plastic,*
- the landfill accepts only construction material containing asbestos and other suitable asbestos waste. These wastes may also be landfilled in a separate cell of a landfill for non-hazardous waste, if the cell is sufficiently self-contained,*
- in order to avoid dispersion of fibres, the zone of deposit is covered daily and before each compacting operation with appropriate material and, if the waste is not packed, it is regularly sprinkled,*
- a final top cover is put on the landfill/cell in order to avoid the dispersion of fibres,*
- no works are carried out on the landfill/cell that could lead to a release of fibres (e.g. drilling of holes),*
- after closure a plan is kept of the location of the landfill/cell indicating that asbestos wastes have been deposited,*

¹ The term stable, does not mean that the waste is stabilized as provided in European Commission Decision (2001/118/EC) amending Decision 2000/532/EC as regards the list of wastes. That defines stabilized wastes to be ones that have been treated so that they are no longer hazardous (i.e. stabilized wastes have had the hazard removed, whereas, in stable hazardous wastes the hazard is still present).

- *appropriate measures are taken to limit the possible uses of the land after closure of the landfill in order to avoid human contact with the waste.*

For landfills receiving only construction material containing asbestos, the requirements set out in Annex I, point 3.2 and 3.3 of the Landfill Directive can be reduced, if the above requirements are fulfilled.

However, no limits are specified in the directive regarding the amount of stable non-reactive hazardous waste that can be accepted at a non-hazardous facility and the Technical Committee have established that the European Commission and the regulators in the UK, Scotland, Northern Ireland and Denmark have no guidance on this matter.

Furthermore, both EU and national (Article 48, Waste Management (Licensing) Regulations, 2004) legislation states that every landfill has to be classed as inert, hazardous or non-hazardous but no guidance or threshold limits are given.

It is also important to note the requirements of the Environmental Impact Assessment Regulations, (1989 to 2001), Part I, Class 9 which states that "*A waste disposal installation for the incineration or chemical treatment of hazardous waste, or the filling of land with such waste*" is considered to be a development for the purposes of these regulations. An Environmental Impact Statement was submitted for the original waste licence (Reg No. 81-1), however, there was no disposal of a hazardous waste at that time. An EIS was not required for the review of the licence (Reg no 81-2) (although a request was submitted for the acceptance of CMCA) as CMCA was not classified as a hazardous waste at that time. However, Council Decision of 23 July 2001 amending Commission Decision 2000/532/EC as regard the list of wastes (2001/573/EC) has since classified CMCA waste as a hazardous waste. This further reiterates the need for some form of guidance and ultimately the establishment of limits to help ascertain how much stable non-reactive hazardous waste can be accepted at a non-hazardous landfill before it substantially alters the classification of that landfill and/or triggers the requirement for an Environmental Impact Statement (EIS).

KTK Landfill is designed as a non hazardous landfill and should copious amounts of hazardous material be deposited at this facility then the environmental risk profile of the facility would be transformed, having far reaching implications for the eventual surrender of that licence. Hazardous waste, unlike other waste types, does not degrade nor does the hazardous classification diminish when placed in a landfill. Such waste will represent a perpetual risk and consequently facilities will need active and sustained management for the foreseeable future. Among other considerations, further obligations in terms of long-term aftercare provisions and substantial financial underwriting would be required. This kind of a risk profile is not normally attached to a conventional non-hazardous waste facility.

Having regard to the arguments advanced and the hazardous classification of the material it is the Technical Committees recommendation that any non-hazardous landfill wishing to accept more than 10% (total intake) or 100,000 tonnes (whichever is the least) of stable non-reactive hazardous waste should have its classification altered to hazardous if not for the entire landfill but at the very least for the cell containing the hazardous waste and that the Local Authority in whose functional area the facility is situated should be made aware of the requirements of the

Environmental Impact Assessment Regulations, (1989 to 2001), Part I, Class 9. The reasoning for these particular limits is that the specific engineering requirements of a separate cell for 100,000 tonnes of hazardous waste would be economically and technically feasible and the Technical Committee considers that if a non-hazardous landfill accepts in excess of 10% hazardous waste then the design and classification of that facility would have to be revised.

KTK landfill wrote to the Agency on the 15th August, 2005 to increase the tonnage limit of 3,000 tonnes per annum (tpa) for CMCA for the year 2005, to 6000 tonnes, by reallocating 3,000 tonnes of their limit for Construction and Demolition Waste. This was not agreed by the Agency as the view was taken that as CMCA is classified as a hazardous material, a review of the licence would be required to accommodate a significant increase of this waste stream. In addition, the Agency considered that the 3,000 tpa limit set in Schedule A of the Waste Licence for this hazardous waste type to stand alone from the quantity limits for other Waste Categories set out therein. This was intimated in the Inspectors Report for Reg. No. 81-2.

Therefore, having regard for the recommendations presented throughout this evaluation and the fact that the increases in CMCA sought by the applicant are within the limits proposed by the Technical Committee for this material, the Technical Committee recommend that the requested increase be granted.

Recommendation: Amend Condition 8.5.6 and Schedule A2 to read:

(The opportunity was also taken to clarify the language in Condition 8.5.6 and Schedule A2)

8.5.6 The amount of **waste containing asbestos** shall be limited to a maximum of **10% or 100,000 tonnes (whichever is the least)** of total waste intake for the landfill.

A.2 WASTE ACCEPTANCE

Table A.1 Waste Categories and Quantities

WASTE TYPE ^{Note 1}	MAXIMUM (TONNES PER ANNUM) ^{Notes 2 & 3}
Commercial	222,750
Construction & Demolition	7,750
Industrial Non-Hazardous Solids	24,750
Dewatered Industrial Non-Hazardous Sludges/Filtercakes with > 25% solids	13,750
Construction materials containing Asbestos – EWC 17/06/05*	6,000
TOTAL	275,000

Note 1: Any proposals to accept other compatible waste streams must be agreed in advance with the Agency and the total amount of waste must be within the **amount** specified

Note 2: The individual limitation on waste streams may be varied with the agreement of the Agency

subject to the overall total limit staying the same.

Note 3: C & D or Inert waste/secondary materials or compost imported to the site for use in ~~the~~ construction are not included in these limitations. A detailed statement (with mass balance) of waste used in construction should be included as part of the AER.

A.5. Condition 12.2

KTK Landfill Ltd., objects to the requirement to pay the sanitary authority €1.27 per cubic metre of leachate at 500 ppm COD discharged to the foul sewer. Reasons for this objection are as follows:

KTK Landfill is currently in discussions with a Senior Engineer in Kildare County Council's Environment Section regarding a joint installation of a sewer connection from both KTK Landfill and the Silliot Hill Integrated Waste Management Facility to the mains sewer near the Link Business Park in Kilcullen, Co Kildare. As part of these discussions, Kildare County Council Environment Section have indicated to our consultant Mr. Geoff Parker of ERML (now trading as Golder Associates Ireland) that leachate discharge costs to the foul sewer will be based on the Mogden Formula which calculates the cost of discharging commercial and industrial effluents to foul sewer

Technical Committee's Evaluation: Refer to Objection A2 above. However, it should be noted that the wording i.e. "...or such sum as may be determined from time to time...." of Condition 12.2 allows for a change or variation in the amount to be paid to the Sanitary Authority.

Recommendation: No Change

A.6. Schedule C3

Air Monitoring

The frequency of dust monitoring has been amended from quarterly in WL 81-2 to monthly in PD 81-3.

KTK Landfill Ltd objects to this requirement on the grounds that there is no environmental basis for this increase given(sic) the results of 6 years of previous dust monitoring at the facility. Dust emissions (sic) are not likely to increase with the proposed ongoing closure plans for the facility. Quarterly monitoring will adequately reflect the status of dust emissions from the facility.

Technical Committee's Evaluation: The Technical Committee is in agreement that there is no need to increase the frequency of dust monitoring.

Recommendation: Replace Schedule C3; Ambient Monitoring; Air Monitoring with:

C.3

AMBIENT MONITORING

Air Monitoring

Location: D1A – D6A (incl.) Drawing Ref: KTK/2002		
Parameter (mg/m²/day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year ^{Note 2}	Standard Method ^{Note 1}
<p>Note 1: Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). Any modifications to eliminate interference due to algae growth in the gauge should be reported to the Agency.</p> <p>Note 2: Twice during the period May to September.</p>		

A.7 Schedule C.3

Storm Water/Surface Water Monitoring

This Schedule requires weekly monitoring of all surface water points (Ref Drawing KTK/2002) for COD and Dissolved Oxygen.

KTK Landfill objects to this requirement on the grounds that this monitoring has never been carried out in the past and there is no previous monitoring results or proposals in the design, construction, operation and closure of the facility that would warrant such a monitoring plan. KTK Landfill Ltd proposes to monitor these parameters on a quarterly basis with all of the other parameters listed in this Schedule and requests that this Schedule to be amended to reflect this more rational monitoring plan.

Technical Committee's Evaluation: The Technical Committee agrees with the applicant in relation to the monitoring schedule for the above parameters.

Recommendation: Amend Schedule C3 as follows:

C.3 Ambient Monitoring

Storm Water/Surface Water Monitoring

Location: Surface water monitoring points (Drawing Ref. KTK/2002)

PARAMETER ^{Note 1}	SURFACE WATER Monitoring Frequency
Visual Inspection/Odour ^{Note 2}	Weekly
Dissolved Oxygen	Quarterly
COD	Quarterly
BOD	Quarterly
Electrical Conductivity	Quarterly
Ammoniacal Nitrogen	Quarterly
Chloride	Quarterly
pH	Quarterly
Total Suspended Solids	Quarterly
Sulphate (SO ₄)	Quarterly
Metals / non metals ^{Note 3}	Quarterly
Mercury	Quarterly
Nitrate and Nitrite	Quarterly
Total P/orthophosphate	Quarterly
Total alkalinity	Quarterly
Total Organic Carbon	Quarterly
List I/II organic substances (Screen) ^{Note 4}	Annually
Faecal Coliforms	Annually
Total Coliforms	Annually

Note 1: All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

Note 2: Where there is evident gross contamination, additional samples should be analysed and the full suite of parameters shown tested.

Note 3: Metals and elements to be analysed by AA/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.

Note 4: Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).

Overall Recommendation

It is recommended that the Board of the Agency grant a licence to the applicant

- (i) for the reasons outlined in the proposed determination and
- (ii) subject to the conditions and reasons for same in the Proposed Determination,
and
- (iii) subject to the amendments proposed in this report.

Signed

Dr. Karen Creed

for and on behalf of the Technical Committee