

INSPECTORS REPORT

WASTE LICENCE REGISTER NUMBER: 30-2

APPLICANT: Kilkenny County Council

FACILITY: Dunmore Landfill

INSPECTOR'S RECOMMENDATION: That a revised licence be granted subject to conditions.

(1) Introduction

The application from Kilkenny County Council for a review of the existing waste licence for Dunmore landfill (Reg. No. 30-1) was received on 20th March 2001. Kilkenny County Council has operated a landfill at Dunmore since 1989. A waste licence (Reg. No. 30-1) was issued to the Council for the facility on 23rd November 1999. The facility is located in a predominantly rural area 5km north of Kilkenny Town. Some residences, which have a private water supply, are located as close as 150m to the landfilled areas. The existing licence allows for a maximum of 40,000 tonnes per annum disposal.

The main issue arising from this application is that the facility is located on a regionally important aquifer with an extreme vulnerability rating. If any extension is to be allowed to the landfill it should be only if strict conditions in relation to leachate management are implemented. The primary controls necessary are:

- minimisation of leachate generation;
- provision of a suitable lining system to minimise any potential for leachate leakage;
- maintenance of leachate levels in cells to ensure leachate head is kept to a minimum; and
- provision of a leachate collection system and treatment of the leachate.

In recommending the grant of a waste licence I consider that the following requirements as a minimum should be satisfied:

- (i) In order to minimise leachate generation at the facility cells should be filled in a phased manner and suitably capped to minimise rainfall infiltration. Condition 4.3 of the recommended Proposed Decision specifies the capping system to be employed and includes the requirement to cap the initial phase of the landfill (Cells 1-7) within twelve months.**
- (ii) The liner system required by Condition 3.13 of the recommended Proposed Decision is in line with the requirements of the Landfill Directive. The specific requirements are that it comprise of a composite liner of 1.0m compacted soil with a hydraulic conductivity of less than or equal to 1×10^{-9} m/s, overlain by a 2mm thick high density polyethylene (HDPE) liner. A geotextile protection layer is to be placed over the HDPE layer and this in turn is to be overlain by a 500mm thick drainage layer. Side walls are to be designed to provide equivalent protection.**
- (iii) The leachate level is to be maintained at a level below 1.0m above the base of the liner in all new cells and in Cells 8, 9 & 10 (Condition 5.11.1).**
- (iv) Leachate from the facility is to be collected in leachate lagoons from where the leachate will ultimately be tankered to the Council's wastewater treatment plant at Purcellsinch.**

The second issue arising from the facility and the proposal for expansion is the proximity of the proposed new landfill cells, particularly Cell 14, to a number of nearby residences. The

active landfill area is in the region of 200m from the nearest resident. Five/six residences are within 200m of the proposed Cell 14 and within 250m of the proposed Cell 13. In order to mitigate against any potential environmental nuisances in close proximity to these residences I consider that a limitation should be imposed on the types of waste deposited in the proposed Cell 14, which comprises approximately one-third of the additional capacity of the proposed landfill extension. Condition 1.5.3 of the recommended Proposed Decision specifies that only commercial and industrial wastes, not including foodstuffs, may be deposited in Cell 14.

Recently the licensee placed restrictions on commercial and industrial wastes at the facility in order to increase the lifespan of the facility.

The activities proposed by the applicant are as follows;

Disposal Activities (Third Schedule of the Waste Management Act, 1996)

- Class 1.** Relates to the landfilling of wastes.
- Class 2.** Relates to the blending of lime treated sewage sludge with soil to be used in the landfill cap.
- Class 4.** Relates to the development and maintenance of leachate lagoons and a proposal to dispose of sewage sludge (which is not lime treated) in the landfill.
- Class 5.** Relates to the development and maintenance of a lined engineered landfill for disposal of non-hazardous wastes.
- Class 11.** Relates to the mixing of material such as construction and demolition waste with soils to build up the capping layer. Also relates to wastes from different sources being placed in skips in the Civic Amenity Area prior to disposal in the landfill.
- Class 12.** Relates to the bring centre for the recycling of waste in the Civic Amenity Area and the placing of domestic waste in skips prior to disposal in landfill.
- Class 13.** Relates to the storage of wastes deposited in skips in the Civic Amenity Area prior to landfill.

Recovery Activities (Fourth Schedule of the Waste Management Act, 1996)

- Class 2.** Relates to collection of domestic recyclable waste.
- Class 3.** Relates to collection of metals for recovery.
- Class 4.** Relates to collection of inorganic materials for recycling.
- Class 9.** Relates to use of landfill gas for the generation of electricity.
- Class 10.** Relates to the use of sewage sludge as a soil conditioner in the restoration of capped cells.
- Class 11.** Relates to the use of construction and demolition waste recovered on site in the restoration of existing cells.
- Class 13.** Relates to the collection of recyclable materials such as glass, cans and textiles.

The activities allowed in the recommended Proposed Decision are Disposal Activities - Classes 1, 4, 5 & 13 of the Third Schedule and Recovery Activities - Classes 2, 3, 4, 9, 10, 11 & 13 of the Fourth Schedule, while the activities proposed to be refused are Disposal Activities - Classes 2, 11 & 12 of the Third Schedule.

Quantity of waste (tpa) to be accepted	Maximum of 40,000 t/a.
Environmental Impact Statement Required and complies with EIA Regulations	Yes
Number of Submissions Received	Eleven

FACILITY VISITS:

DATE	PURPOSE	PERSONNEL
19/04/01	Check site notice and site visit	Donal Howley
31/10/01	Site visit	Donal Howley/Brendan Wall/David Shannon

Appendix 1 contains maps showing the location of the facility, the existing facility and the proposed extension to the facility.

(2) Facility Development

The installation and control of all existing and proposed infrastructure at the facility is controlled by Condition 3 of the recommended Proposed Decision.

The existing facility comprises an area of approximately nine hectares, of which just over five hectares are designated for landfilling. There are ten lined cells in the existing landfill with an overall capacity in the order of 300,000 tonnes. This capacity is expected to be reached in the next few months.

The proposed extension includes in the region of an additional five and a half hectares. Approximately two and a third hectares are proposed for further landfilling in four lined cells. In the remaining area a new facility entrance, a civic waste facility, buffer areas and road realignment works to facilitate a new entrance from the N77 are proposed. The road realignment works are proposed to improve sight distances and safety for traffic using the facility. Site infrastructure such as offices and weighbridge are to be relocated to near the new entrance, such that areas in which they are currently located can be used in the cell development.

New site infrastructure proposed includes administration and maintenance buildings, a bunded storage shed in the civic waste facility for waste oils etc., and a green waste composting facility. Details regarding the composting processes to be used were not provided and consequently the recommended Proposed Decision allows for a limited amount of composting to be undertaken at the facility, following prior approval of the Agency (Conditions 3.21 & 5.7.2).

Liner System

The applicant proposed a lining system comprising of a composite lining system of 2mm HDPE over a geosynthetic clay liner (GCL) over a 500mm compacted clay liner of hydraulic conductivity less than or equal to 1×10^{-9} m/s. A geotextile protection layer was also proposed over the HDPE layer, which in turn was to be overlain by a 500mm drainage layer. The liner system in the recommended Proposed Decision (as referred to in Section (1) above) is considered to be a more suitable barrier over that proposed by the applicant, i.e. due to the aquifer classification (regionally important) and the vulnerability rating (extreme) a composite lining system which includes a 1.0m compacted clay liner of hydraulic conductivity less than or equal to 1×10^{-9} m/s is required (Condition 3.13.1).

Excavations of in the region of 0.5m - 4.5m are proposed to achieve the proposed formation levels. The majority of the proposed waste disposal is to be above the existing ground level. The subsequent final levels proposed are to be similar to and combine with those in

previously filled and existing cells. The formation levels are to be controlled by Condition 3.13.3 of the recommended Proposed Decision. Clay material to be used to form the clay liner is to be imported to the site. Leak detection testing of liner systems for new cells and leachate storage lagoons is required by Condition 3.13.4 of the recommended Proposed Decision.

Leachate Management

Leachate from the existing cells drain ultimately to an existing HDPE lined lagoon. Leachate from this lagoon is tankered offsite to the Council's wastewater treatment plant at Purcellsinch. The licensee has proposed to install a SCADA system at the facility to monitor and manage leachate levels with leachate from new cells to be pumped to the lagoon and a new lagoon prior to being similarly tankered offsite. The licensee proposed to install infrastructure under the final capping system to facilitate the re-circulation of leachate. This is not provided for in the recommended Proposed Decision due to the location of the facility.

The applicant estimated that the quantity of leachate generated at the facility, including the extension, would reach a maximum rate of 21,000m³ per annum. In 2000 the licensee tankered 10,500m³ from the facility. Leachate generation and movement in these quantities is considered impractical and adequate capping and restoration crucial. The requirements specified in the recommended Proposed Decision, as referred to in Section (1) above, should facilitate the minimisation of leachate generation at levels below that estimated in the application.

During the term of the existing waste licence there was an incident relating to the overflow of leachate from Cell 7 out of the landfill which was observed on 15th November 2000 and was notified to the Agency on that day. The incident arose due to the licensee failing to manage leachate in accordance with the requirements of Condition 4.17 of the existing licence. The licensee attributed the incident to the fact that the control valve on the leachate collection system from Cells 1 to 7 had been closed off temporarily (approximately two weeks) in order to facilitate lining works in Cells 8 & 9. The licensee noted that forty-three hours prior to when the leachate was observed overflowing from the cell there had been no leachate observed overflowing from the cell. Monitoring results to date do not indicate any negative impact on the groundwater quality.

Cover & Capping System

Condition 5.4 of the recommended Proposed Decision sets out the daily and intermediate cover requirements for waste filled areas. The depth of waste in the new cells will vary from 5m up to 11m. The final capping of the completed cells is specified in Condition 4.3 of the recommended Proposed Decision and is required to be in place within twelve months of completion of each cell.

The existing capping system in place over Cells 1-7 is not considered to be curbing leachate generation to any significant extent. This was shown by the incident of leachate overflow in November 2000, which is discussed above (Leachate Management). The capping system includes the requirement for a flexible membrane liner. This is in keeping with the Landfill Directive, which refers to prescription of a surface sealing in instances where the prevention of leachate generation is considered necessary. The licensee planted 8,000 deciduous trees on parts of Cells 4, 5 & 6 early in 2000 and grassed the remainder of Cells 1-7. This planting was undertaken in the absence of an agreed final capping system for Cells 1-7 as was required under Condition 4.19 of the existing licence and was a non-compliance with the licence. The above mentioned capping system is also required in the recommended Proposed

Decision for Cells 1-7 within twelve months. This will require taking up the trees as I consider minimisation of leachate production in this section to be the primary concern. Replanting of these areas may be carried out following the provision of the specified capping and is provided for under Condition 4.1 of the recommended Proposed Decision.

Landfill Gas Management

Initial landfill gas control provisions at the facility involve the venting of landfill gas to atmosphere. The licensee is currently making provision for collection of landfill gas and flaring using a temporary open flare, prior to installation of further gas collection and flaring infrastructure. Condition 3.15 of the recommended Proposed Decision requires the licensee to install an enclosed gas flare and collection infrastructure within six months and that active carbon filters or an alternative agreed with the Agency be installed and maintained to reduce odour emissions on vents which are passively venting landfill gas.

Restoration & Aftercare

The restoration scheme proposed by the applicant relates to the Restoration of Cells 8, 9 & 10 and the proposed four new cells. The majority of these areas are proposed to be planted with trees. Condition 4 sets out requirements for Restoration and Aftercare at the facility and requires a revised Restoration and Aftercare Plan to be submitted to the Agency to reflect changes due to requirements of this licence and to include details regarding the restoration of all existing cells, including Cells 1-7.

Nuisance Control

The nuisance controls for the facility are specified principally by Condition 7 of the recommended Proposed Decision. These include the use of litter fencing, litter picking and appropriate covering of waste filled areas (Conditions 5.3 & 5.4). Vermin control measures are detailed in Conditions 7.1 & 10.7 of the recommended Proposed Decision. The licensee is required within three months to submit a review of the existing vermin and fly control measures and to submit a proposal for the control and eradication of vermin and fly infestations at the facility. A further provision to mitigate against the potential for nuisances impacting on nearby residences is the restriction on waste allowed to be disposed of in the proposed Cell 14 (Condition 1.5.3).

There have been a number of complaints regarding odours emanating from the existing facility. Sources identified were the venting of landfill gas from filled areas, the acceptance of animal wastes such as skin & hide and inadequate/poor covering of filled areas. The licensee has recently been instructed not to accept animal waste at the facility. Condition 1.5.1 of the recommended Proposed Decision prohibits the disposal of animal waste at the facility. The licensee has been issued with non-compliances relating to poor and inadequate cover at the facility. In some cases waste has been exposed/inadequately covered for considerable periods of time, in one area for a number of months. Condition 5.4.2 of the recommended Proposed Decision specifies that soil be used as daily and intermediate cover material unless otherwise agreed with the Agency.

The recommended Proposed Decision requires weekly inspections of the facility and environs for nuisances and for records of such to be maintained (Conditions 8.11 & 10.3).

(3) Waste Types and Quantities

The applicant has applied to dispose of up to 40,000 tonnes per annum at the facility with the proposed extension estimated to provide capacity for an additional 150,000 tonnes. The applicant anticipated that at the rate of waste acceptance in 2000 the extension would allow for the disposal of waste at the facility up until 2005. Condition 1.4 of the recommended Proposed Decision allows for the acceptance of Municipal Waste, Commercial Waste and Industrial Waste for disposal at the facility, subject to the restrictions in Schedule A (Table A.1) and Condition 1.5.

The existing licence allows for the disposal of up to 40,000 tonnes per annum. Condition 1.4 of the recommended Proposed Decision allows for the acceptance of up to 40,000 tonnes per annum at the facility with a maximum of 35,000 tonnes of this is allowed to be disposed of at the landfill. Condition 1.5.1 of the recommended Proposed Decision prohibits the disposal of sewage sludge at the facility. The acceptance of Construction and Demolition waste is allowed for use on site as cover material and the restoration of cells.

The hours of waste acceptance in the recommended Proposed Decision are those applied for by the applicant (Condition 1.6). The operational hours of the landfill are thirty minutes longer at the end of waste acceptance in order to facilitate operational practices such as covering of the waste.

(4) Emissions to Air

Emissions to air from the facility include landfill gas, combustion products of landfill gas, odours, dust and noise.

Landfill Gas and Combustion Products of Landfill Gas:

As discussed in Section (2) above the licensee is required to install an active landfill gas management system at the facility. The licensee is also required to examine the feasibility of using the landfill gas as an energy source and if feasible provide a system for such (Condition 3.15.7). Air dispersion modelling was carried out by the applicant for (i) gas extraction and flaring from the capped and active cells and (ii) gas extraction and flaring from the capped, active and proposed cells. The modelling predicts that the maximum ground level concentrations along the boundary will occur along the north east boundary of the facility at concentrations which are less than applicable TA Luft Immission Standards and Danish C-Values.

Condition 6.1 and Schedule C.4 of the recommended Proposed Decision set emission limits for emissions from the enclosed flare stack. Monitoring of emissions from the flare are specified in Condition 8.1 and Schedule D.7.

Dust

Requirements for dust control are set under Conditions 7.1 & 7.4 of the recommended Proposed Decision. An ELV of 350mg/m²/day is specified in Schedule C.3 of the recommended Proposed Decision for dust monitoring locations along the facility boundary. Dust monitoring is provided for in Condition 8.1.

Odours

Condition 7.1 of the recommended Proposed Decision requires the licensee to ensure that odours do not give rise to nuisance at the facility or in the immediate area of the facility. Other odour control provisions include landfill gas management requirements, operational requirements such as working face size limitations, cover requirements and the restriction on the types of waste allowed in the proposed Cell 14.

Noise

Noise monitoring carried out as part of the application was undertaken at five identified Noise Sensitive Locations (NSLs). The noise from traffic along the N77 was identified as the dominant source of noise at all five locations. The L_{Aeq} ranged from between 56.2 - 63.7 dB(A) at these locations.

Noise prediction modelling was undertaken for a number of scenarios. The worst case scenario relates to the construction of the proposed Cell 14 due to its proximity to all five NSLs. Modelling included for the provision of noise barriers such as the soil berms proposed in the application. The construction of this cell with the provision of noise barriers was predicted to have a slight/marginal impact at three of the NSLs.

Mitigation measures proposed by the applicant (such as the provision of soil berms) are required under Condition 3.22 of the recommended Proposed Decision. Condition 6.1 and Schedule C.1 of the recommended Proposed Decision establish noise emission limits at the facility boundary. Condition 8.1 controls noise monitoring requirements.

(5) Emissions to Groundwater/Hydrogeology

In terms of bedrock geology, the facility is located along the axis of a major Carboniferous syncline structure. The Kiltorcan Formation is considered to be a regionally important aquifer. The overlying limestone units including the Sub-Reef, Reef and Cloneen Formations are much less productive and of considerably less groundwater potential on a regional scale. The Cullahill Formation overlying these units is considered to be a regionally important aquifer. Above this the Namurian shales which are underlying the Dunmore area are considered to be a poor aquifer.

The existing landfill cells are located at the site of two previous sand and gravel quarries. Overlying the bedrock there is up to 20m of saturated outwash deposits beneath the facility. These glacial deposits, which infill the Nore Valley, constitute a regionally important aquifer. The River Nore is in direct hydraulic continuity with these deposits. The gradient of the water table is low – 0.2% from east to west towards the River Nore. In accordance with the Groundwater Protection Scheme guidelines (DoELG/EPA/GSI, 1999), the vulnerability rating of the gravel aquifer underlying the landfill and areas proposed for future landfilling is extreme. The response category for the location of a landfill in the area in which the facility is located is consequently R4 - not acceptable. A new landfill facility would be unacceptable in this area. The government policy document on waste management – *Changing Our Ways* advocates extending the life of existing landfill facilities where immediate landfill capacity problems exist, with consideration given to the development of small scale cells on or adjacent to existing facilities. If this facility is to be extended it should be only allowed in accordance with this. The lining system for any future cell, in complying with the lining requirements of the Landfill Directive, should include a clay layer with minimum thickness of 1.0m and a hydraulic conductivity less than or equal to 1×10^{-9} m/s (Condition 3.13.1). Due

to the classification of the aquifer (regionally important) and the vulnerability (extreme) no equivalents should be considered.

Water usage in the surrounding area is from private wells. Groundwater monitoring requirements in the existing waste licence provide for the monitoring of three boreholes upgradient of the facility and six downgradient (one of which is used as a water supply). The recommended Proposed Decision requires monitoring of the same locations. Monitoring results for these wells during the term of the existing waste licence indicate levels of organic pollution both upgradient and downgradient of the facility, possibly due to agricultural/residential activities rather than from the landfill activities.

(6) Emissions to Surface Water

The immediate area of the facility is drained by a small stream which is dry for much of the year. This stream rises to the east of the Kilkenny/Ballyragget Road and passes between the two phases of the existing landfill, running adjacent to part of the eastern phase (Cells 1-7). This stream reaches the flood plain via a pipe which runs under the access road to Cells 1-7. The possible emissions to surface waters from the facility are via this stream and the groundwater. The River Nore, which flows within 500m of the facility, acts as the receptor for both surface water and groundwater discharges.

The application for a review proposes to landfill waste in the area between these two phases and includes a proposal to pipe the stream underneath part of the proposed new areas for landfilling. Existing trees and hedgerows running near the stream and along the northern edge of the initial phase (Cell 1-7) would be maintained. Condition 3.17.2 of the recommended Proposed Decision requires that the existing stream running through the facility be maintained along with nearby trees and hedgerows and specifies that any new cells shall be designed such that they are at a minimum of 5m from this stream.

Drainage from site access roads, internal haul roads and hardstanding areas is required to be via a silt trap and oil interceptor prior to discharge to a soakpit (Condition 3.6.2). Drainage provisions during the realignment works on the N77 include the provision of a shallow drainage channel downgradient of the road to intercept the surface water runoff and direct it to two temporary silt traps to control against any potential sediment runoff to the nearby stream.

Surface water monitoring requirements are included in by Condition **8.1**.

(7) Other Significant Environmental Impacts

- Cultural Heritage

A possible enclosure has been identified at the facility that would have been located in the south eastern corner of Cell No. 8 (part of Phase II of existing facility). This area had been identified in the initial application as having been excavated for sand and gravel before the development of the landfill. The landfill development to date has not interfered with this area, and the proposed extension is designed such that it will not affect this feature. Dunmore Cottage is located to the north west of the facility with some of its estate lands adjoining the facility boundary. Along this boundary there is a stone wall which is a protected structure.

Condition 3.22.1(ii) requires that the proposed berms be located at a minimum of 5m from the stone wall.

(8) Waste Management, Air Quality and Water Quality Management Plans

A Waste Management Plan for Kilkenny County was adopted in March 2000 to cover the period of 2000-2004. The plan refers to the possibility of extending the life of the existing landfill at Dunmore by refusing to accept commercial and industrial waste and also to investigating the possibility of extending the site area. The plan refers to the medium to long-term solution being a regional approach such as the South-East Regional Waste Management Strategy which Kilkenny County Council adopted as a strategy in March 1999. The plan also refers to the possibility of landfilling Kilkenny County's municipal waste in neighbouring local authority facilities. Consequently, the application for an extension to Dunmore landfill is viewed as a short-term proposal. The plan also refers to consideration of a new small landfill (c. 500,000m³) to bridge the gap between the cessation of landfilling at Dunmore and the operation of a regional approach. The plan also states that if the interim solution is an extension to Dunmore landfill, it is not envisaged that this will be used for residual waste from a regional facility, i.e. an integrated waste management facility incorporating a waste-to-energy system.

The requirements of the Water Quality Management Plan for the Nore Catchment 1985 have been considered in the evaluation of this licence application. No relevant Air Quality Management Plan exists.

(9) Submissions/Complaints

A total of eleven valid submissions were received in relation to the licence application. I have had regard to all of the submissions in making this recommendation to the Board. Below is a summary of the main concerns raised in the submissions. The specific details of some of the submissions are referred to in certain instances to give an overview of the concerns raised.

1. Environmental Nuisance

A number of submissions expressed concern with regard to nuisances caused by birds, flies, rats and litter blowing offsite and from vehicles bringing waste to the facility. The submissions refer to ongoing nuisance from the facility from the above and concern that such nuisances could increase due to the extension of the facility. Concern was expressed about the dangers to grazing animals due to birds dropping materials, such as plastic items and foil, on the surrounding land.

Response

Condition 7 of the recommended Proposed Decision deals with the control of nuisances from the facility and in particular Condition 7.1 requires the licensee to ensure that the facility is operated such that it does not give rise to nuisances. Records of all nuisance inspections are required to be maintained by the licensee (Condition 10.3(d)). Litter control measures are specified (Condition 7.3) and include a requirement for litter fencing around the perimeter of the working area and that all vehicles delivering waste to and from the facility be appropriately covered. The licensee is required to maintain written records of the vermin and fly control measures undertaken at the facility (Condition 10.7) and bird control activities

(Condition 10.8). The licensee is also required within three months to submit an independent review of the vermin and fly control measures at the facility (Condition 11.5).

Condition 5.3 of the recommended Proposed Decision specifies that unless prior agreement of the Agency is given, there be one working face for waste deposition of a maximum area of 25m x 25m and that the working face be covered daily. Daily cover material is specified as soil unless otherwise agreed with the Agency (Condition 5.4). Condition 10.9 of the recommended Proposed Decision requires records to be maintained by the licensee of the daily application of cover material. While this condition might be construed as being onerous I consider that it is necessary in this instance in order for the licensee to ensure adequate cover of the waste, which has not always been the case during the term of the existing licence.

2. Water Pollution

Concern was expressed about the potential for pollution of the water systems in the area and concern about management of lined cells and future pollution problems. Concerns were raised by submitters about the danger of pollution to their private wells. It is noted that groundwater is a valuable natural resource and concern is expressed with regard to the remediation measures to minimise indirect discharge of leachate to groundwater.

Response

As discussed in Section (1) the recommended Proposed Decision requires that the landfill be developed and lined in accordance with the requirements of the Landfill Directive and that leachate generation at the facility is to be kept to a minimum. Leachate is to be tankered offsite to the Council's wastewater treatment plant at Purcellsinch (Conditions 5.11.3 & 6.6)

Under Condition 3.6.2 of the recommended Proposed Decision drainage from site access roads, internal haul roads and hardstanding areas is required to be via a silt trap and oil interceptor prior to discharge to a soakpit. Drainage from other areas such as the Waste Inspection and Waste Quarantine Areas and the wheelwash are to be directed to the leachate lagoon. Condition 6.5.2 of the recommended Proposed Decision allows for the discharge of surface water collected at the facility to be discharged to soakpits at locations agreed with the Agency. Condition 3.5.1 of the recommended Proposed Decision requires temporary silt traps to be installed during the construction and realignment of the N77.

Condition 8.1 specifies monitoring of surface water and groundwater to be carried out in the vicinity of the facility.

3. Air Pollution

Concern is expressed about the extension to the facility being a threat to the air quality in the immediate vicinity. The majority of the submissions refer to odour problems at the facility and the ability of the Council to control odours from the site is a concern. The landfill gas generated on site and the control of such are also of concern. Concern was also expressed as to the monitoring of the levels of methane and carbon dioxide and also in relation to an incident in January 2001 where there were exceedances of the gas trigger levels for these gases adjacent to the active phase, which the submitter had not been informed of and odours at the time. Dust was also highlighted as a problem.

Response

Section (4) above discusses emissions to air and the concerns raised. The incident whereby levels of CH₄ and CO₂ were detected above trigger levels in GM9 was investigated and a puncture was found in the liner system near to GM9 caused by a piece of metal. Two other smaller punctures were also detected. The liner was subsequently repaired.

4. Noise

A number of submissions express concern that the proposed extension would result in increased traffic coming to and from the facility and that this will cause noise pollution in the vicinity.

Response

Section (4) above also discusses noise emissions resulting from the facilities activities and the proposed extension. The proposed extension does not provide for an increase in the quantities of waste to be accepted at the facility. Leachate is currently tankered offsite. Provisions to minimise leachate generation should also minimise the number of trips that the leachate tanker would be required to undertake.

5. Health

A number of submissions express concerns as to the risk to their health and that of their children. A request was made in one submission for a guarantee that if the extension goes ahead it will not come any closer to the submitter's house than what is referred to in the site plan drawn up. Concern was expressed in relation to spread of disease such as Weil's Disease.

Response

Conditions of the recommended Proposed Decision require the licensee to control all emissions from the facility including leachate, landfill gas, odours and dust in order that these emissions will not cause environmental pollution. Ongoing monitoring of emissions are required under Condition 8.1 and Schedule D of the recommended Proposed Decision. Condition 7.1 of the recommended Proposed Decision charges the licensee with ensuring that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. The World Health Organisation in one of their briefing pamphlets on *Solid Wastes*, states that "*The health and safety aspects of landfilling wastes are numerous. All can be controlled and improved by good management*" [Ref. *Landfill: Local Authorities, Health and Environment, briefing pamphlet series 9 – World Health Organisation, 1995*].

6. Traffic

The majority of submissions are concerned at the increase in traffic, including HGVs, as a result of the proposed extension at the facility. Concern is also expressed that if leachate is tankered offsite that this will lead to a further increase in traffic along an already busy road.

Response

The proposed extension includes a proposal to relocate the facility entrance to the N77 a national secondary road. The existing facility entrance is accessed from a small local road. The proposed extension does not provide for an increase in the quantities of waste to be accepted at the facility. The recommended Proposed Decision limits acceptance of waste at the facility to 40,000 tonnes per annum, which is the same as for the existing licence. The N77 is a more suitable road for the access of waste vehicles to the facility and the amount of traffic that uses the facility is not considered to be significant in terms of the volume of traffic that currently uses the N77. Requirements of the recommended Proposed Decision relate to the minimisation of leachate generation on site and as such the volume of leachate to be tankered offsite should also be minimised. Condition 3.5 of the recommended Proposed Decision requires the licensee to undertake road realignment works to the N77 prior to the use of the proposed new entrance. The licensee is also required to consult with the NRA on improvements in road signage and road safety and carry out any works recommended. Traffic awaiting access to the facility from the new entrance is only allowed to queue along the facility access road (Condition 3.5.2)

7. Farming

One of the submissions requested assurances that if the submitter wished to carry out organic farming the proximity of the landfill would not affect the guidelines laid down for organic farming.

Response

The proposed extension to the landfill at the facility is further away from the submitter's land than the current active phase, which is adjacent to the submitter's land. The current active phase is close to capacity and will be capped within twelve months of completion (Condition 4.3). The closest part of the proposed extension would be in the order of 75m away from the submitter's land. Condition 10.7 of the recommended Proposed Decision requires the licensee to maintain records of the programme employed for the control and eradication of vermin and fly infestations including the type of insecticide and rodenticide used.

8. Property Value

A number of submissions express concerns about the effect the facility and any extension would have on the value of their properties.

Response

The facility operated in accordance with the conditions of the licence should not impact adversely on nearby properties.

9. Past Promises/History of the site

A number of submissions referred to the fact that the landfill has been in operation since 1989. Reference was made to promises that the facility would only operate for ten years and that in 1999 the Council was granted approval to extend the lifetime of the dump by two years, without any local consultation.

Response

Any such undertakings by the licensee to third parties were prior to and/or outside of the waste licensing regulatory system and as such can not be considered.

10. Amenity Value

Concern was expressed that the proposed extension would have a severe impact on the quality of lifestyle of the submitters, who live adjacent to the boundary of the proposed facility. A number of submissions refer to the extension bringing the facility right up to the submitter's boundaries. A number of submissions refer to fairness and to it being someone else's turn as the landfill has been in operation for thirteen years. Reference is made to the facility having started when it was "out the country" with relatively few residents whereas now it is on the edge of town and the population has grown dramatically.

Response

The proposed extension includes additional lands, which are closer to and adjoin a number of residences. However, these new areas include the provision of buffer areas adjacent to the facility boundaries which are not to be used for the landfilling of waste. Soil berms are proposed between the proposed extended facility activities and the facility boundary to mitigate potential visual and noise impacts. The facility operated in accordance with the conditions of the licence should not impact adversely on nearby properties.

11. Waste Management Policies

One submission referred to the need to adopt a zero waste policy in regard to the dumping of matter both organic and inorganic in landfills and also to the need for sustainable methods of recycling, reducing and reusing in the interests of the safety and health of local residents and the long term protection of the environment. The location of a permanent recycling facility is also queried in a submission and it is suggested that an industrial estate would be a better location for such. One submission contends that the extension is being proposed for economic reasons and because the Council have failed to find an alternative location when they knew since 1989 that they would have to move.

Response

The Waste Management Plan for Kilkenny County Council, adopted in March 2000, advocates an integrated waste strategy based on the waste management hierarchy of waste prevention – recovery (recycling/reuse)- energy recovery – disposal (including landfill). In conjunction with promotion of waste minimisation programmes, development of new and existing recycling/recovery markets, establishing a network of civic amenity site across the county and the selection of a suitable site to replace Dunmore landfill the Council proposes to extend Dunmore Landfill in accordance with Government policy.

Following completion of disposal of waste at the landfill the facility will only be allowed to accept waste for recycling and disposal offsite. This provides for restoration and aftercare of the landfill, the operation of the civic waste facility and operation of the compost facility if provided.

Condition 11.3 of the recommended Proposed Decision requires the licensee to submit a report examining waste recovery options and address methods to contribute to the achievement of recovery targets stated in national and EU waste policies within six months.

12. Proposed Screening Berms

A number of submissions refer to the proposed screening berms in the vicinity of the submitters residences and lands and express concerns as to the visual impacts as a result. Concern was also expressed as to the potential for flooding in the submitter's garden due to the close proximity of the berm.

Response

In Article 16 response dated 7th August 2001 the applicant proposed to alter the proposed location of the relevant section of soil berm to minimise the potential for visual impact, and to provide for the provision of a surface water swale to direct surface water runoff from the berms towards surface water infrastructure. Requirements for the soil berms are specified under Condition 3.22 of the recommended Proposed Decision and include for the provisions referred to by the applicant.

13. Stone wall

One submission referred to the presence of a protected structure along the northern boundary of the facility. This stone wall was built in c.1700. The submission states that the stone wall in its present condition will not withstand the impact of heavy machinery, which would be used in constructing the landfill site and that the wall would need to be reinforced.

Response

Condition 3.22.1(ii) requires the licensee to maintain a minimum distance of 5m between the proposed soil berms and the stone wall.

14. Compliance Issues

One submission expresses concern as to the compliance of licensees with conditions of licences issued by the Agency. Concern is expressed with regard to the reading of other landfills - that the licensee is charged with the highest environmental standards by the Agency but that in practice when yearly audits are conducted severe shortfalls occur which impacts on the residents. The submission also asks whether the local authority is prepared to make sure that all conditions of the proposed licence will be complied with and enforced.

Response

The licensee is charged with ensuring compliance with all conditions of its waste licence. Non-compliances with conditions of a waste licence are an offence and may be subject to prosecution. The licensee is required to report to the Agency on monitoring carried out at the facility and submit various reports at specified intervals. The Agency reviews these items and also carries out site inspections, audits and compliance monitoring at the facility. Non-compliances observed are notified to the licensee along with necessary actions to be undertaken. The Agency informs the licensee that non-compliance with conditions of the waste licence is an offence and may be subject to further enforcement action. The Agency will prosecute licensees for non-compliances based on the licensees performance and actions taken on foot of notifications and the severity of non-compliances.

15. Monitoring (Degree of / Independent)

One submission refers to the need for thorough and competent monitoring and that there be independent monitoring carried out as part of any licence granted.

Response

The licensee is required to carry out monitoring in accordance with Condition 8.1 and Schedule D of the recommended Proposed Decision and to report these results to the Agency. The Agency will also undertake compliance monitoring at the facility.

16. Adequate covering of waste

One submission refers to the issue of covering waste once it is deposited on site and that it understands that this has not always been carried out at the appropriate time or proper manner.

Response

This is discussed in Section (2) of the report above under the subheading *Nuisance Control*.

17. Communications

A number of submissions relate to communications and understanding of operations at the facility. One submission asks how can residents know and understand if emission levels have been breached.

Response

The licensee has set up a Community Liaison Group to discuss issues arising at the facility and also the proposed extension. Condition 2.3.2.5 of the recommended Proposed Decision requires the licensee to include as part of its Environmental Management System a Communications Programme to ensure members of the public can obtain information at the facility.

18. Hazardous waste disposal

One submission expressed concern at the disposal of hazardous waste at the facility.

Response

Condition 1.5 of the recommended Proposed Decision specifies that no hazardous waste be disposed of at the facility other than “*construction materials containing asbestos*”. This waste is only allowed to be disposed of at the facility in accordance with Condition 5.7.3 which requires it to be double wrapped and disposed of in prepared bays or trenches and immediately covered over with suitable material.

The recommended Proposed Decision also provides for the acceptance of specified hazardous wastes at the civic waste facility for recovery/disposal offsite (Condition 5.9).

19. Waste types accepted at the facility

One submission expressed concern at the acceptance of animal waste at the facility such as skin and hide and from fish processing and queried the acceptability of such waste under the terms of the existing licence.

Response

Condition 1.5.1 of the recommended Proposed Decision prohibits the disposal of animal waste at the facility. Under the terms of the existing waste licence the licensee has been instructed to cease disposal of animal waste at the facility.

20. Submission from Dúchas

One submission from Dúchas referred to the proximity of the facility to the River Nore - a designated SAC. The submission states that the leachate and stormwater management proposals should address any potential concerns in relation to the nearby SAC and that the proposed use of silt traps during the N77 realignment should be sufficient to prevent siltation during these works. It further states that provided normal EPA guidelines are adhered to Dúchas should have no reason to object to the proposed expansion.

Response

The submission is noted and the provisions referred to have been catered for in the recommended Proposed Decision.

(10) Reasons for the Recommendation

It is recommended that a licence be **granted** for Classes 1, 4, 5 & 13 of the Third Schedule and Classes 2, 3, 4, 9, 10, 11 & 13 of the Fourth Schedule as applied for in the application. In coming to this recommendation, I consider that these activities would, subject to the conditions of the recommended Proposed Decision, comply with the requirements of Section 40(4) of the Waste Management Act 1996.

I recommend that the following waste activities applied for be **refused**: Classes 2, 11 & 12 of the Third Schedule. The activity proposed under Class 2 of the Third Schedule is covered under Class 10 of the Fourth Schedule which is recommended to be granted. Similarly, the activity proposed under Class 11 of the Third Schedule is covered under Class 13 of the Third Schedule and Class 11 of the Fourth Schedule. Similarly, the activity proposed under Class 12 of the Third Schedule is covered under Class 13 of the Third Schedule and Class 13 of the Fourth Schedule.

Signed _____
Donal Howley, Inspector,
Environmental Management & Planning.

Dated:

APPENDIX 1

LOCATION MAP, EXISTING LAYOUT PLAN & PROPOSED LAYOUT PLAN