



**OFFICE OF
LICENSING &
GUIDANCE**

INSPECTORS REPORT ON A LICENCE APPLICATION

To:	DIRECTORS	
From:	Niamh O' Donoghue	- LICENSING UNIT
Date:	5th October 2004	
RE:	Application for Review of a Waste Licence from Kerry County Council, Licence Register 1-3	

Application Details

Type of facility:	Landfill for Non-Hazardous Waste
Class(es) of Activity (P = principal activity):	3 rd Schedule: Class 2, 4, 6, 7, 11, 12, and 13, under Waste Disposal Activities. Class 5 (P). Specially engineered landfill, including placement into lined discrete cells, which are capped and isolated from one another and the environment. 4 th Schedule: Class 2, 3, 4, 10, 11, and 13 under Waste Recovery Activities.
Classes of Activity Refused	4th Schedule: Class 9 - The burning of landfill gas is not covered by the fourth schedule of the Waste Management Acts 1996 to 2003.
Quantity of waste managed per annum:	77,000 tonnes per annum (tpa) including 2,000 tpa for composting.
Classes of Waste:	Non-hazardous household, commercial, construction & demolition waste, industrial non-hazardous solids and biodegradable waste for composting.
Location of facility:	Muingnaminnane, Tralee Co. Kerry.
Licence review application received:	8 th September 2003
Third Party submissions:	One
EIS Required:	Yes
Article 14 Notices sent:	30 th June 2004
Article 14 compliance date:	14 th September 2004
Site Inspection:	12 th July 2004

1. Facility

Kerry County Council have operated a landfill on a 17.5-hectare (ha) site at Muingnaminnane, Tralee, County Kerry since 1994. They were originally licensed by the Agency in July 1998 (1-1);

subsequently a reviewed licence (1-2) in 2000 was granted to allow for an increase in the quantity of waste accepted. The current review application relates to a proposal by Kerry County Council to extend the existing facility to a 14.6 ha site (total area 32.1ha) adjacent to the northern boundary of the existing landfill. The land is currently commercial forestry owned by Coillte.

The present landfill has been developed in eight phases involving the construction of sixteen engineered waste cells. Phase six is currently under construction and it is estimated that the remaining capacity will be used in three years. The proposed extension will be developed in five phases, each containing two separate cells, over a ten-year lifespan. A total waste quantity of 1,182,255 tonnes will be landfilled in the 32ha site with approximately 620,255 at the proposed extension.

The proposed extension is located in a rural area in the Stack Mountains surrounded by commercial forestry and mountain bog. Adjacent to the eastern boundary of the present site harvesting of the bog by locals takes place. There are a number of windfarms in the area and permission has been given for a 21-turbine windfarm adjacent to the southern side of the existing landfill. The nearest residential property is situated approximately 1.03km east of the site. Ballydwyer is the nearest village 8km south and the nearest towns are Castleisland 9km southeast and Tralee at 12km southwest. The road network is primarily third class, though this road has been upgraded in the last number of years.

Infrastructure as required by licence 1-2 is in place, infrastructure to be newly constructed for the extension includes banded waste inspection and quarantine areas, site accommodation, surface and foul water drainage and a leachate holding lagoon. It is proposed to use the existing fuel storage and composting areas and move the present weighbridge to a new location.

The proposed landfill will operate Monday to Friday from 0830 to 1730 and Saturday from 0900 to 1400. Saturday operating hours will be extended to 1700 on bank holiday weekends. No waste will be accepted on Sundays or bank holidays. There will be nine people employed on site.

2. Operational Description

Kerry County Council (KCC) accepts 77,000tpa of waste at the facility and it proposes to maintain this figure in the extended facility. This accounts for 90% of waste collected in County Kerry. The Recommended Decision (RD) requires waste acceptance procedures at the facility to be updated and comply with any applicable requirements of the Council Decision 2003/33/EC and any relevant guidelines issued by the Agency.

Waste will be spread and compacted in 1m lifts with a minimum gross weight of 30-40 tonnes. The working face will be kept to a maximum of 2.5m high by 25m wide. The waste will be covered at the end of each working day using natural soils or proprietary daily cover materials.

The existing facility is licensed for the acceptance of 2000tpa of organic waste for composting within covered windrows in a designated composting area. It is proposed to maintain this facility. The RD only allows for source segregated organic waste and green waste to be accepted at the facility and compost quality is set in Schedule F.

The present Civic Amenity Site will be expanded and upgraded. The infrastructure set in the RD allows for seven receptacles/skips in the lower level that will be labelled for construction and demolition waste, metals, plastics, aluminium cans, wood/timber, glass and household waste for deposition in the landfill. On the upper level a further six labelled receptacles for textiles, drink cans, glass, plastic, paper and litter will be in place. The RD only allows the skip labelled for household waste to be sent to landfill. All other receptacles/skips will be transported off-site for recovery.

3. Use of Resources

- Fuel: Annual use of hydraulic oil and diesel is put at 2,000 litres and 51,400 litres respectively for use by mobile plant on site.
- Electricity: The yearly use is put at approximately 40,000 kWh.

4. Emissions

4.1 Air

Emissions to air will consist of dust, odour, aerosols and landfill gas. The RD imposes limits on dust, which will be monitored biannually. Additional mitigation measures for dust in the RD include use of

a wheelwash, daily covering of waste, all landfilling taking place within a perimeter embankment, additional berms grassed and planted between the landfill footprint and the nearest residents and the spraying of access routes and exposed areas during periods of dry weather.

Odour assessment modelling was conducted as part of the application. A phased modelling approach was used to ascertain the odour impact over the lifetime of the facility. The results showed that at the nearest residential property all residents would perceive an odour concentration of $\leq 3.0 \text{ OUEm}^{-3}$ at the 98th percentile in a worst-case meteorological year. Mitigation measures in the RD include maintaining quiescent conditions while filling and emptying the leachate lagoon and the use of a mist scrubbing system during appropriate meteorological conditions.

Landfill gas is monitored at present in each cell and at perimeter locations. A landfill gas collection system is in place connected to an enclosed flare. A liner system is in place throughout the entire site, which restricts the lateral migration of landfill gas however; the liner system employed varies through the site. A network of gas monitoring wells will be installed around the extension landfill footprint and within each cell. Passive landfill gas vents will be installed at each phase of the development at 40m intervals. The RD requires all passive wells to be fitted with an effective carbon filter. These vent wells will become permanent vertical wells, if found to be suitable, at the final capping stage when a permanent gas collection and treatment system (5.5 wells per ha) will be put in place. The existing ground flare will be maintained at the current rating of 500m³/hr in the short term. Increased capacity requirements will be reviewed if necessary when a final decision is made with regard to the feasibility of power generation, which is expected to begin in 2007. The RD requires a proposal for the utilisation of landfill gas as an energy resource within six months of the date of grant of the licence. This was required in licence 1-2, however insufficient quantities of gas have been produced to date. KCC calculate that utilisation of gas should become possible over the coming months.

4.2 Emissions to Sewer/Leachate.

There will be no emissions to sewer from the proposed facility. Wastewater will only be generated in the administration building and will be sent to a proprietary wastewater treatment system, and finally discharged to a percolation area. The RD requires that this meet the specifications in the EPA Manual – Wastewater Treatment Systems for Single Houses. The expected quantity of foul sewage generated is put at 15m³/week.

Within the present landfill footprint leachate collects through a network of collection pipes to a leachate collection manhole and then to one of two leachate storage lagoons with storage capacities of 1350m³ and 600m³ respectively. Leachate from the composting area is stored in a separate lagoon of approximately 300m³. At the proposed facility a herringbone leachate collection system will be constructed on top of the basal liner from where it will be pumped to the new leachate lagoon. The new lagoon specifications are required to be similar to that of the basal liner, which is the case with the present lagoons. It will have a capacity of 600m³ providing 4.4 days storage at maximum predicted production rates in 2013. The RD requires a freeboard of 0.75m in the leachate lagoon. From here the leachate will be transported via tanker to the wastewater treatment plant at Castleisland or Tralee. A letter of agreement from the Water Services Section of Kerry County Council to accept the leachate generated from both the existing and proposed extension has been submitted with the current application. A control and data acquisition system (SCADA) for monitoring the leachate depth has been developed on site. The RD requires this to be extended to the new facility.

A leachate recirculation system is in operation at the site presently beneath the temporary and final caps and will be continued in the extension area. The RD requires that this may only occur within cells that have been lined to the satisfaction of the Agency and then only with the prior agreement of the Agency.

4.3 Emissions to Surface Waters

Existing infrastructure at the site for the control and monitoring of emissions to surface water comprises two surface water/groundwater retention ponds located prior to the discharge to a perimeter drain and subsequently the Lee and Smearlagh catchments. Discharge is controlled via an actuated penstock valve and trigger levels have been agreed with the Agency.

The entire site of the proposed extension lies within the catchment of the Smearlagh River, which converges with the River Feale, which is classified as a salmonid river. Both rivers have a Q4 rating. Surface water drains are present at the east, west and north of the proposed extension. These drain to the Glashoreag River approximately 1.5km northeast of the property which in turn joins the Smearlagh River approximately 4km northeast. Monitoring of background water quality in the surrounding drain and Glashoreag River indicated faecal contamination (>2419, 2419 and 461 c.f.u. /100ml) and elevated BOD's (109 and <3), which KCC attribute to the organic rich environment and sheep grazing in the area.

The construction of a surface water swale and two surface water lagoons is required by the RD prior to any other development works on the new site. All surface water leaving the site will be directed to the settlement lagoons prior to discharge to the Glashoreag River. Surface water from roads and hardstanding within the facility will drain through a grit trap and oil interceptor prior to discharge to the lagoons. Surface water from the roofs, lined but unfilled landfill cells and run-off from capped areas will discharge to the surface water lagoons. Each surface water lagoon will be capable of storing 1200m³, which is three days retention at maximum rainfall. The maximum value was calculated using rainfall figures collected over one year. The RD requires this figure to be re-evaluated using rainfall figures over a 5-year period and the surface water lagoons sized accordingly. The outflow from the lagoons will be controlled using a floating arm draw off arrangement. The outlet will include an actuated penstock valve and monitoring for level, conductivity, dissolved oxygen and pH. The penstock valve will allow for the discharge from the facility to be shut-off in the event of surface water contamination. Trigger levels indicating contamination have been agreed with the Agency.

It is proposed to retain 150m³ in the northwest surface water lagoon for fire fighting purposes. The three-day capacity of this lagoon is available on top of that retained for fire fighting purposes.

Based on on-going monitoring data of macroinvertebrates within the receiving waters of the Lee and Smearlagh required in the present licence there has been a slight deterioration in the Q-value of streams to the west, north and east of the site from Q4 to Q3-4, however it is unclear at this stage if this is due to the presence of the landfill. The RD requires the continuation of the biological assessment of the Lee and Smearlagh on an annual basis as is set in the existing licence (1-2).

Kerry County Council will continue to use the existing bunded fuel storage tanks on site each has a capacity of 2.08m³. The maximum volume of fuel stored at any one time is 3.79m³

4.4 Emissions to Ground/Groundwater:

There are no direct emissions to ground/groundwater at the facility. Blanket peat covers the extension site varying from 0.2m in the northwest to a maximum depth of 1.6m in the extreme southwest. The subsoil's consist of yellow to grey clay with gravelly clay recorded at deeper levels, with the depth to bedrock varying from 1m to 1.9m. The entire site is underlain by the Feale Sandstone formation. Drilling investigations indicate that the bedrock consists of sequences of siltstone and mudstone and the rock is weathered to a depth of 36m. Although the bedrock is fractured, very low groundwater inflows were recorded.

The Geological Survey of Ireland (GSI) has provisionally classified this aquifer as a Locally Important Aquifer, which is moderately productive only in localised zones (L1). The GSI indicate the classification is subject to revision when the National Aquifer Classification Map has been completed. Previous hydraulic testing done for the preparation of the EIS in 1998 and further tests in 2002 indicated that the aquifer falls into 'Category D', which is the least productive category of the classification scheme. The site-specific vulnerability rating is assessed as - *High* due to its shallow overburden and infiltration capacity. In accordance with the 'Groundwater Protection Schemes' this results in the assignment of the R2¹ rating to the site implying it is acceptable for landfilling, subject to guidance outlined in the EPA Landfill Design Manual or conditions of a waste licence (the existing site had a rating of R2²). During construction the removal of the natural overburden will change this rating from R2¹ to R2². The RD requires 1m of reengineered, low permeability, compact clay across the site to reduce the risk to the underlying aquifer to a level that exists within the site naturally. The RD further requires where excavation is into bedrock that the ground shall be lowered an additional 500mm and replaced with 500mm of re-engineered and compacted clay.

It is proposed that the landfill extension will be constructed above the watertable. However due to the poor hydraulic characteristics it was felt in the EIS that aquifer seepage faces may be encountered, KCC proposes to pump any water encountered during construction to the perimeter swale where it will be diverted to the settlement ponds prior to discharge to the surface water environment. The lined cells will be constructed in accordance with the EPA 'Landfill Design Manual (2000)'. All cells from phase five inclusive in the present landfill meet this lining specification; earlier cells though lined do not meet the specifications of the Landfill Directive.

There are two private wells within 3 km of the proposed extension, the closest being 1.86km southeast, the other 2.89km southwest.

4.5 Noise:

The site of the proposed extension is situated in a rural area surrounded by commercial forestry and mountain bog. The nearest noise sensitive location is approximately 1km east of the site. The noise generation in the proposed extension will be similar to that at the existing site. There will be no increase in the number of vehicles using the site. The main noise source is that associated with the mobile plant and site machinery. The predicted maximum daytime noise level at the nearest residence is 46.5dB(A). Noise monitoring will continue at the nearest noise sensitive property and emission limit values are set in accordance with EPA guidance. The gas operated bird-scaring device is the only source of impulsive noise, which is used only when birds become a nuisance at the site. The RD restricts the use of this device to the opening hours of the facility. Additional noise mitigation measures require that mobile plant be throttled down and turned off when not in use.

4.6 Nuisance:

- Litter: RD requirements for the control of litter include the daily covering of the waste and all waste delivery vehicles. Netting will be used, and approach roads inspected daily.
- Dust: RD requirements for the control of dust include the spraying of site roads during periods of dry weather and the cleansing of roads using a road suction sweeper as necessary. Dust monitoring will be carried out three times a year, twice between the months of May and September. The RD requires a round of dust monitoring to be carried out during the construction of each phase.
- Vermin: RD requirements for the control of vermin include the use of professional vermin control experts as necessary. In dry weather industrial sprays will be used to control fly infestations.
- Birds: The control of birds shall be carried out using birds of prey and/or shotgun/bird-scaring device. A gas cannon is also in use at the facility. Operational procedures such as the use of a netting system to limit access for birds to the active tipping head will reduce the attractiveness of the facility for birds.

5. Visual Impact

The area of the proposed extension is screened from the surrounding landscape due to undulating hills and conifer forest plantation. There are limited views from surrounding elevated positions. There is a hill-walking trail along the Stack Mountains to the north of the site (3km at its nearest point) and Kerry County Council has designated the Stack Mountains as a Secondary Special Amenity Area. There is a designated view approximately 1.25km southwest of the existing landfill, however this view does not look towards the facility. The RD specifies a buffer zone of 50m, of which 20m must be retained as existing conifer trees for screening purposes. The new location is also at a slightly lower elevation than its current position thus reducing its impact. No buffer zone was specified in the previous licence, however the RD requires a buffer zone of 50m on all new cell developments at the existing site.

6. Cultural Heritage, Habitats & Protected Species

The lower River Shannon is a candidate Special Area of Conservation (cSAC) site code 2165, which extends 120km along the Shannon Valley. This cSAC is 1.5km northeast of the site. As discussed the proposed development is in the catchment of the Smearlagh River which is a tributary of the River Feale which discharges to the mouth of the Shannon approximately 2km south of Ballybunion. The River Feale is classified as a salmonid water body under the EC (Quality of Salmonid Waters) Regulations, 1998. Ultimately, tributaries of the Feale would also be classified as Salmonid. The RD

requirements for the protection of the surface water and groundwater environments have been discussed in the previous sections of this report.

The site itself lies within an area, which is currently under consideration as a Special Protection Area (SPA) in respect of the hen harrier. The hen harrier is listed in Annex 1 of the EU Birds Directive and is a Red Data Book species. A survey of hen harrier activity in the vicinity of the North Kerry Landfill was conducted as part of the EIS (2003). Visits were made to determine the numbers of territorial pairs within a 5km radius of the site. It found a minimum of four breeding pairs with a maximum of six pairs. The closest possible breeding pair was 1km from the landfill site. An assessment of the use of the proposed extension site by the hen harriers was undertaken. No pairs were observed within the proposed site extension and the habitat was not thought to be suitable for breeding or foraging, as it is a block of mature coniferous forestry. A copy of a letter from the Department of Environment, Heritage and Local Government to KCC submitted with the application confirms this view. In addition it was felt that the proposal to reseed the landfill with heather after final capping would result in a net improvement in locally suitable habitat for the hen harrier. Additional mitigation measures required by the RD are the timing where possible of construction work outside the main hen harrier breeding season (April to August), construction operations to be on a phased basis, and the retention of a forestry screen.

7. Waste Management, Air Quality and Water Quality Management Plans

The local authorities of Limerick Corporation, Limerick County Council, Clare County Council and Kerry County Council agreed and adopted a Waste Management Plan in September 2001. The plan sets out the policy for integrated waste management in the region for the following 25 years. Its aim was to achieve maximum landfill diversion through fastest possible implementation of recycling and thermal treatment of combustible wastes. Waste stream targets set were 41.2% recycling, 45.3% thermal treatment and 13.5% landfill. This meant the rationalisation of landfill sites in the area to Doora in Clare, Gortnadroma in Limerick and North Kerry Landfill.

Council members adopted a draft County Development Plan (2003-2009) in January 2003. At present 90% of waste in Kerry is being landfilled at North Kerry Landfill. Though the plan includes provision of a network of waste transfer stations, additional bring banks and civic amenity centres the provision of a landfill in the county is still a requirement.

8. Environmental Impact Statement

I have examined and assessed the EIS and am satisfied that it complies with the EIA and Waste Licensing Regulations.

9. Compliance with Directives/Regulations

The Recommended Decision takes account of the requirements of the relevant legislation/Directives including the following: the Landfill Directive, the IPPC Directive and the EU Animal By-products Regulations-for composting.

10. Compliance Record

The comments of the OEE Inspector are included in this section. There have been no complaints received by the EPA in respect of North Kerry Landfill in 2003 and none to date in 2004. There have been three site visits in 2004. There was one incident on site in April 2004 when leachate from a burst pipe entered the surface water collection system, however this was diverted to the leachate lagoon. On the site visit in April it was confirmed that a new pipe was in place.

Two notifications of non-compliances have been issued in 2004 to date. These notifications related to issues such as storage of fuel in an unbunded area and delays in installation of infrastructure (SCADA) highlighted as a result of site inspections undertaken by the Agency. No enforcement actions have been taken by the Agency since the present licence was issued (29/11/00). The SCADA system is now in place on site.

11. Fit & Proper Person Assessment

The applicant is a Local Authority and has not been prosecuted by the EPA.

12. Submissions

There were two submissions made in relation to this application, a single letter signed by two members of a household dealt with below.

. Submission from Mr Tom Reidy and Margaret Fitzgerald Reidy, Reamore, Kielduff, Tralee Co. Kerry.
A submission was received from the Reidy household. The Reidy residence and land is in the immediate vicinity of the landfill. Three points were made in the submission each of which will be separately dealt with below.

(i) *The Reidy household is concerned about visual impact of the facility on their household and lands.*

Kerry County Council has operated a landfill at this location since 1994. The Reidy household is situated over 1km west of the existing and proposed extension though their lands are immediately adjacent. Visual impact will be minimised and controlled due to the extension facility being at a slightly lower elevation than the existing site and being enclosed in a 20m buffer of mature conifer trees.

(ii) *The Reidy household is concerned about the impacts on the local population and refer to the fact that the local population took Kerry County Council to the High Court due to the general mismanagement of the site. They state that people do not complain as they feel it is a total waste of time.*

Kerry County Council have been brought before the High Court for nuisance and this matter is currently before the Court. A previous High Court action (No. 27389P) was brought by the Local Residents Association and the facility is run in accordance with a settlement agreement dated the 05 October 1993. This agreement specifies the types of waste that are permitted at the facility, the environmental management monitoring and pollution control measures and the reporting of monitoring results to the local residents. The facility must be operated within the conditions of the Recommendation and therefore the proposed development should not cause a nuisance due to odour, vermin, birds etc

The RD requires a written record of all complaints to the facility with actions taken in response. As stated the EPA received no complaints in 2003 or to date in 2004 in relation to North Kerry Landfill. The RD also requires the provision of the sum of fifty thousand six hundred euro per annum, (index linked) for local environmental and community initiatives for each year that the landfill accepts waste for disposal. This fund has been in place since 2002.

(iii) *The submission expressed concern on the effects the presence of the landfill has on the value of their property and their ability to sell sites. They wish Kerry County Council to compensate them financially for the asset value of their property.*

The issue of property value is beyond the scope of this licensing process. Material asset impact is a matter for discussion with Kerry County Council or decision by An Bord Planála.

14. Charges

The charges to North Kerry Landfill were €31,133 for 2004. The charges set by the current RD are €20,342. KCC have in place an annual fund for local environmental and community initiatives to the value of €50,600. The continuation of this indexed linked fund is provided for in the RD.

15. Recommendation

I have considered all the documentation submitted in relation to this application and recommend that the Agency grant a licence subject to the conditions set out in the attached RD and for the reasons as drafted.

Signed

Niamh O' Donoghue

Procedural Note

In the event that no objections are received to the Recommended Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2003