

INSPECTORS REPORT

Waste Licence Register Number: 17-2

Applicant: Limerick County Council

Facility: Gortadroma Landfill, Ballyhahill, Co. Limerick.

Inspector: Ms. Regina Campbell

Inspector's Recommendation: That a revised licence be granted subject to conditions.

(1) Introduction

This report relates to an application by Limerick County Council (LCC) for a review of the existing waste licence for Gortadroma Landfill (Reg. No. 17-1, issued on 26/11/99). The landfill has been in existence since 1990 and is located in a rural area about 12km north of Newcastlewest. Cells 1-4 are unlined and later cells are lined. The facility is approximately 35 hectares in size. Up to December 2002, it is estimated that 816,000 tonnes of waste have been landfilled at the facility. The initial review application received requested an increase in annual tonnage for disposal from 130,000tpa to 143,000tpa. However, further information received stated that no change to the present tonnage licensed for disposal (130,000tpa) was proposed. Quantities for recovery are also listed in Schedule A of the recommended PD. The review application does not propose any change in the footprint of the area to be landfilled. The nearest residential property is located to the west of the facility boundary and is approximately 200m from the facility boundary.

A large amount of infrastructure has been put in place since the existing licence was issued. Further details are given in Section 3 of this report.

The principle amendments proposed in the review application to the existing waste licence (WL 17-1) are as follows:

1. To amend the emission limit values for treated leachate discharged to the White River.
2. To allow the acceptance of wood chippings and automatic shredder residue for use as weekend cover;
3. To allow the once-off acceptance of 3,000 tonnes of bonedust mixed with sand from a quarry where it was illegally dumped;
4. To increase the size of the working face;
5. To increase the waste acceptance and operational hours.

Section 2 of this report details the proposed amendments and the Inspector's recommendations.

The principal activity and classes of activity applied for are as licensed under the existing waste licence:

- Waste Disposal Activities – 3rd Schedule (Classes 1, 2, 4, 5, 6, 7, 11 and 13); and
- Waste Recovery Activities – 4th Schedule (Classes 2, 3, 4, 9, 10, 11, 12 and 13).

The principal activity applied for is Class 5 of the 3rd Schedule.

The environmental impacts and associated mitigation measures at this facility were addressed in detail in the Inspector's report that accompanied the Proposed Decision for the existing Waste Licence 17-1.

Recommendation:

It is recommended that all the above activities, for which the applicant has applied for be licensed subject to the conditions outlined in the recommended Proposed Decision.

Appendix 1 contains a Site location map Drawing No. DG0001 Rev. A01 and Site layout Drawing No. DG0003 Rev. A01.

Quantity of waste for disposal applied for (as per additional article 14 information received)	130,000 (as in existing licence)
Date application received	25/10/02
EIS Required	No
Number of valid submissions received	Three
Recent facility visit	30/05/03 (Regina Campbell)

(2) Amendments to the Existing Licence Requested

The applicant stated the following reasons for the licence review:

- To amend the emission limit values for treated leachate discharged to the White River.**
There has been no discharge of treated leachate from the facility since January 2000. This is because the treated leachate is currently not complying with the conditions for discharge as set under WL 17-1.

The performance of the leachate treatment plant for the removal of BOD and ammonia is very good and to a lesser extent for the removal of suspended solids. The plant was designed for the intensive removal of suspended solids, BOD and for nitrification of ammonia to nitrate.

Because the treated leachate is not meeting the COD and TON emission limit values, it has to be tankered to nearby waste water treatment plants for disposal. Table 1 provides a summary of the existing discharge control parameters and those requested by the applicant.

As part of the review application, LCC have proposed an automated system for the monitoring and flow control of leachate at the facility. In addition, LCC have constructed an anoxic tank which will be used to treat nitrates generated from ammonia conversion.

Information was provided in the review application to show that increasing the emission limit values for suspended solids and BOD and removing the emission limit value for COD and TON will not result in a deterioration of water quality in the White River downstream of the treated leachate discharge. LCC have also proposed to increase the minimum number of dilutions available in the White River from 20 to 40 and have proposed that the minimum river flow for discharge of leachate should be increased from 6 l/s to 50 l/s.

Having had regard to the information submitted in the application, I recommend that the emission limit values for treated leachate be amended in accordance with those requested by the applicant and as shown in Table 1 below.

Table 1

Parameter	WL 17-1	Requested by applicant & in recommended PD	Concentrations post dilution (40 : 1) (mg/l)	Salmonid Water Quality Standards (mg/l)
Max. vol. emitted per day to White River	120 m ³ /day	120m ³ /day	-	-
Min. river flow	6 l/s	50 l/s	-	-
Min. no. of dilutions	20	40	-	-
	Limit (mg/l except pH)	Limit (mg/l except pH)		
pH	6-8	6-8	-	6-9
BOD	5	25	0.625	<5
COD	15	Abolish	-	-
Suspended solids	5	35	0.875	<25
Total Oxidised N (as N)	15	Abolish	-	-
Total P (as P)	2	2	0.05	-
Total Ammonia	3	3	0.075	<1.0

2. **To allow the acceptance of wood chippings and automatic shredder residue for cover.** The applicant requests that wood chippings and automatic shredder residue be allowed to be used as cover at the landfill. The use of wood chippings as use for weekend cover is allowed in the recommended PD. However the use of automatic shredder residue as cover will only be allowed once the applicant has demonstrated to the satisfaction of the Agency that the material is non-hazardous (see Schedule A of recommended PD).
3. **To allow the once-off acceptance of bonedust mixed with sand from a quarry where it was illegally dumped.** Under the existing licence, no animal by-products may be deposited at the landfill. The applicant requested that they be allowed to landfill 3,000 tonnes of 'calcium phosphate or bonedust' that is mixed with sand and is presently disposed in a quarry. However the disposal of this mixture at the facility will only be allowed once the applicant has demonstrated to the satisfaction of the Agency that the material is non-hazardous (see Schedule A of recommended PD).
4. **To increase the size of working face.** The applicant requests that Condition 5.12 b) of the existing licence be amended to allow an increased working face of 50m x 50m. It would still be no more that 2.5m high and have a slope no greater than 1 in 3. The reason for this is for ease of operations during busy periods. I consider that the condition currently in the current licence 17-1 does not specify the length of the working face and is therefore hard to enforce. I recommend therefore that a working face of no greater that 25m wide and a length no greater than 50m is allowed in the recommended PD (Condition 5.4).
5. **To increase waste acceptance and operational hours.** The present working day as defined in the existing licence is from 8.00am to 5.00pm Monday to Friday and 8.00am to 2.00pm on Saturdays. There is no distinction made between operational hours and waste acceptance hours. In the review application, the licensee requests that operational hours be 8.00am to 8.00pm Monday to Friday, 8.00am to 6.30pm on Saturdays and 8.00am to 4.30pm on Sundays and Bank Holidays. This is requested to allow fly-spraying and other essential maintenance works to be undertaken. Waste acceptance hours are requested to be

8.00am to 5.00pm Monday to Fridays, except Bank Holidays and 8.00am to 5.00pm on the Saturdays preceding bank holidays. Condition 1.6 of the recommended PD grants the hours requested by the licensee. No construction activities are allowed on Sundays or Bank Holidays.

(3) Facility Development Status

The provision and maintenance of infrastructure at the facility is to be controlled by Condition 3 of the recommended PD. Infrastructure at the facility includes offices, weighbridge, wheelwash, landfill gas collection system with an enclosed flare, leachate collection, treatment and storage infrastructure, stormwater settling lagoons, a civic waste facility and a composting slab. Conditions have been included in the recommended PD regarding the operation of the civic waste facility such as specifying the types of waste that can be accepted (Condition 5.10). It is estimated that 20 million euro have been spent on capital costs on upgrading the facility to meet the existing licence (17-1) requirements.

An area of 77,000 m² (Cells 1-10) have been finally capped in the last two years. The three remaining cells have been lined.

Monitoring locations and frequencies specified in the recommended PD in general reflect the current monitoring regime under the existing waste licence. However, some amendments have been made to the monitoring requirements having regard to the change to emissions limit values for treated leachate, results of the monitoring carried out to date, any subsequent agreements made during the enforcement of the existing licence and having regard to complaints received.

Condition 6.4 of the recommended PD requires the licensee to submit to the Agency for its agreement groundwater monitoring trigger levels in accordance with the requirements of the Landfill Directive.

(4) Licence History

There were 32 complaints made to the Agency in relation to Gortadroma landfill in 2002. The majority of these related to odour complaints from nearby residents. The Annual Environmental Report for 2002 submitted by the licensee stated that 112 complaints or queries were received by LCC during the reporting period. The majority of complaints were attributed to odour and bird-control. Other issues were noise, dust, litter and site activities (vehicle movement, etc.).

Measures in place at the facility for control of potential odour nuisances include the requirement to use daily and temporary cover and landfill gas management including flaring. Utilisation of the landfill gas will be required under Condition 3.13 of the recommended PD.

In order to ensure that the facility operates such that it does not cause odour nuisance, an effective odour management system is required including odour monitoring (Condition 8.11). The provision of final capping over completed cells within a specified timeframe (Condition 5.7) is also an essential component. The recommended PD also requires that sufficient landfill gas management infrastructure be provided at the facility to facilitate landfill gas collection and flaring/utilisation (Condition 3.13). A proposal to monitor surface methane emissions is required to be submitted to the Agency and this monitoring will be used to identify any escape of landfill gas from either the capped and uncapped areas (Condition 8.5).

Schedule C of the recommended PD sets emission limit values for the flare and/or utilisation plant when installed.

Condition 7 requires adequate bird control to be implemented at the facility. Condition 7.8 requires measures to be taken to reduce noise and disturbance from heavy machinery.

Since the grant of the waste licence (26/11/99), 14 notifications of non-compliance have been issued. The most recent notification of non-compliance issued related to odour nuisance, exposed waste and the active collection of landfill gas not being undertaken in a fully operational manner.

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

The Waste Management Plan for the Limerick/Clare/Kerry Region was adopted in September 2001. In the plan, Gortadroma landfill is named as the only operating landfill serving the Limerick region and it is also stated that recycling facilities will be provided at the landfill. It states that a significant amount of investment has been made over the last number of years by the Council to upgrade the landfill to the highest standards.

There is no relevant Water Quality Management Plan for the White River catchment and no relevant air quality plan for the region exists. The White River eventually drains to the Shannon Estuary which contains several Special Protection Areas (SPAs).

(6) Submissions

Three submissions were received in relation to this application. These are listed below.

Submission 1 – Mid-Western Health Board

The Mid –Western Health Board wrote to complain that the public file of the application was not available for inspection at the offices of Limerick County Council.

Response

The Agency wrote to Limerick County Council on 08/01/03 in relation to the matter and received a response on the 14/01/03 stating that the matter had been rectified and that the Mid-Western Health Board had been notified on the matter.

Submission 2 – Mid-Western Health Board (MWHB)

The MWHB stated that an Environmental Health Officer visited the landfill and completed a report on the potential implications on public health if the application is accepted. This report is included as part of the submission. The submission states in a cover letter that concerns voiced by the MWHB in the attached report are no longer relevant as the application no longer seeks to increase the annual tonnage at the facility. Regarding the proposed change in emission parameters for treated leachate, the MWHB said it did not wish to comment as it was beyond the expertise of the department.

Response

No increase in tonnage for disposal over and above the existing licence is requested. The changes to emission limit values requested by the applicant are explained above in Section 2 and are in the recommended PD.

Submission 3 – Gortadroma Action Group (GAG)

GAG submitted a detailed submission in relation to various aspects of the application and current operation of the landfill. The main issues are summarised here under different headings and the response is given under each heading. However, the original submission should be referred to for greater detail and expansion of particular points.

Waste Types and Quantities

- The Council exceeded its maximum quantity in the year 2002 without sanction.
- The Regional Waste Management Plan stated that there will be a diversion of 50% of household waste and a 65% reduction of biodegradable waste from landfill. GAG stated that biodegradable waste is not listed as a waste type in the review application and that this is confusing and must be sorted out. They also state that Limerick Council show no awareness or urgency to reduce intake to landfill in compliance with the National or even the Regional Waste Management Plan.
- They stated that the proportion of the budget allocated to recycling, including presumably recycling and processing of biodegradable waste is pathetically small and demonstrates the lack of commitment of the local authority to the effort necessary to promote and make a success of this important method of waste management.
- Overall GAG say that all figures should be examined in detail in using the planned reductions as a firm basis for any maxima in relation to waste types accepted in the landfill.
- GAG says that the proposed composting is a recycling initiative and one to be recommended. They say that as long as it is carried out in compliance with correct and accepted standards for the process, then the Group recommend that it should be allowed.

Response

In 2002, the Agency authorised the disposal of an additional 11,000 tonnes of waste at Gortadroma. This was as a result of the waste disposal crisis in Co. Clare earlier in the year which resulted in the annual tonnage at Gortadroma being partly used up by waste from Co. Clare.

The recommended PD does not specify the amount of biodegradable waste to be landfilled at Gortadroma. However Condition 11 of the recommended PD requires the licensee to examine waste recovery options for waste being accepted at the facility including proposals for the contribution of the facility to the achievement of targets for the reduction of biodegradable waste to landfill, going to landfills as specified in the Landfill Directive.

The recommended PD allows applicant to carry out composting and includes conditions relating to the monitoring of the composting process and of the end compost quality.

Waste Acceptance and Handling/Types and Quantities

- GAG state that LCC should be allowed to import soil and stones for use as cover and maintenance on the landfill.
- They do not object to the use of wood chippings as cover material.
- They state that they understand that Auto Shredder Residue is hazardous and was deemed to be so last year by the Agency. They state that the letter from Hegarty Metal Recycling submitted as part of the review application does not constitute proof of reclassification to non-hazardous waste and that the Agency should not allow this material to be used as cover.

- They state that the 3,000 tonnes of calcium phosphate and sand mixture should not be allowed in. If it is accepted then it should be brought in under strict conditions like sewage sludge. They say it should not be accepted in windy conditions and it should be brought in as the first load/s of any one day so that it will be adequately covered by other waste during the operation. However they note that most of the material is waste and as such should be considered as part of the annual intake.

Response

Schedule A allows the acceptance of soil/stones for use as daily cover, in site construction works and landfill restoration.

The use of wood chippings as cover is allowed in the recommended PD.

The recommended PD is for a non-hazardous landfill. Schedule A allows the use of Automatic Shredder Residue as cover only if it is tested and proven to be non-hazardous to the satisfaction of the Agency.

The calcium phosphate/sand mixture will be accepted for disposal only if it is tested and proven to be non-hazardous to the satisfaction of the Agency. In the event that it is authorised to be disposed of, then it will be included in the annual waste tonnage for industrial non-hazardous solids.

Opening Hours

GAG says that the present licence allows the acceptance of waste on Mondays to Fridays from 8.00hrs to 17.00hrs but that there is no actual restriction on working hours within the dump for dump management activities and for construction work. They say that this has led to excessive noise and other nuisances being generated at very early and very late hours when local residents felt they were entitled to some peace and quiet.

GAG suggests the opening hours should be as follows:

Mon-Fri, for acceptance of waste	08.00hrs to 16.30hrs
Mon-Fri, for all dump operations	08.00hrs to 18.00hrs
Saturday prior to public holidays	08.00hrs to 16.00hrs
Saturday and Sunday for essential maintenance and fly spraying activities only	08.00hrs to 16.00hrs
Mon-Fri, for all construction activities	08.00hrs to 19.00hrs
Mon-Fri, for construction traffic	08.00hrs to 16.30hrs
Saturdays for construction work	08.00hrs to 16.00hrs
No construction work on Sunday or Public Holidays.	

They say that it is not acceptable to local residents that any work whatsoever be carried out during the night unless it is an unavoidable emergency such as fire fighting or containment of effluent resulting from the collapse of a structure, for example.

They say that the applicant management should have the capacity to plan its workload to fit into normal working hours standard for all industry except continuous processes and farming.

Response

The recommended PD allows waste acceptance between the hours of 8.00am and 5.00pm Monday to Fridays and 8.00am to 5.00pm on Saturdays preceding Bank Holidays only.

The landfill at the facility may only be operated during the hours of 7.30am to 8.00pm Monday to Friday inclusive, 7.30am to 6.30pm on Saturdays and 8.00am to 4.30pm on Sundays and Bank Holidays.

Operations on Sundays are limited to essential maintenance and fly spraying activities only. No construction activities are allowed on Sundays or Bank Holidays.

In addition, the recommended PD requires noise monitoring and sets noise emission limits for noise sensitive locations. Condition 7 requires the use of low sound level plant on site and all heavy machinery and mechanical plant are required to be fitted with acoustic panels and acoustic mufflers (exhaust silencers).

Working face

- GAG state that the conditions of the licence are for a 25m x 25m working face. They say the measures stipulated in the original waste licence application 17-1 are not presently being adhered to and an increased working face will only make matters worse.
- The main difficulty with this and the environmental nuisances arising from waste accepted and handling, already pointed out to the Agency by them in previous submissions, is the lack of objective, measurable parameters and maxima or minima for these nuisances.
- They state that the fact that litter-pickers are required means that it is an in-built admission of failure to provide effective control measures.
- They also state that the bird control agreed under Condition 6.4 of the present licence is not being complied with. They say that a gun is being used as a method of control and there is no falcon. They say that the dawn is coming earlier and birds are feeding young and that it is essential that this issue be remedied immediately and kept in place.
- They state that until all of these issues are dealt with in an adequate and satisfactory manner from the point of view of the local residents then the working face should not be changed from those specified in Conditions 5.12(a) and 5.12(b).
- They also state that the Agency should make it a condition that in relation to the assessment of the effectiveness of its control measures, that the local residents should be surveyed on a quarterly basis with a questionnaire similar to that used by GAG in 1997. The results should then be published and used for the development of improvements in areas where controls are not found to be adequate.

Response

Condition 7 requires litter control at the facility. In addition a high winds procedure is currently in operation at the facility.

The licensee is required to undertake daily nuisance monitoring and keep a record of all inspections. Condition 7 specifies that bird control is undertaken from before dawn to after dusk. This condition does not allow the use of gas operated bird scaring devices.

The present licence does not specify a length for the working face. In order to clarify the situation, the recommended PD requires that the length of the working face be no more than 50m long and 25m wide.

Condition 2.4 requires a Communications Programme informing and involving the local community to be maintained. This may provide an effective way in involving the community in any surveys.

Leachate

- GAG state that currently leachate is discharged to three local authority wastewater treatment plants and then is presumably discharged to rivers. They say that the leachate treatment plant was designed by the local authority and the consultants and that the parameters in the original application were accepted by the Agency as the limits for discharge. They have concerns that the people who designed built and failed to operate the facility to the standards set out by themselves and accepted by the Agency are allowed to review their own failures.

The applicant now wants to abolish the emission limits and reduce the limits for other parameters just because it cannot manage to achieve them.

They state that the normal figure for BOD in unpolluted river water is 3mg/l; the limit in the current licence for treated leachate to the river is 5mg/l and the applicant wants this raised to 25mg/l. In other words, it wants a 5-fold increase in the pollution ability with only a doubling of the dilution required.

GAG are also concerned about suspended solids as they have the objective of bringing the White River up to or better than Salmonid Water standards. The requested significant lowering of standards that is being applied for would not help to achieve this objective.

The licence permits an upper limit of 3mg/l of ammonia in treated leachate. The ammonia standard in Salmonid Water. This, according to the application, has been exceeded as often as it has been complied with and it does not specify when it has been exceeded. They say that it may be when river flow is low and/or when fish are spawning and the population is at its most vulnerable. The fact that the upstream levels also exceed the required limit in no way excuses the request to exceed the limits set. It simply means that the relevant regulatory authority is not vigilant enough to prevent other pollution.

If the reason for tankering the leachate from Gortadroma is to have it treated further in the sewage plants then this suggests the leachate is not safe for release to the White River. If there is no further treatment carried out then it implies that other rivers are being polluted simply because standards are less than ideal.

The group state that none of the parameter limits should be changed.

- The GAG also expresses concerns about the private wells used for drinking water. There is an agreement that the applicant carries out an analysis of the drinking water in each well. The analysis carried out should include the following: colour, turbidity, odour, taste, temperature, pH, conductivity, chlorides, aluminium, nitrates, nitrites, ammonium, iron manganese, fluoride, suspended solids, total and faecal coliforms, faecal streptococci, total bacteria and residual chlorine. The test results should show the units of measurement, the maximum limits for the parameter and the actual result.

Response

As part of the review application and subsequent Article 14 information received, the applicant provided information to show that the removal of the emission limit value for TON and COD and the increase of the emission limit values for BOD and suspended solids would not have a negative effect on the White River. The applicant has not requested an increase in the emission limit value for ammonia.

In addition, the minimum flow in the White River prior to discharging treated leachate has been increased from 6 l/s to 50 l/s and the minimum number of dilutions in the receiving waters have been increased from 20 to 40 dilutions.

I am satisfied that in granting the amended emission limit values that the quality of the White River will not be significantly effected (see also Section 2 and Table 1 of this report).

The recommended PD requires that all drinking water supplies within 500m upgradient and 1km downgradient of the facility be monitored annually for the following parameters: odour, temperature, pH, chloride, total oxidised nitrogen, ammonia, conductivity, potassium, sodium, TOC, iron, manganese, residue on evaporation, total and faecal coliforms. This is a very comprehensive list and includes key indicators of leachate contamination such as ammonia, TOC and chloride. The licensee is required to provide an interpretation of all monitoring results. In the event that monitoring indicates contamination of local wells from the landfill, then further actions and remedial actions will be required to be undertaken by the licensee.

Gas emissions

GAG say that there has been ongoing problems with the flare, with leaks from the pipework and with the smells. The levels of condensate in the gas flare are still giving significant problems and these have not yet been satisfactorily addressed.

Odour is now the top complaint from the local community. Around Christmas 2002, the smell affected residents a long distance from the dump and it could be detected in the village of Ballyhahill itself for a short time. They say that the applicant has not adequately responded to the issue of smells in the locality. It will only be adequately assessed when the applicant puts monitors near to the houses where smells are a problem. The excuse of tampering with the equipment is an excuse to admit that a significant problem continues to exist. The Agency should specify that the monitoring equipment is placed where the smells are detected.

Response

Condition 3.13 contains detailed conditions relating to landfill gas management at the facility. These include the requirements to utilise landfill gas within twelve months from the date of grant of the licence and to ensure that sufficient flaring/utilisation capacity is provided for and maintained at the facility to deal with all the landfill gas generated there. The licensee must also maintain all infrastructure in a fully safe and operational manner.

The licensee is required to submit a proposal to the Agency for agreement on monitoring surface methane emissions from capped and uncapped areas. The subsequent monitoring will be used to detect any leaks from the capped areas.

The recommended PD requires monitoring of the flare and utilisation plant (when installed) and sets emissions limit values for them.

Condition 8.11 requires a detailed odour control programme to be put in place by the licensee. In addition the licence requires monitoring and analysis for organics, mercaptans, organic acids and hydrogen sulphide to be undertaken quarterly at odour sensitive locations.

(13) Recommendation

I recommend that a revised waste licence be granted in accordance with the conditions in the recommended Proposed Decision.

In coming to this recommendation, I consider that the continued landfilling of non-hazardous waste in specified areas at the facility and the associated activities and works would, subject to the conditions of the recommended Proposed Decision, comply with the requirements of Section 40(4) of the Waste Management Act 1996.

Signed: _____
Ms. Regina Campbell, Inspector
Environmental Management and Planning

Dated: _____
05/06/03

Appendix 1

**Site location map Drawing No. DG0001 Rev. A01 and Site layout Drawing No. DG0003
Rev. A01.**