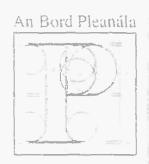
Our Ref: 01.JA0032

our Ref: ENV/Waste/Powerstown/EIS2012



John Carley Carlow County Council Water & Environmental Service County Buildings Athy Road Carlow

4th July 2012

Re: Continued operation of landfilling activities and an increase in waste acceptance

at Powerstown Landfill, Powerstown, Co. Carlow.

Dear Sir.

An Bord Pleanála has received your recent letter in relation to the above mentioned case. The contents of your letter have been noted.

If you have any queries in relation to the matter please contact the undersigned officer of the Board.

consent of copyright owner teaching the Please quote the above-mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully.

Sinead McInerney **Executive Officer**

Direct Line:01-8737295

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LOCAL AUTHORITY PROJECT

CORRESPONDENCE FORM

Case No: 01. 3790032	File With C.Mc Grath
M s Trong Please treat correspondence received on 3/7/1	2as follows:
Update database with new agent/contact/address for N	Notice Party/Observer:
6. Place copy on Public File Comments/Amendment to Letter: Response to Broken letter	requesting comments
Attach to File: (a) R/S (d) Fur. Processing	Return To E.O.
	A: Me dreney ite: 4/7/12

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CARLOW COUNTY COUNCIL

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County Buildings, Athy Road, Carlow.

Web; www.carlow.ie

Dated: July 2nd 2012

Your Ref: 01.JA0032

Our Ref: ENV/Waste/Powerstown/EIS2012/ResponseABPJuby2012

Ms Sinead McInerney Executive Officer An Bord Pleanala 64 Marlborough Street **Dublin 1**



Re: Continued operation of landfilling activities and an increase in waste acceptance at Powerstown Landfill, Powerstown, Co. Carlow

Ms McInerney

Further to your invitation to make submission on the observations received in relation to the above named application the following applies:

1. National Roads Authority

The NRA submission refers to the Spatial Planning and National Roads Guidelines for Planning Authorities (DoECLG, 2012).

- The proposed development to prolong the life of the landfill at a higher rate of acceptance will not require extra interchanges or modifications to existing road infrastructure.
- The proposal, as demonstrated within Section 10 of the EIS, will have an insignificant impact on traffic volumes on the N9.

It is noted that the NRA invites An Bord Pleanála to assess and determine whether a Traffic and Transportation Assessment (TTA). The Authority previously recommended that the proposal be subject to TTA subject to meeting the appropriate thresholds and criteria and having regard to best practice. The local authority has demonstrated that the development is sub-threshold for a TTA in Tables 10.4; 10.5 and 10.6 of the EIS. These Tables demonstrate clearly that the development is in all respects sub-threshold for the requirement of preparing a TTA.



DIRECT TIMES CODE 059	
Central Engineering Area	9172486
Muinebheag Area Engineer	9721418
Tullow Engineering Area	9136272
County Library	9170094
Fire Station	9131144
Motor Taxation	9170342
Driving Licence	9170343

2. Inland Fisheries Ireland

• The Inland Fisheries Ireland (IFI) description of the Barrow reflects what is described in Chapters 11 and 12 of the EIS.

• Leachate

With respect to leachate production, the recognised formula for calculating leachate production is known as water balance (EPA Landfill Manual – Landfill Site Design, Table 7.3). The water balance calculation that supported the original development was based on 40,000 tonnes of waste being deposited on the site per annum. Waste has moisture absorptive capacity, thus for a given landfill area (and there is no proposal to increase the area of the landfill), a greater rate of deposition will reduce the quantity of leachate being generated. This is shown in Table 3.7 of the EIS where a comparison is made of leachate production rates at 40,000 tpa and 50,000 tpa. The results of this analysis indicate that the increase in filling rates will lead to a slight reduction in the volume of leachate produced. This is linked to the absorptive capacity of the waste and fact that cells can be permanently capped sooner if they are filled sooner. Total volumes of leachate delivered to Mortarstown Wastewater Plant will decrease under the 50,000 tonnes/annum scenario since the waste cells will fill more quickly and will be capped earlier.

It should also be noted that pre-treatment of leachate is now taking place at Powerstown Landfill to reduce loading/strength and increase the amount that can be taken by the Mortarstown plant.

Over individual years, prior to capping, it is possible that leachate strength will increase slightly due to higher waste intakes. The most recent EPA monitoring result for the leachate tank was 48 mg/l BOD (2011). For annual leachate volumes of 15,000 m³/annum or 41 m³/day this would result in a BOD loading to the wastewater plant of 1.968 kg/day. The increase due to additional waste intake would be 20% and this is not significant in view of the current total daily load into the plant of 22,215 p.e. The current design capacity at Mortarstown is 36,000 p.e.

• Construction

There is no "construction phase" that would require concrete construction associated with this application. Notwithstanding that, the applicant agrees that the precautions set down in the IFI letter would be appropriate.



Capping

Capping works involve earthworks. The existing infrastructure incorporates an interceptor lagoon prior to surface water discharge from the site. The lagoon has multiple functions including a stilling function to allow suspended particles to settle out. The lagoon intercepts all surface water arising form the area proposed for continued landfilling thus it protects the surface water from suspended solids that might arise from the use of internal roads. During the capping phase, specific measures such as straw bales in swales will further protect against suspended solids being transported to the watercourses. The surface water drainage system drains to the surface water attenuation pond which has an outlet control device, which outfalls to the Powerstown stream at a rate of 15.9 L/sec. This surface water attenuation pond is located at the north eastern corner of the site. It also acts as a settling pond to remove any suspended solids. There is a monitoring probe linked to an automatic valve on the outlet pipe from the pond. If the monitoring probe detects contaminants in the water above the allowable emission limits in the waste licence, the valve automatically closes. The pond is also designed to act as an oil interceptor. The floating arm control device consists of a float with the outlet pipe opening hung approximately 200 mm below. Thus water drains down not from the surface but from a plane approximately 200 mm below the surface. Any petrochemicals entering the sond will float on the surface; consequently they cannot escape via the outlet discharge pipe. The outlet pipe is designed with a backfall to ensure that, even during extended dry periods, surface contaminants cannot escape through the outlet pipe. The design also includes for a floating oil boom at the inlet to the pond, which will give added protection by containing petrochemicals within a restricted area. Any surface contaminants can then be removed periodically as required.

Hazardous Wastes

The existing civic amenity (household waste recycling centre) has appropriate reception facilities for waste oils. Bundage and oil/water interceptors form part of the existing infrastructure. All oils, hazardous material and associated containers are removed periodically from the site by a licensed waste contractor.

3. Mr. Patrick Purcell/ Pat Buckeridge, Dean Design.

• Fly Infestation

Since 2008 only 3 complaints from the public regarding fly problems have been received, the last in July 2009. No complaint for fly nuisance has ever been received from Mr Pat Purcell. The Powerstown landfill does not have a history of causing fly infestation. All freshly deposited waste is covered over at the end of each working day, the active cell face of the landfill is kept to a minimum working size and Hessian cover, the primary source for generating fly problems, has not been used since Spring 2009.



Dust Emissions

No complaint has been received from Mr Pat Purcell in relation to dust. There is a well designed and fully functional wheel wash in place on the landfill, and all vehicles travelling from the landfill cells use it before exiting the facility. The EPA inspect this wheel wash regularly as part of their audit of the facility. In addition, it is the normal practice for the resident civil plant contractor to provide a water tanker with water dispenser unit for use on site. This actively controls any dust problem on site. The Main Kilkenny road adjacent to Mr Purcells residence and the quarry entrance located approx 200m m from his house may contribute to any dust problems being experienced.

Monitoring of the landfill carried out in 2011 for dust concluded that no applicable limits were exceeded.

	Feb 2011	July 2011	Aug 2011	
D2	25	128	42	
D3	14	237	44	
D4	63	43	28	
D6	26	136	64	
D7	43	50 🙇.	45	
D8	22	31	33	

Noise Pollution

Annual noise monitoring is carried out to comply with the Powerstown Landfill Waste Licence. Monitoring of the landfill carried out in 2011 for noise concluded that (S2 is the closest monitoring Jocation to Purcell's):

The L_{Aeq} levels recorded at locations outside the boundary of Powerstown Landfill ranged from 55dB(A) to 69dB(A). The levels recorded at locations SI (69dB(A)) and S2 (66dB(A)) exceed the stipulated daytime noise emission value of 55dB(A). However, observations recorded at the time of the survey indicate that landfill operations were not audible during the survey at locations SI and S2. Passing traffic was the dominant noise source at these locations and it is therefore considered that operations at Powerstown Landfill did not contribute to the exceedances recorded at SI and S2.

Landfill operations were audible intermittently at location N5 only. The L_{Aeq} recorded at N5 was 55dB(A). This result is equal the stipulated daytime noise emission limit.

Monitoring Location N4 is the only location that is situated inside the boundary of Powerstown Landfill. The L_{Acq} recorded at this location was 58dB(A). This result exceeds the noise emission limit value of 55dB(A) set out in Waste Licence W0025-03. Passing traffic along the R448 was considered to be the main noise source at this location.



In summary operations at Powerstown landfill were audible at location N5 only. The L_{Acq} recorded at N5 was 55dB(A). The noise limit was exceeded at off-site locations S1 and S2 and it is considered that the exceedances were due to high levels of passing traffic at both locations.

• Odour problems

There have been no odour complaints from the public since February 2009. Works undertaken on the site have significantly reduced the escape of landfill gas from the active cells, and the gas flare is fully functional 24 hrs a day. In addition, the Council engage the services of Odour Monitoring Ireland 3 times a year, to check the landfill for any odours caused by landfill gas and to verify the flare is operating to its maximum efficiency.

At a public meeting held in June 2011 the local residents commented upon the fact that they were satisfied with the performance of the landfill in relation to odour control. Mr Purcell was also at this meeting and made no indication that he was experiencing any odour problems from Powerstown landfill.

Complaints

No complaints have been received from Mr. Purcellem the past two years relating to the operation of the landfill. However a number of complaints were received from him relating to the operation of the quarry which is opposite his house (Kilcarrig Quarries). These complaints have been investigated by Carlow County Council.

• Tonnage Increase

In relation to the comment regarding the increase in tonnage to the landfill, any increase in the volume of waste being deposited will in fact shorten the operating life of the facility. The landfill cannot be closed and capped until the final capping level is reached.

• Traffic Flow

The EIS estimates that the increase in traffic flows along the local road to the landfill will be 3% and it is considered that this will not impact to a significant degree on households in the area.

Road Upgrade

Reference is made in Mr Purcell's submission to the widening of the roadway accessing the landfill site. The 2004 planning permission required that the following works be carried out in the vicinity of the entrance to Powerstown Landfill;

The proposed upgrading of the public road to the south of the site and from which it is proposed to gain access, shall be completed before landfilling commences on the proposed extended site. The upgrading shall include the provision of a footpath and public lighting along the stretch between the N9 road junction and the site entrance.



4. Mr. Eddie Galway

Buffer_Zone

Condition 3.20 of waste licence W0025-03 requires the following:

The licensee shall maintain the 50m buffer zone around the landfill extension (Cells15-18) and within the facility as referred to in Sections 3.3.1,& 8.10 of the EIS at which no waste activity shall be carried out, with the exception of the existing adjacent landfill area.

The buffer zone relates only to waste activities. The carrying out of other activities is not prohibited. There is no specific reference to this area in the County Development Plan for County Carlow. Any enforcement action relating to the quarry in question is not related to the operation of the landfill site.

Lease

No formal lease agreement is in place in relation to this buffer zone. The owner of the lands has provided agreement for their inclusion as part of this application. The owners have also agreed that no waste activities will take place on these lands and that Carlow County Council staff can access these lands to carry out cleaning is required.

Daily Cover

<u>Daily Cover</u>

Material for daily cover is ideally soil tike and relatively permeable. applicant uses soil and sometimes hessian type material as daily cover. If suitable soil is delivered to site for disposal, it set aside for use as daily cover. Material that is suitable for engineering purposes such as daily cover is considered by the applicant to be 'end-of waste' material. (Directive 2008/98/EC of the European Parliament and of the Council's concerns are limited to whether hauliers delivering waster appropriately permitted in accordance with the Waste Management (Waste Collection) Permit Regulations and only permitted hauliers are allowed access the site. Final capping will be in accordance with Agency requirements and will consist of topsoil and artificial barrier layers as specified in the EIS.

Cumulative Effect

While there is no model in place to assess the overall affects of other activities in the area monitoring locations in the vicinity of the landfill site do illustrate the affects of external locations. In relation to noise, the effect of traffic on the M9 has been noted. No major difficulties with elevated levels of dust have been detected in the area on a sustained basis. Complaints received from time to time relating to dust from nearby quarries have been investigated and monitored individually. There is no history of ongoing complaints in relation to emissions in this area.



Section 17.3.1 of the EIS discussed cumulative effects. In this instance, in considering this proposal, we have the advantage of having quarterly and annual monitoring data that is clearly more representative than predictive modelling. The data includes 2006, where the highest tonnage was deposited coinciding with significant activities at the nearby quarries. In the meantime activities such as the construction of the M9 contributed to the site's monitoring data.

• Predicted impact from Leachate on cSAC

The existence of a regionally important aquifer was thoroughly assessed as part of the original application for the Phase 3 development. From a risk perspective, it was assumed that the underlying gravelly soils afforded no attenuation in the event of a leak. Thus a double lining system was designed and developed incorporating elements not used elsewhere in Ireland. The liner design was subjected to rigorous scrutiny by the EPA and its installation was accompanied by no less rigorous contract quality assurance, all records of which were submitted to the EPA. Whether the nearby quarries are developed or otherwise will not affect the vulnerability of the aquifer to the existence of the landfill. The Natura Impact Statement submitted with the EIS application concluded that 'As no negative impacts on the Qualifying Interests of SAC 002162 were detected, it can be stated with full confidence that the Powerstown Landfill is not contributing to any significant cumulative impacts on Conservation Status of the Qualifying Interests of the SAC and is not affecting the sites Conservation Objectives and that no mitigation measures, additional to those already implace, are necessary'.

The EPA examined the environmental risks posed by the landfill to the regional aquifer, at the time of the waste licence application. The application included details of a double liner system which afforded additional protection to groundwater. This system was approved by the Agency and was subsequently installed. The risk posed by the quarries to the east and west of the site was not relevant to the waste licence application and is conditioned by planning.

• County Development Plan

There is no reference in the Carlow County Development Plan to the sterilization of lands around the Powerstown landfill site. Reference is made in the County Development plan 2009-2015 to the use of sterilization agreements as follows; "In general the planning authority will avoid the use of sterilization agreements and will focus instead on deciding the merits of the individual proposal in terms of the proper planning and sustainable development of the area."

Opening Hours

Section 3.2.2 of the EIS discusses opening hours that are and will be adjusted within the limits set out in the waste licence to reflect demand for the service.



• Use of Weighbridge

An Garda Siochána have arranged with Carlow County Council that the site's weighbridge is used from time to time to weigh vehicles to monitor compliance with the Road Traffic Acts. Our records indicate that the average usage over the recent past has not been in excess of 25 occasions per year. This can be compared with vehicle numbers to the landfill in excess of 21,000 per annum. Traffic associated with this is accounted for within the Traffic Section of the EIS and is described in Section 10.5.3.

• Road Upgrade

The 2004 planning permission required that the following be carried out, there was no requirement for the road to the north of the entrance:

The proposed upgrading of the public road to the south of the site and from which it is proposed to gain access, shall be completed before landfilling commences on the proposed extended site. The upgrading shall include the provision of a footpath and public lighting along the stretch between the N9 road junction and the site entrance.

Groundwater

The EPA carried out an audit of the facility in early 2012. One of the items under discussion was the Q4 monitoring report which identified elevated levels of Ammonia, Chloride and Conductivity at downstream groundwater monitoring boreholes GW1, GW2, GW6 and GW7-(RCA1 and RCA2 are upstream). After discussion with the Agency, Carlow County Council engaged a specialist consultant (Malone O'Regan) to carry out a Detailed Quantitative Risk Assessment (DQRA) in order to determine the risk to groundwater. The DQRA will be carried out in accordance with EPA and Environment Agency guidelines. To date additional boreholes have been installed to the west of the landfill and two rounds of additional groundwater monitoring have been carried out. Over the coming months it is proposed to carry out four additional monitoring events for groundwater and surface water and it is expected that the DQRA will be complete in final quarter of 2012. These results relate to the old landfill site operational during the 1970s and 1980s. Standards applied in the construction of this portion of the overall site differ greatly from those applied to the construction of phases two and three of the overall site. As stated by Mr Galway in his submission "the aftercare period before waste becomes physically and biologically stable will last up to 40 years." Material disposed of during the 1970s and early 1980s can reasonably now be expected to be stable. Carlow County Councils pursuance of further testing in relation to this area illustrates the local authorities commitment to aftercare and risk assessment.

• Tree Planting

Additional planting was carried out during 2011 along the boundary referred to. Continued landscaping will be carried out in the coming years.



The liner that can be seen from the north of the landfill is of a temporary nature and was installed in order to reduce odour emissions pending final capping works. These works, together with gas extraction in the active cells, have reduced odours to a significant degree. Final capping will be carried out 12 months after cells 15 and 16 are filled to capacity, this is not yet the case.

Leachate containment is effected by two layers of high-density polyethylene (HDPE) membrane and a layer of bentonite enhanced soil. The combined effect is a lining system that has over 50 times the containment effect when compared to the specification set-down by the EU Directive on the Landfill of Waste. The membranes are 2.5 mm thick, the industry standard is 2 mm.

In the event of the primary membrane leaking, the envelope between it and the secondary membrane can be evacuated thus eliminating hydrostatic head on the secondary membrane.

HDPE has proven to be very durable in environments such as arid zones where the potential for exposure to the sun is much higher than in Ireland. In any case, the HDPE is overlain by a geotextile protective layer that is in turn overlain by a 500 mm layer of stone on the floor.

HDPE has built-in properties that reduce its vulnerability in the event of exposure to ultraviolet light.

• Civic Amenity Site

The recycling centre (civic amenity) was not developed with the intention of being operated for a limited time period, for the other hand, the landfill was intended to be filled within the time-period stated in the original permission and for reasons stated in the EIS, the developed void was not filled. As per Condition 1 of An Bord Pleanála permission in 2004 (01.EL2020), landfilling activities were to cease at the site on 21st January 2912:

This approval relates only to an 8 year period from the date of this order. At the end of this period the landfill shall be capped and the lands reinstated to grassland, unless approval has been granted for an extension of landfilling on the site.

This condition did not include the civic amenity.

Need

The forecasted intake tonnages for the landfill are based on regional needs (Southeast) and take account of the possibility of the likely closure of other landfill facilities in the region. This may leave Powerstown as the only operational landfill in the South-east. Appendix 1 of the EIS (Needs Assessment) goes into this in more detail and outlines a situation where there will be reduced landfill capacity nationally over the coming years.



It is true to say that recycling has and will reduce the need for landfill. However, in parallel with that, other landfills have closed. In addition, it is more sustainable to intensify, fill and close the developed void as against long-term slow-rate filling with prolonged leachate generation and nuisance potential.

5. Health Service Executive

Consultation

With regard to consultation, this is an existing licensed site. The proposal is for its continued operation albeit for a limited period until the existing developed void is full. Since the site opened, there has been continuing dialogue with nearby residents. There have been nuisance complaints but the frequency of same has reduced over time. Hosting a civic amenity facility, the site is frequently visited by the public, thus the public notice that was erected when the application was lodged had a higher than typical visibility. With respect to odour, noise and dust, the sites environmental performance is a matter of public record. In addition, as part of this application 21 organisations were consulted during the preparation of the EIS, two public meetings held in June 2011. These meetings established a Community Liaison Group and informed local residents of our intention to prepare an EIS and seek planning approval in the months thereafter. The submission of the application and availability of decumentation was notified to this group and to a meeting of Carlow County Council to ensure that locally people were aware of the submission of the application.

Noise

The primary source of noise is infrastructure that is outside the scope of this application (flare, civic amenity etc). Increasing the intensity of filling from 40,000 to 50,000 tonnes per animum will not require either the construction of extra infrastructure or the use of additional waste management machinery. It is not possible to carry out a baseline assessment without any activities; that would entail shutting down the landfill gas flare and the civic amenity. The current activity is licensed and subject to periodic noise monitoring as described in Section 8 of the EIS. A detailed assessment of noise measurements recorded at the site from 2006 – 2011 was included in the EIS and the 2011 data represents the 'baseline' as it currently is at the site.

Annual noise monitoring is carried out to comply with the Powerstown Landfill Waste Licence. Monitoring of the landfill carried out in 2011 for noise concluded that (S2 is the closest monitoring location to Purcell's):

The L_{Aeq} levels recorded at locations outside the boundary of Powerstown Landfill ranged from 55dB(A) to 69dB(A). The levels recorded at locations S1 (69dB(A)) and S2 (66dB(A)) exceed the stipulated daytime noise emission value of 55dB(A). However, observations recorded at the time of the survey indicate that landfill operations were not audible during the survey at locations S1 and S2. Passing traffic was the dominant noise source at these locations and it is therefore considered that operations at Powerstown Landfill did not contribute to the exceedances recorded at S1 and S2.

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Landfill operations were audible intermittently at location N5 only. The L_{Aeq} recorded at N5 was 55dB(A). This result is equal the stipulated daytime noise emission limit.

Monitoring Location N4 is the only location that is situated inside the boundary of Powerstown Landfill. The L_{Acq} recorded at this location was 58dB(A). This result exceeds the noise emission limit value of 55dB(A) set out in Waste Licence W0025-03. Passing traffic along the R448 was considered to be the main noise source at this location.

In summary operations at Powerstown landfill were audible at location N5 only. The L_{Aeq} recorded at N5 was 55dB(A). The noise limit was exceeded at off-site locations S1 and S2 and it is considered that the exceedances were due to high levels of passing traffic at both locations.

6. An Taisce

Continued Operation

The present waste transfer activity is licensed under the schedule of allowable activities included in Waste Licence W0025-03. The 2004 decision 01.EL2020 only requires that landfilling activities cease after several and this has been the case. Household waste is being accepted as part of the services provided at the Civic Amenity Centre.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2008 class 13

- Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises wheresthe waste concerned is produced:
- This activity is limited to the storage of waste in receptacles and designated areas prior to disposal on or off site.

Article 80 (1) of the Planning and Development Regulations, 2001 lists development prescribed for the purposes of Section 179 of the Planning and Development Act 2000. Article 80 (1) (h) (1) states "the use of land, or construction or erection of any installation or facility, for the disposal of waste, not being-(i) development which comprises or is for the purpose of an activity in relation to which a waste licence is required"

Accordingly, sub-threshold local authority waste development authorised by waste licence is not subject to Section 179 with the waste licence acting as development consent. The site is currently operating under the authorisation of the waste licence W0025-03.

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Community Fund

Under condition 12.5 of waste licence W0025-03 €1 per tonne of waste disposed of at the landfill is required to be placed in a community fund to be used for the benefit of the social and physical environment of the local community. As no community group was in place in the area meetings were held to establish one. The Community Liaison Group has now been established with applications for funding under the Powerstown Community Grant Scheme received during April 2012. These applications have been evaluated by the Community Liaison Group. The community fund was examined by the internal auditor, Carlow County Council during 2011 and calculated within the terms of the licence condition to total €197,000. Funds will be discharged in accordance with the grant scheme implemented by the Community Liaison Group as a community managed scheme.

7. Environmental Protection Agency

• Licence Requirement

This application includes a request to increase the tonnage intake permitted from 40,000 per annum to 50,000 per annum. As described elsewhere in this submission it is the objective of Carlow County Council to fill the existing constructed Cells as quickly as possible. Should there be an increase in demand for the facility the local authority would apply to the EPA for a new licence to increase the permitted tonnage intake per year. No increase in tonnages landfilled beyond 40,000 tonnes per annum will take place without the prior approval of the EPA. In order to make such an application to the EPA planning approval is required. This will only occur where there is a significant increase in demand.

- The EPA notes that the existing licence controls and regulates the landfill operations in accordance with Directive 1999/31/EC (Landfill Directive). The licence also controls surface water and groundwater contamination by means of required measures which contain and manage leachate.
- The EPA notes that the EIS addresses the key points in relation to the
 environmental aspects of the landfill and it appears to identify, describe and
 assess, the direct and indirect effects of the project on the factors outlined in
 Article 3 of the EIA Directive.
- The EPA notes that the incidence of odour complaints to the Agency has reduced from 7 in 2008 to 2 in 2009 to none in 2010 and 2011, with a decreasing trend noted.

The EPA carried out an audit of the facility in early 2012. One of the items under discussion was the Q4 monitoring report which identified elevated levels of Ammonia, Chloride and Conductivity at downstream groundwater monitoring boreholes GW1, GW2, GW6 and GW7 (RCA1 and RCA2 are upstream). After discussion with the Agency, Carlow County Council engaged a specialist consultant (Malone O'Regan) to carry out a Detailed Quantitative Risk Assessment (DQRA) in order to determine the risk to groundwater.



The DORA will be carried out in accordance with EPA and Environment Agency guidelines. To date additional boreholes have been installed to the west of the landfill and two rounds of additional groundwater monitoring have been carried out. Over the coming months it is proposed to carry out four additional monitoring events for groundwater and surface water and it is expected that the DQRA will be complete in final quarter of 2012. These results relate to the old landfill site operational during the 1970s and 1980s. Standards applied in the construction of this portion of the overall site differ greatly from those applied to the construction of phases two and three of the overall site. As stated previously the aftercare period before waste becomes physically and biologically stable is up to 40 years. Material disposed of during the 1970s and 1980s can reasonably now be expected to be reaching stability. Carlow County Councils pursuance of further testing in relation to this area illustrates the local authorities commitment to aftercare and risk assessment.

Every effort has been made to address all items raised in the seven submission made to An Bord Pleanala in a comprehensive but brief manner. If there are any further queries arising from the content of this or other correspondence further clarification can be Consent of copyright owner required for any other use. provided.

Yours sincerely

S.E.O. Water & Environment

0 3 JUL 2012