



Environmental Protection Agency  
An Ghníomhaireacht um Chaomhnú Comhshaoil

Mr Gilbert Power  
Director of Services  
Fingal County Council  
P.O. Box 174  
Fingal County Council  
Main Street  
Swords, County Dublin

Headquarters, PO Box 3000  
Johnstown Castle Estate  
County Wexford, Ireland

Ceanncheathrú, Bosca Poist 3000  
Eastát Chaisleán Bhaile Sheáin  
Contae Loch Garman, Éire

T: +353 53 916 0600

F: +353 53 916 0699

E: info@epa.ie

W: www.epa.ie

LoCall: 1890 33 55 99

March 23 2007

W0231-01

re: Notice in accordance with Article 14(2)(b)(ii) of the Waste Management (Licensing) Regulations

Dear Mr Power,

I am to refer to the above referenced application for a waste licence relating to a facility at Fingal Landfill, Nevitt, Lusk, County Dublin. Having examined the documentation submitted, I am to advise that the Agency is of the view that the documentation does not comply with Article 12 and Article 13 of the Waste Management (Licensing) Regulations.

You are therefore requested, in accordance with Article 14(2)(b)(ii) of the regulations, to take the steps and supply the information detailed below:

**INFORMATION REQUIRED IN RELATION TO PREVIOUS ADDITIONAL INFORMATION SUBMISSIONS OF DECEMBER 2006**

Section E.1.B Response:- Information was submitted in relation to dispersion modelling of dust emissions from the storage of fly ash. Provide the following clarifications:

- (i) Detail the meteorological data employed in the ISCST3 modelling study. Was hourly data employed?
- (ii) Was the impact of local terrain taken into account?
- (iii) Determine the maximum 1-hour and 24-hour particulate concentration at the site boundary (or beyond the site boundary if higher concentration occur) and identify the PM<sub>10</sub> composition of the particulate concentrations.

Section I.4 Response:- In relation to the interaction between the groundwater flow in the bedrock and the gravel, please address the following additional points:

- (i) Provide groundwater contour maps for the gravel layer for different seasons;



- (ii) Provide a contour map of depth to gravel across the site;
- (iii) Discuss the interaction between the gravel and bedrock water tables;
- (iv) Discuss the potential for flow in the gravel from the north and northwest of the site towards the Bog of the Ring gravel body;
- (v) The map of the gravel thickness indicates 1 metre of gravel at ER04, and 0.75 metres of gravel at ER02. These figures are based on borehole log data where the drilling ceased due to the inability of the equipment to penetrate the gravel, hence these figures may be considered the minimum gravel thickness present. Geophysical data in the area of these two locations indicates a depth to bedrock in the region of 32 metres. This suggests the possibility of 5 – 6 metres of gravel being present in this area. Comment on the accuracy of the reported data and provide an updated gravel thickness map if required.
- (vi) Outline the investigations proposed to demonstrate 10 metres of clay will remain in the areas of ASA3, GR01 and the southern landfill boundary area.

### **INFORMATION REQUIRED IN RELATION TO PREVIOUS ADDITIONAL INFORMATION SUBMISSIONS OF JANUARY 2007**

Point III:- In determining the groundwater flow through the aquifer, explain the determination of the hydraulic gradient at 0.032. Demonstrate that this value is representative of the hydraulic gradient for the site area and identify any potential variations throughout the year.

Point VI:- Based on investigations carried out to date please indicate the potential range of sustainable yields, compared to the existing abstraction rates from the Bog of the Ring system, that may be attainable from the area to the South of Decoy Bridge. For the maximum and minimum of this range provide a plot of the area of likely zone of influence.

Appendix 5 – Manual and automated water level data:- Has the applicant identified any specific causes for the variations in water level in bedrock wells ER9 (~ 9 metres) and SHR3a (~ 13 metres)? Please comment on the reported variations. Comment on the impact of these variations on the overall interpretation of the site hydrogeology as detailed in the EIS.

### **ARTICLE 13 COMPLIANCE REQUIREMENTS**

- **Base and Slope Stability and Dewatering Requirements**

Respond to the points raised in Submission 74 (electronic copy attached) with regard to stability and dewatering requirements during the construction, operation and aftercare phase of the landfill. Ensure that a geotechnical engineer is consulted in preparing a response. Take into account all such concerns raised in the submission and also in Submission No. 77 (Point No. 4, 2<sup>nd</sup> and 3<sup>rd</sup> bullet point, electronic copy attached).

- **Depth of Clay**

2D Resistivity Profile 9Long indicates areas across the southern area of the site where depth to gravel of less than 10 metres are present. The area covered by this profile is within the 10 metre cut contour of the landfill. Boreholes GS4 and GS5, adjacent to the profile line do not provide any evidence to indicate a greater depth of clay in this area. Discuss the above with regard to the requirement to maintain 10 metres of clay beneath the landfill footprint. Outline methods proposed to be employed during construction to ensure that 10 metres of clay remains beneath the base of the landfill.

▪ **Groundwater Flow and Levels**

Video recordings accompanying Submission No. 74 and No. 79 (DVD copies attached) indicates that boreholes ER8, SHR3a and BSA1 are artesian. This is in disagreement with the monitoring data submitted with the application and with additional supplied information. Please comment on these findings and on the video recordings of boreholes submitted (copy attached).

It is proposed in submissions by Mr. Kevin Cullen (submission No. 78, copy attached) that a significant fault is present beneath the landfill footprint which will significantly impact the groundwater flow beneath the footprint compared to the bedrock groundwater contour maps submitted to date. Please comment on Mr. Cullen's interpretation of the data. Identify any potential risk, with regard to the landfill engineering, associated with reactivation of this fault.

Your reply to this notice should include a revised non-technical summary (Application Form and EIS) which reflects the information you supply in compliance with the notice, insofar as that information impinges on the non-technical summary.

In the case where any drawings already submitted are subject to revision consequent on this request, a revised drawing should be prepared in each case. It is not sufficient to annotate the original drawing with a textual correction. Where such revised drawings are submitted, provide a list of drawing titles, drawing numbers and revision status, which correlates the revised drawings with the superseded versions.

Please supply the information in the form of a one original plus two copies within 5 weeks of the date of this notice. In addition submit sixteen copies of the requested information to the Agency in electronic searchable PDF format on CD-ROM. Please note that all maps/drawings should not exceed A3 in size.

Please note that the application's register number is **W0231-01**. Please direct all correspondence in relation to this matter to *Noeleen Keavey, Licensing Unit, Office of Licensing & Guidance, Environmental Protection Agency, Headquarters, PO Box 3000, Johnstown Castle Estate, County Wexford* quoting the register number.

Yours sincerely,



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**Dr Ian Marnane**

Inspector

Office of Licensing & Guidance

## DVD Placeholder

This page denotes that DVDs entitled Submission 74, 77, 78, 79 was sent to the Applicant as part of this Article 14(2)(b)(ii).

The contents of the above DVD's are unavailable on the Agency's website however, a copy of the original DVD's can be obtained by request at:-

Licensing Unit,  
Office of Licencing & Guidance,  
EPA,  
P.O. Box 3000  
Johnstown Castle Estate,  
Wexford.  
Tel: 053 60600