

INSPECTORS REPORT ON A LICENCE APPLICATION

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| To: | P LARKIN, DIRECTOR | |
| From: | MALCOLM DOAK | LICENSING UNIT |
| Date: | 18 AUGUST 2004 | |
| RE: | APPLICATION FOR A WASTE LICENCE (REVIEW) FROM CORK COUNTY COUNCIL, LICENCE REGISTER 68-2, YOUGHAL LANDFILL. | |

| Application Details | |
|--|---|
| Type of facility: | Landfill for Non-Hazardous Waste |
| Class(es) of Activity (P = principal activity): | 3 rd Schedule: 1, 2, 4, 5 (P), 6, 7, 11, 12, 13. 4 th Schedule: 2, 3, 4, 9, 10, 11, 13. |
| <i>Note: The review will not result in any change in classes of activity apart from Class 9, 4th Schedule (flaring of landfill gas)</i> | |
| Quantity of waste per annum: | 170,000 t |
| <i>Note: The existing Waste Licence max annual tonnage is 37,000T</i> | |
| Types of Waste: | See Section 2 |
| Location of facility: | Youghal Mudflats, Youghal. |
| Licence review application received: | 13 October 2003 |
| Third Party submissions: | None |
| EIS Required: | Yes. |
| Article 14 compliance date: | 7 April 2004 |
| Site Inspection: | 5 May 2004, Malcolm Doak OLG |

1. Facility

This report relates to an application received from Cork County Council for a review of the existing waste licence (Reg. No. 68-1) at Youghal Landfill (issued 18 December 2000). The review is straightforward; the County Council wish to 'intensify' the use of Youghal Landfill to increase the waste input from 37,000 tonnes per

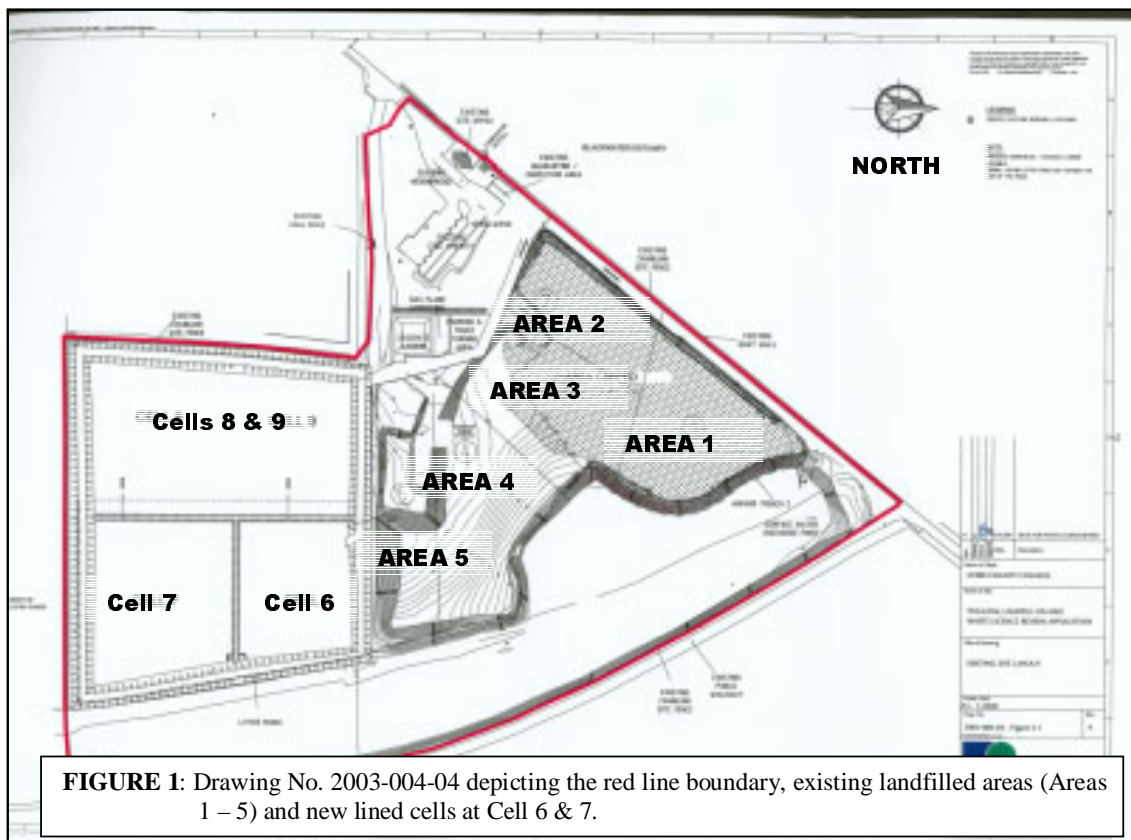
annum (current licence) to 170,000 tonnes per annum and increase the final profile by +4m. It is not intended to apply for new cells or new lands, these aspects were granted in December 2000 on issue of 68-1.

Cork County Council has operated a landfill at Youghal since 1972, originally filling into an unlined estuary bank (Areas 1 to 5), and expanding into two new lined cells (Areas 6 & 7) in 2003 with scope for two further cell construction (as permitted in WL 68-1). Filling at area 5 is near completion with the intention to start into the new lined cells in late 2004.

The landfill can be split into three parts (*Figure 1* below outlines the landfill areas):

- Part 1: Areas 1 – 5, original waste body, unlined, existing domed area; Areas 1 – 3 capped, capping to be completed at areas 4 & 5;
- Part 2: New lined cells 6 & 7 (area 17,000m²), filling to start late 2004;
- Part 3: proposed site for next two lined cells (area 17,500m²);

Compliance issues with the existing waste licence are discussed in Section 9 of this report. The main issue for compliance is the non-installation of a landfill gas flare and non collection of leachate from areas 1 – 5.



The proposed intensification of Youghal Landfill:

- is to be conducted within the existing (licensed) site boundary; no additional land will be required for the intensification process;
- does not propose the development of new cells (the construction of Cells 8-9 will be completed by 2003/2004 in line with the conditions of the existing Licence);
- proposes a slight modification in the boundary at the sea wall which runs along the eastern and western boundaries of the site. It is proposed to move the site boundary to exclude the sea wall (liability issues) – this is acceptable as per requirements of Condition 1.2 ;
- intends to increase the waste input from 37,000 tonnes per annum (current licence) to 170,000 tonnes per annum with slight amendments to classes of activity; void space capacity increase will be provided by redesigning the existing approved restoration contour profile of the landfill (from 11 metres OD to 15 metres OD) and by reducing the cap depth;
- proposes to install a second weighbridge along the retained haul road to accommodate the increase in traffic- this is acceptable as per requirements of Condition 3.9.2;
- has applied to amend hours of operation/waste acceptance;
- provide for leachate recirculation in the lined cells 6 to 9;
- intends to reduce the thickness of the final cap from 1.8 metres (licensed) to 1.0 metres and with thickness and specification of the proposed cap to be in compliance with the Landfill Directive.

Those items not already dealt with are discussed in the following section:

2. Operational Description

Classes of Activity

The applicant has applied for one new class of activity: Fourth Schedule Class 9 - necessary to facilitate the recovery of landfill gas by flaring/electricity generation. The principle activity {Class 5 (Third Schedule) – specially engineered landfill} and others (total 16 waste activities) remain the same. To simplify matters and in the light that extension to the landfill is a modern lined facility I recommend that Classes 2 and 4 of the Third Schedule are refused for the reasons stated in the PD. Both aspects are better covered by Classes 1 and 5 of the Third Schedule. I also recommend the refusal of Class 11 of the Third Schedule since no proposal was received for the mixing/blending of CWF waste. The handling/disposal of CWF can be dealt with under the Third Schedule, Classes 1, 5, and 13. The blending/mixing of waste activity at a landfill is generally confined to waste types to be used in the restoration of a facility.

Waste Types & Tonnages

The review application has applied to increase the waste input at the landfill from 37,000 tonnes per annum (current licence) to 170,000 tonnes per annum with miscellaneous hazardous waste items of <100 tonnes per annum. One new waste type is proposed to be accepted; 5000T of C&D waste. The details of the individual waste streams appear in Table E.1.1 of the application and the new waste inputs are tabled below for reference:

| Waste Type | Maximum (Tonnes Per Annum) 68-1 | Maximum (Tonnes Per Annum) requested in 68-2 Review |
|---------------------------------|--|--|
| Household & Commercial | 24,000 | 128,000 |
| Treated sewage sludge | 4,000 | 9,700 |
| Industrial non-hazardous waste | 9,000 | 27,000 |
| Construction & Demolition Waste | - | 5,300 |
| TOTAL | 37,000 | 170,000 |

The increased tonnage to landfill is c. 450% per annum, managed by the increase in void space by c.50,000T (new contours from 11m to 15m), which will shorten the lifespan of the landfill from eight years to three (2007/8). The new tonnage can be accepted on licence issue, provided there is compliance with Condition 3.12.3 and Schedule A, since two of the four new cells (Cells 6 and 7) have already been constructed. Other infrastructure (second weighbridge & office, traffic control) required to deal with higher daily tonnages are dealt with elsewhere in this report/PD.

The one new waste type (C&D) is acceptable but as per requirements of Condition 5.2.6. Furthermore Condition 5.2.5 implements the recent EU Council Decision 2003/22/EC and Note 1 of Table A1 Schedule A, specifies all waste must be treated as per the Landfill Directive.

The proposal to handle miscellaneous hazardous waste items of <100 tonnes per annum is not acceptable since the practice of holding hazardous wastes at a Civic Waste Facility is not authorised in the Regulations save the handling of waste oil, and fluorescent tubes only. Specifically the facility cannot accept wood preservative waste or ink, as was applied for. Condition 5.10.2 clarifies this matter.

Hours

The applicant has proposed to extend the hours of the landfill as set out in the following table (based on Attachment E.4 of the application):

| | Existing Hours in 68-1 | Hours sought in Review |
|--|---|--|
| Hours of Operation | 9am – 4.45pm Mon. to Sat.; | 8am – 8pm Mon. to Sat.; |
| | Excluding Tuesdays and Public Holidays (closed) | 8.30am – 12:30pm Sunday |
| | | Excluding Public Holidays - closed. |
| Hours of Waste Acceptance & Civic Amenity | 9am – 4.15pm Mon. to Sat.; | 8.30am – 5pm Mon. to Sat.*; |
| | | 8.30am – 12:30pm Sunday |
| | | *8.30am – 8pm (May – August); |
| | | Treated Sewage Sludge 08.00 to 15.00 hours Monday to Saturday (excl Bank Holidays) |

No submissions regarding facility hours have been received and so this proposal is acceptable for both hours of operation and hours of waste acceptance, but allowing the civic waste facility to accept waste all year for the proposed summer times (for simplicity), and allowing one hour clean-up time at the landfill.

Leachate Management

With the exception of leachate recirculation, the proposed intensification will not result in any changes to the leachate management plan set out in the existing licence. The application proposes to undertake leachate recirculation in the lined cells 6 to 9 only. The issue of leachate recirculation is a matter for the ongoing management of the landfill Condition 5.12.5.

Capping

The EIS states that it is proposed to reduce the thickness of the final cap from 1.8m (licensed) to 1.0m. The proposed final cap detail will involve the replacement of the granular drainage stone, the granular gas layer with two geocomposite layers approximately 6mm thick and the 0.6m thick compacted mineral barrier layer (1x10⁹ m/s) with 1mm thick LLDPE liner. The proposed cap is to consist of:-

- 150 millimetres topsoil.
- 850 millimetres subsoil.
- *6 millimetres geocomposite drainage layer, water drainage layer.*
- *1 millimetre thick LLDPE geomembrane liner, the barrier layer.*
- *6 millimetre geocomposite gas layer, gas collection layer.*

The above aspects meet the Landfill Directive (LFD) requirements. Other landfill licences allow such options in Condition 4.3, Final Capping. I recommend the standard condition for capping is used, save a variance on the drainage layer (Condition 4.3.1 (c)).

There are no changes proposed to the specification of the temporary capping currently being used at the site. Hessian and soil will continue to be used as daily and weekly cover respectively.

Proposed Changes To Final Contour

Photomontages in Volume 2 of the EIS show:-

- existing views,
- long-term views of the facility using final restoration contours of 11m (existing licence),
- long-term views of the site using final restoration contours of 15m (proposed).

The southern flank of the landfill is the area proposed for intensification (cells 6 to 9, knitting in at Area 5) to be contoured to 15m, 4m higher than Areas 1-4. The new contours will be smoothed and capped with the existing Landfill to form a single dome, thus reducing the visual impact of the intensification process.

Technical details on the interface of the new lined cells (Cells 6 & 9) with the existing landfill at Area 5 need some clarification. The interface aspect was not considered by the applicant. The site of the proposed interface presently consists of a toe drain lying at the base of a steep rising embankment of waste, at Area 5. Article 8(a)(i) of the Landfill Directive demands that new landfilling shall occur onto lined cells only. Furthermore it is also Agency practice (Balleally Landfill extension Reg No. 9-2) that such interfaces consist of a 'piggyback' to knit new landfilling onto an older waste mound that is unlined. I have therefore written the interface as a matter for further reporting and Agency agreement (Condition 3.12.4) with some minimum requirements, and a revised Restoration and Aftercare Plan Condition 4.1.

The EIS states that the proposed development will not obstruct or intrude on any vulnerable ridgeline or skyline but there will be a significant visual impact on walkers accessing the public walkway which bounds the site. *An Bord Pleanála* considered the visual aspects in their decision (PL04.EL.2023; 30 March 2004) and granted approval with the *proviso* that the landfill be capped and reinstated to grassland and landscaped. I agree to a revised 15m OD final contour provided that Conditions 4.1 and 4.2 of the restoration plan are complied with.

3. Use of Resources

Details of resource use appear in Attachment E5 of the application specifying diesel fuel (100,000L/annum), and electricity (15,000kw hrs/annum).

4. Emissions

The following concentrates on those operations or aspects of the facility that may have a significant impact on the environment:

4.1 Air

The estimated landfill gas quantities are specified in Section 2.1.4 of the EIS. Methane production has been modelled at c. 2 million m³/annum to year 2020 peaking to 3 million m³ in year 2011, which would place Youghal landfill into the EPER¹ top 10 list of Irish landfills to be emitting methane² without recovery. 68-1 required the installation of a gas flare by December 2001, but this has yet to be done. Therefore Condition 3.14.2 has immediate affect.

4.2 Leachate Removal

The applicant notes that leachate amounts will increase in volume as cells 6 - 9 come on stream. All leachate removed from the leachate storage lagoon is required to be

¹ European Pollutant Emission Register, which was established by a Commission Decision of 17 July 2000. The EPER Decision is based on Article 15(3) of Council Directive 96/61/EC concerning integrated pollution prevention and control.

² Methane is 20 – 30 times more damaging (per molecule) than carbon dioxide to the global climate due to its greenhouse effect. Combustion by landfill gas flare will convert methane to carbon dioxide.

tankered off-site to a Cork County Council Waste Water Treatment Plant (Midleton or Carrigtohill) or an alternative agreed with the Agency (Condition 6.6.1).

4.3 Emissions to Surface Waters

As described in Inspector's report 68-1. Drainage ditches along the southern and eastern boundaries of the existing landfill are influenced by saline ingress from the estuary. Flows are managed by a sluice gate located adjacent to Cell 7, at sampling point SW3. Surface water from areas of the civic waste facility will drain via a silt trap and an oil separator to the wastewater treatment system and polishing bed (peat) (Condition 3.9.4).

4.4 Emissions to ground/groundwater:

As described in Inspector's report 68-1. The facility lies on a reclaimed part of the estuary overlying thick peat deposits, and is protected by a 4m high sea wall. Limestone bedrock lies at 17m depth. Groundwater is confined by the peat. The inventory of seven groundwater monitoring wells has been reduced to three due to construction of Cells 6 & 7 over existing infrastructure. This inventory will be reduced to two on completion of Cells 8 & 9. The LFD requires three monitoring wells as a minimum. The licensee is required to manage the inventory to a minimum of three as prescribed in Conditions 3.18.2. and 3.18.3

5. Visual Impact

As discussed in Section 2, *Proposed Changes To Final Contour*, of this report. There have been no submissions or complaints on this matter. The 15mOD final height is acceptable (Condition 4.2) provided filling occurs as prescribed in Condition 5.1.

6. Cultural Heritage, Habitats & Protected Species

To the east of the site lies the Blackwater Estuary, which is designated as a candidate Special Protection Area (cSPA), proposed National Heritage Area (pNHA) and a candidate Special Area of Conservation. Monitoring for this area is set as Schedule D (S1, SW3, SW6).

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

I have read the Waste Management Plan for Cork County, May 1999. The relevant sections of the current Cork County Development Plan specifies the expansion is required in the interest of Cork County Council fulfilling its statutory duty with respect to waste management, meeting the County's Landfill needs in the short-term prior to the availability of the one single Landfill Facility at Bottlehill.

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

Landfill Directive (LFD)

Technical capping requirements arising out of the LFD were discussed in Section 2, above.

Since the receipt of application, the Waste Management (Licensing) Regulations 2004 (S.I. No. 395 of 2004) were issued which specify requirements in order to comply with the LFD. Article 12(1) of the regulations requires the application to be compliant with Annex 1 of the LFD, and requires such financial provision having regard to the provisions of Articles (7)(i) and (8)(a)(iv) of the LFD. LFD Annex 1 aspects in the application were compliant. The financial provision aspects are written into the PD as Conditions 12.2 & 12.3.

However, Section E6 of the application was not completed, which requires the applicant to detail how the facility is going to deal with the reduction in biodegradable waste acceptance over the next decade, required by Article 5(2) of the Landfill Directive. The PD requires this information in Condition 11.3 (a).

9. Compliance Record

Youghal's 62-1 licence has a relatively good compliance record. However, the licensee has been non-compliant over the lack of installation of the required landfill gas flare, required by 18/12/2001 (Condition 4.18). This non-compliance is serious as described in Section 4.1 of this report. However, the county council (letter to Agency received on 2 July 2004) provides a report on the procurement of a landfill gas flare and a timeframe for its installation (starting September 2004). The revised licence will require a flare to be installed immediately Condition 3.14.2.

10. Submissions

No submissions were made in relation to this application.

11. Charges

The current charge for the existing licence (68-1) is €16,126 set on 18 December 2000. This revised decision has set charges at €14,050, the fee decrease largely due to a reduction in the sampling and analyses requirements of the Agency.

12. Recommendation

Having assessed all the documentation, particulars and information submitted with this application I recommend that a revised licence be granted for Classes 1, 5, 6, 7, 12, and 13 of the Third Schedule and Classes 2, 3, 4, 9, 10, 11 and 13 of the Fourth Schedule. I recommend that Classes 2,4, and 11 of the Third Schedule be refused for the reasons stated in Part II of the proposed decision.

Signed

Malcolm Doak

Procedural Note

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