

This report has been cleared for Submission to the Board by Dr Tom McLoughlin
 Signed: *Dr Tom McLoughlin* Date: *30/9/10*



**OFFICE OF CLIMATE,
 LICENSING &
 RESOURCE USE**

INSPECTORS REPORT ON A LICENCE APPLICATION

TO:	DIRECTORS	
FROM:	Brian Meaney	- Licensing Unit
DATE:	29 September 2010	
RE:	Application for a waste licence review from CAVAN COUNTY COUNCIL in relation to the Corranure Landfill, Licence Register number W0077-04	

Application Details	
Type of facility:	Closed landfill
Class(es) of Activity (P = principal activity):	3 rd Schedule: Class 1 Class 5
Category of Activity under IPPC Directive (2008/1/EC):	5.4
Quantity of waste managed per annum:	Nil
Location of facility:	Lismagratty and Corranure Townlands, Cootehill Road, Cavan.
Licence application received:	22 September 2008
Third Party submissions:	4
EIS Required:	No
Site Inspection:	11 November 2009

Facility

This is an existing development authorised as a landfill under licence register number W0077-03. The existing licence (W0077-03) is held by Cavan County Council and relates to a landfill and civic amenity site near Cavan Town. Since 2007, the landfill has been operated by Oxigen Environmental Ltd under a concessionary agreement with Cavan County Council.

Cavan County Council have operated a landfill at this location since 1988. The landfill is located 3 km from Cavan Town on the Cootehill Road, see Figure 1. It is located in a drumlin area and the topography is said to contribute to the number of odour complaints received about the facility and the fact that residents located at some distance are affected by odour.

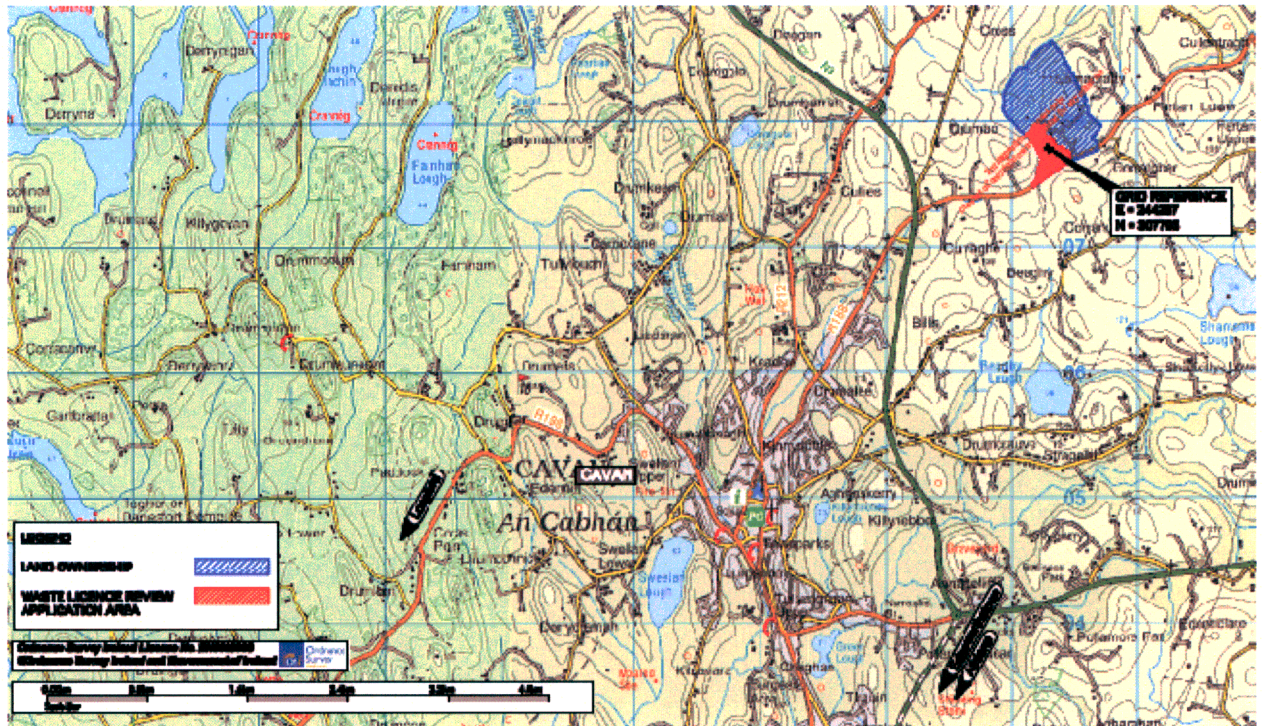


Figure 1 Location of facility

The original landfill (called 'cell 0') is unlined and was closed in 2001. The cell has been capped in accordance with the first waste licence granted for the facility (W0077-01). Seven leachate wells have been sunk in the cell and a leachate interceptor drain installed at the perimeter. Cells 1 and 2 were both lined and are capped since 2006 and 2007 respectively. The scope of this licence review application is limited to these three cells – 0, 1 and 2 – and their continued restoration, aftercare and monitoring.

The licence was reviewed in 2005 (W0077-02) for the purpose of expanding the landfill into cells 3 and 4. Cell 3 of the landfill was filled by Oxigen Environmental Ltd under the concessionary agreement with Cavan County Council. The cell is now full (since March 2010) and is temporarily capped. It will receive its final cap in due course in accordance with the waste licence. Construction of cell 4 of the landfill was authorised by the EPA in February 2010 under SEW (Specified Engineering Works). The cell has been substantially excavated. Construction of the basal liner and associated works has commenced. At present, no waste is being accepted for disposal at the landfill facility pending construction of cell 4. The civic amenity site is open as normal.

The licence was further reviewed by the Agency in 2009 (W0077-03) for the purpose of implementing certain provisions of the Landfill Directive¹ and imposing limitations on the acceptance of biodegradable municipal waste.

Cavan County Council have applied for a review of licence register number W0077-03 and have requested that their responsibility is restricted to the aftercare and management of the closed cells – namely cells 0, 1 and 2. Neither cells 3 and 4 nor the civic amenity site are the subject of this licence review application. A parallel waste licence application (W0248-01) was lodged by Oxigen Environmental in September 2008 and is for the operation of cells 3 and 4, the civic amenity site and a new proposal for a materials recovery and biological treatment facility. Details on Oxigen's application are beyond the scope of this report but can be viewed on the EPA website under the waste licence register number W0248-01.

The proposed facility subject to Cavan County Council's management will not have any full time staff associated with it. It will not accept or manage waste.

Reason for Licence Review

Cavan County Council are applying for a review to enable them to disclaim their responsibility for all but the permanently closed and capped section of Corranure Landfill. The Council is proposing to retain ownership and control of and responsibility for the closed and remediated cells 0, 1 and 2, a total area of 7 hectares. Responsibility for:

- the filled cell 3,
- the proposed cell 4,
- the civic amenity facility,
- all landfill gas and leachate collection and management infrastructure,
- proposals for materials recovery and biological treatment facilities, and
- all future developments at the landfill and the facility generally,

are to be transferred to Oxigen Environmental under a contract agreement for the sale of the landfill.

In parallel to Cavan County Council's application for a review of the existing licence, Oxigen Environmental have applied for a new waste licence to operate the elements of the facility listed in the bullet points above.

Splitting of the facility

Under the terms of their agreement, Cavan County Council and Oxigen Environmental Ltd have agreed to a sale of lands, to include the cells 3 and 4 of the landfill. Both parties have agreed to provide environmental indemnities to each other which will become effective on completion of the sale. The liability for cells 0, 1 and 2 will remain with Cavan County Council while liability for cells 3 and 4 will transfer

¹ Council Directive 1999/31/EC of the 26th April 1999 on the landfill of waste.

to Oxigen Environmental Ltd. The agreement includes sharing of leachate and landfill gas infrastructure by both parties with the landfill gas flare units and the leachate storage tank and lagoon remaining in their existing locations on lands to be sold to Oxigen Environmental Ltd. Figure 2 shows the reduction in area proposed by Cavan County Council.

Both parties have entered into a separate legal contractual agreement whereby both parties agree to offer the EPA joint and several liability in respect of any environmental issue relation to the cell 2/cell 3 interface area. The interface area is illustrated in Figure 3.

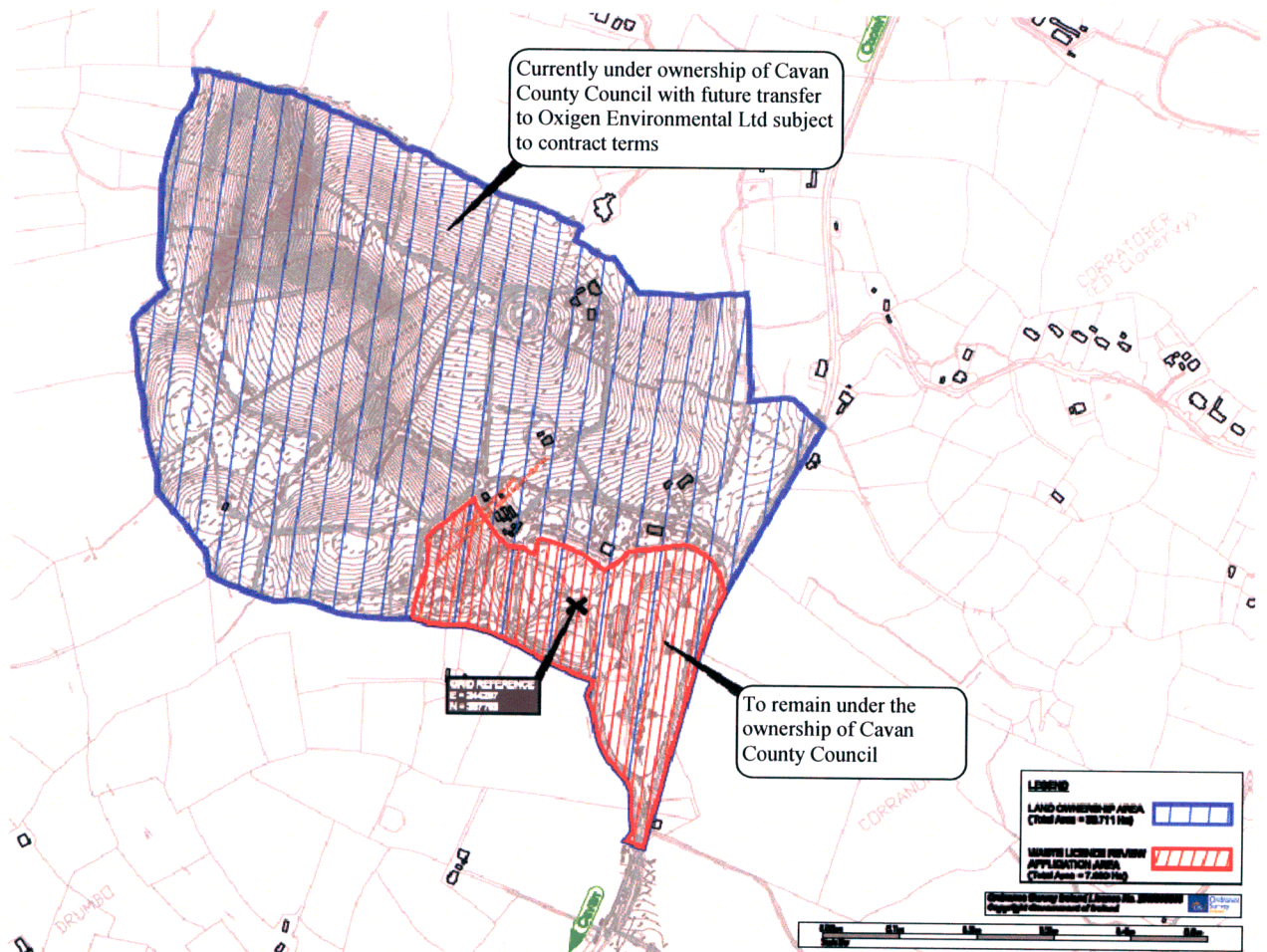


Figure 2 Current ownership and licensed area vs licence review (in red)

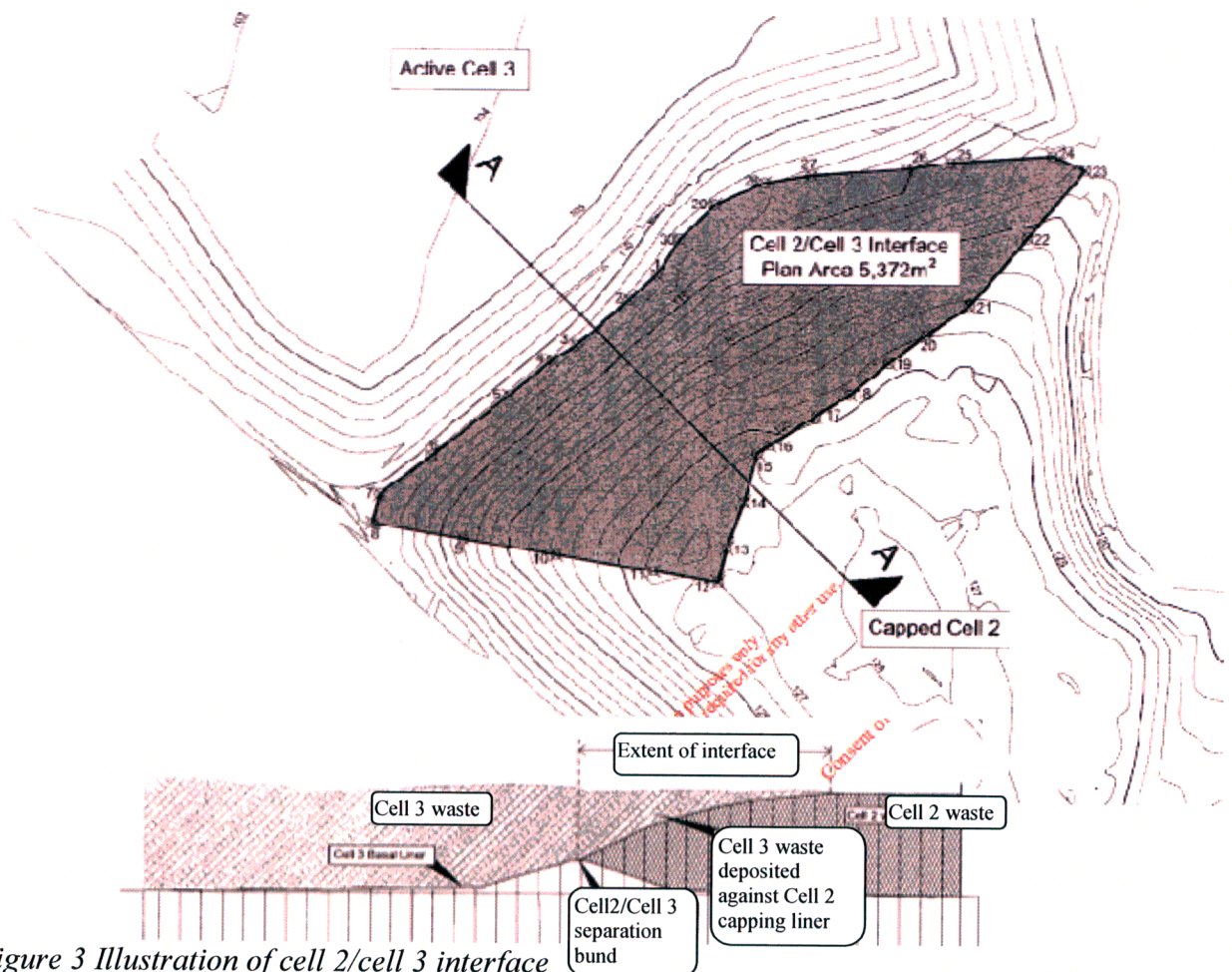


Figure 3 Illustration of cell 2/cell 3 interface

Operational Description

Cavan County Council have applied for a licence for the long term aftercare of the closed and remediated cells 0, 1 and 2 at the landfill. There are no operations proposed at the facility other than management of the active gas and leachate extraction installations. Landfill gas and leachate infrastructure will be located on the adjacent Oxigen Environmental Ltd facility. Landfill gas will be extracted remotely under vacuum using equipment located on the Oxigen facility and operated by Oxigen. The gas wells on the Cavan County Council site will be part of a separate gas extraction loop and on-site management (including gas balancing and pipework maintenance etc.) will be managed by or on behalf of Cavan County Council.

Landfill gas

There are nine gas extraction wells in cell 0, thirteen in cell 1 and thirteen more in cell 2 (plus two horizontal wells). All wells are connected to the gas main which exports gas to the adjacent facility for combustion in the gas flare. Waste licence register number W0248-01 requires Oxigen Environmental Ltd to report on the feasibility of installing a landfill gas utilisation plant to recover energy from landfill gas from both facilities (cells 0-4).

Leachate

Leachate is actively pumped from nine extraction wells in cells 0 and 1 and is collected in a perimeter drain around cell 0 (the unlined cell). In cells 1 and 2, leachate is collected in a network of slotted pipes laid in the base of each cell and drains to a leachate collection chamber at the lowest point in each cell. The leachate is pumped to the leachate management infrastructure on the adjacent Oxigen facility. Current practice is to discharge leachate to sewer and its treatment at the Cavan Town waste water treatment plant. The sewer discharge is proposed to be authorised in the waste licence register number W0248-01. The sanitary authority (Cavan County Council) has agreed to the discharge under section 52 of the Waste Management Acts 1996 to 2010.

Facility boundary

The boundary between Cavan County Council's and Oxigen's respective facilities is nominally between cells 2 and 3. However, there is no vertical plane separating these two cells. As illustrated in Figure 3, cell 3 was constructed on top of the sloped flank of cell 2. The facility boundary is therefore 3-dimensional and any environmental pollution incidents traced back to this area will require the co-operative approach of each party to determine liability. This is provided for by condition 1.9 of the RD.

Emissions

Air

There are no emissions to air. The landfill is capped and air emissions can only arise in the event of failure of landfill gas extraction equipment. Condition 9 of the RD requires an emergency response procedure be in place to deal with failure to export landfill gas to the second facility. Condition 6.18 (odour management plan) and *Schedule C1.2* of the RD requires periodic monitoring for fugitive gas emissions from perimeter boreholes, capped areas and remedial action where trigger levels are exceeded.

Odour has been the subject of considerable complaint at the landfill. However there is no evidence to suggest the source of the odour is the closed facility. The requirement for an odour management plan (condition 6.18 of the RD) will ensure that the risk of odour is pro-actively managed.

Emissions to Sewer

There are no emissions to sewer. Leachate is discharged to the neighbouring Oxigen facility from where it is discharged to sewer and thence to Cavan waste water treatment plant.

Storm Water Runoff

Storm water run-off is discharged to the Corranure Stream at emission point SW1. Run-off from the adjacent facility also discharges through SW1. Run-off from the civic amenity site and all paved areas of the adjacent facility are required (under the licence proposed for the adjacent facility W0248-01) to be treated in a grit trap and oil/water separator prior to exiting that facility and entering the grounds of the closed landfill. Oxigen Environmental Ltd are also required to monitor the emission at the point of transfer to this facility (emission point SW6). The discharge at SW1 is

therefore a combination of the treated run-off from the Oxigen facility and run-off and overland flow from the closed landfill.

Run-off from cell 2 discharges to the north and to emission point SW2 located on the adjacent facility and under the control of Oxigen Environmental Ltd.

Any run-off from paved areas will have been treated on the Oxigen site. Consequently no oil/water separator is recommended for this facility. Condition 3.14 of the RD specifies a silt trap be provided. Emission limit values of 35mg/l suspended solid and 0.14mg/l ammonia as N are proposed. Elevated suspended solids concentrations were measured at SW1 and SW2 and in the Corranure and Lismagraty streams (attributed to high rainfall) in 2008. Remedial works are stated to have led to improvements. The proposed emission limit value for ammonia is concerned with high readings of ammonia at SW1 and SW2 and implements the environmental quality standard dictated by the European Communities Environmental Objectives (Surface Water) Regulations, S.I. No. 272 of 2009.

No emission limit value for discharges at SW2 are proposed in this licence. They are however proposed for the Oxigen Environmental licence (W0248-01). However as run-off from cell 2 contributes to the discharge at SW2, it is appropriate that Cavan County Council takes some responsibility for monitoring water quality in the Lismagraty Stream, as set out in *Schedule C.5* of the RD.

Emissions to ground/groundwater:

The applicant states that a hydrogeological investigation was carried out in and around the landfill in 2003 and demonstrated that the groundwater within the area of the landfill lies within zone R2¹ of the GSI's classification for groundwater protection. This means that in terms of groundwater protection, landfills are acceptable in the area although engineering measures are likely to be necessary to provide adequate protection to the groundwater. Groundwater flow is north-north-east in direction.

Contamination in the form of elevated chloride and coliforms was detected in all groundwater monitoring boreholes at the facility (including those located on the proposed Oxigen site). Elevated iron was detected in one borehole (GW01). Some chloride (slightly elevated), colour and bacteriological (one well) contamination was detected in private wells. The applicant states that, other than these exceptional results, the quality of the well water met the criteria set out in the European Communities (Drinking Water)(No. 2) Regulations 2007.

The RD proposes extensive groundwater monitoring in *Schedule C.4*.

Noise:

Noise emissions are not anticipated from operation of this equipment. Standard noise emission limit values are in any event proposed in the RD, applicable at the site boundary. No noise monitoring is proposed. The closed facility is located adjacent to the busy R188 road and the operational landfill, civic amenity facility and recycling station – all greater sources of noise.

Nuisance:

It is not anticipated that nuisance emissions from litter, dust, vermin, flies, birds or pests will arise at the closed facility. Standard nuisance prevention conditions are proposed in the RD.

Use of Resources

The use of resources at the closed facility will be minimal. No fuel is stored at the facility and no fuel is consumed on-site. No water is consumed on-site. Electricity is used to power the leachate pumps that transfer leachate off-site for treatment at the second facility. An electricity supply is maintained for general uses. There is no other use of resources.

Restoration

Condition 10 requires the maintenance and annual review of a closure, restoration & aftercare management plan (CRAMP) for the facility. A CRAMP for cells 0, 1 and 2 was submitted with the application.

Cultural Heritage, Habitats & Protected Species

The applicant states that according to an ecological assessment carried out in 2003 (to accompany an earlier licence review application), no habitats of significant importance were identified surrounding the landfill. The closest designated sites to the facility are:

- Drumkeen House Woodland Natural Heritage Area (NHA) (Site Code 000980), located 2.8km to the west of the facility;
- Lough Oughter and Associated Loughs Special Area of Conservation (SAC)/NHA (Site Code 000007), 4km to the west; and
- Lough Oughter Special Protection Area (SPA) (Site Code 004049), also 4km to the west.

Any environmental impacts from the closed landfill would be expected to be localised (as illustrated by groundwater and surface water monitoring) and no impact on these sites is expected.

Compliance with Directives/Regulations

The Recommended Decision takes account of the requirements of the following Directives/Regulations having regard to the requirements of the legislation as may be relevant, and within the statutory competency of the EPA:

- the Landfill Directive;
- the revised Waste Framework Directive (2008/98/EC);
- the Water Framework Directive (2000/60/EC);
- the Habitats and Birds Directives (1992/43/EEC & 1979/409/EEC);
- the Environmental Liability Directive (2004/35/EC);
- European Communities Environmental Objectives (Surface Water) Regulations, S.I. No. 272 of 2009; and
- European Communities Environmental Objectives (Ground Water) Regulations, S.I. No. 9 of 2010.

Cross Office Liaison

On 10 November 2009, I conducted a site visit at the facility in the company of Kealan Reynolds of the Office of Environmental Enforcement. I also met with John Brannigan and Eoin Doyle of Cavan County Council, Jim Dowdall and Joan Harrington of Oxigen Environmental Ltd and Willie Madden of RPS Consulting. Both this application and Oxigen Environmental's application (W0248-01) were discussed with the representatives of the respective organisations.

Best Available Techniques (BAT)

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached Recommended Decision comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard - as may be relevant - to the way the facility is managed and maintained.

Environmental Impact Statement

There is no EIS associated with this application.

Compliance Record

The applicant was prosecuted successfully by the Agency on two occasions under sections 39(1) and 39(9) of the Waste Management Acts 1996 to 2010 in 2005 and 2007.

Fit & Proper Person Assessment

The legal, technical and financial standing of the applicant (Cavan County Council) qualifies them to be considered fit and proper persons.

Complaints

Operation of the Corranure landfill has in recent years been characterised by a high level of complaint from the local community, particularly regarding odour emissions from the landfill. The closed landfill the subject of this licence review application is not expected to contribute to and has no significant potential to cause odour emissions.

Proposed Decision

I am satisfied, having considered the circumstances of the closed landfill, that the RD will provide adequate protection of the environment and that maintaining the aftercare of the closed landfill, if conducted in accordance with the conditions of the RD, will not cause environmental pollution.

Submissions

There were 4 submissions made in relation to this application.

Submission from the Health Service Executive, Mr Brian McKeever, Principal Environmental Health Officer, Environmental Health Service, The Arcade, Main Street, Cavan

Mr Mc Keever makes four points in his submission which is comprised of a cover letter and an internal report which it is said “accurately reflects the concerns of the Environmental Health Service”.

(i) In relation to private domestic wells, Mr McKeever notes that wells servicing dwellings within 500m of the landfill are included in the sampling schedule. It is thought that the HSE could be notified of exceedences in the results of groundwater monitoring at these wells. Mr McKeever also wishes to see testing for the full range of chemical parameters [though these were not specified in the submission] in the event of any key [again, unidentified] parameters being exceeded. On this topic, Mr McKeever finally wishes to see the identification of a ‘zone of contamination’ if groundwater contamination has occurred in the wider area surrounding the landfill and the notification of any residents using this groundwater as a supply source.

Comment:- Continued groundwater monitoring is proposed in the RD. In the event of contamination of groundwater, I consider that the HSE should make local arrangements with the Council to ensure that local drinking water supplies are protected and users notified of any contamination that would impact their supply. The RD requires the licensee to co-operate with the HSE in following up on any contamination incidents.

(ii) On odour, Mr McKeever recognises the importance of effective gas collection and flaring in avoiding odour emissions. The licence conditions should contain robust verification procedures to ensure proper equipment operation and avoidance of odour even during undesirable atmospheric conditions.

Comment:- The RD proposes conditions regarding the management of landfill gas and its export to the neighbouring facility for treatment.

Submission from Dr AnnNoelle Bennett

Dr Bennett’s submission concerns the period around December 2009 and the continuing odour nuisance from the facility. Incidences such as unattended flares, uncovered waste, full lorries left, litter netting missing, exposed and excessive working faces and unmonitored leachate levels all lead to non-compliances and impacts on lives. It is clear that Dr Bennett’s concerns are issues to do with the continued operation of the facility and are more appropriately dealt with in Oxigen’s parallel application (W0248-01). I have arranged for this submission to be addressed as part of that application.

Submission from Mr. Edmund McCabe

Mr McCabe’s submission is in fact an objection to the granting of a proposed decision W0077-03 to Cavan County Council in 2009. Mr Cabe is concerned with the following aspects of the operation at the facility:

- odour from the facility;
- litter;

- traffic;
- birds;
- management of the facility;
- objection to the consideration of an extension to the facility; and
- blocking of drains due to subsidence and the collection of leachate on his farm.

The first six items of concern to Mr McCabe relate more correctly to the continued operation of the landfill and other activities at the facility and are all addressed in the inspector's report and recommended decision for that separate licence application (W0248-01). The final point merits further investigation as no evidence has been provided of the incident or mentioned in the waste licence review application. Any leakage of leachate from the facility is a matter of concern to the Agency. As a partially unlined landfill (cell 0), the potential for leachate migration will always exist. However the measures that have been taken at the landfill (including leachate wells and a perimeter drain) will serve to minimise the potential for leachate migration off-site.

Submission from Mr. Peter Sexton

Mr Sexton's submission is also an objection to the granting of a proposed decision W0077-03 to Cavan County Council in 2009. The Technical Committee Report recommended that some aspects of the objection should be considered under the concurrent review of W0077-04 and W0248-01. The aspects of the objection that relate to the aftercare management of the closed landfill are addressed here:

1. Licence violations and competence of facility management
 - a. *numerous violations and public complaints have been recorded,*

Response: It is unlikely that the closed landfill will be the source of nuisance complaints. The Council is required to put a management team in place for the facility.

2. The adequacy of the leachate and landfill gas management infrastructure, the telemetry system and the monitoring requirements
 - a. *The CBWMG objects to Condition 3.13 (leachate management infrastructure) as the requirements are insufficient and need to be updated to reflect new technologies such as high speed enzymes. The CBWMG query why these technologies have not been included in Agency guidelines which would benefit residents.*

Response: The current proposal is for leachate from the closed landfill to be pumped to the adjacent facility from where it will be discharged to sewer for treatment in the Cavan waste water treatment plant. There is no proposal nor would it be considered necessary at this point in time to consider leachate treatment at the closed landfill.

- b. *The CBWMG objects to the grant of this licence in the context of Condition 3.15 (surface water management plan) as they would like to review the plan to ensure best practice is being followed.*

Response: The RD recommends conditions for the management of surface water at the facility and the control of its discharge to surface water.

- c. *The CBWMG objects to Condition 3.16 (ground water management) as more stringent testing guidelines are required given the huge facility area and pollution of groundwater would be catastrophic.*

Response: The RD sets out a schedule for the monitoring of groundwater in boreholes and private wells.

- d. *The CB WMG objects to Condition 3.19.1 (landfill gas monitoring infrastructure) as the escape of landfill gases over a long period of time has caused damage to the community and atmosphere and endangered health as a result of its proximity to a large number of homes and toxic landfill gases have reached as far as Ballyhaise and Cavan town. The CBWMG are seeking Agency assurance on landfill gas management and are concerned that the Agency manual is not stringent enough for this operator. The CBWMG contend that the huge increase to 90,000 tonnes per annum capacity has been a major contributory factor in the problem of landfill gases.*

Response: The proposal is for the export of landfill gas to the adjacent facility. The RD recommends conditions for the management of landfill gas.

3. Landscaping

- a. *The CBWMG objects to condition 5.6 as landscaping efforts to date are non-existent and the facility is disgusting when viewed from the R188. The CBWMG believe that the visual impact of the facility not to mention odours has damaged tourism. The CBWMG contends that the Agency is not enforcing its own standards and that a separate plan is necessary prior to any decision.*

Response: The applicant proposes in the CRAMP that “the long term aftercare of the site will require vegetation management. This will require fencing, cutting, fertilising and replanting in areas where vegetation may not be flourishing.”

4. Adequacy of ground water monitoring requirements and surface water management

- a. *The CB WMG objects to condition 6.4 (groundwater) as three monitoring boreholes are insufficient. The CBWMG wish to see wider water monitoring and testing system, more locations and an increase in frequency.*
- b. *The CBWMG objects to condition 6.5 as it needs to be more stringent to ensure surface water run-off is properly managed.*

Response: There are more than three groundwater monitoring boreholes specified in the RD, plus a number of private wells. The RD proposes conditions for the management and monitoring of surface run-off and its discharge to surface waters.

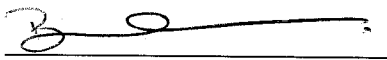
Charges

The charge levied in 2010 was €29,442. This related to the whole site including the operational elements. The Proposed Decision refers to a reduced facility and no waste acceptance, reflected in the proposed charge of €7,327.

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 PD and for the reasons as drafted.

Signed



Brian Meaney

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 1996-2010.