

Applicant
Sub.

Ann Kehoe

From: Leo Magee [Imagee@SDUBLINCOCO.ie]
Sent: 20 July 2009 15:49
To: Ann Kehoe
Subject: RE: review of waste licence W0004-03
Attachments: Submission 20 July 09 (SDCC).doc

Ms Kehoe,

Please find attached South Dublin County Council's submission under the review of waste licence W0004-03 for Arthurstown landfill. The submission makes reference to 4 appendices which contain previous correspondence between the Council and the Agency, and to some drawings and reports previously submitted by the Council. Unfortunately it has not been possible to append these to this electronic submission, however they will accompany a hard copy of the submission to follow in the post.

Leo Magee,
Senior Engineer.

From: Ann Kehoe [mailto:ann.kehoe@epa.ie]
Sent: 20 July 2009 09:37
To: Leo Magee
Subject: RE: review of waste licence W0004-03

Dear Mr Magee

A submission will need to be made before 5pm this evening, an emailed submission is fine there is no need to forward in a hard copy by post.

Regards
Ann Kehoe

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From: Leo Magee [mailto:Imagee@SDUBLINCOCO.ie]
Sent: 20 July 2009 09:31
To: Ann Kehoe
Subject: review of waste licence W0004-03

Ms Kehoe,

I intend making a submission on behalf of South Dublin County Council with regard to the review of the waste licence for Arthurstown Landfill, W0004-03. I hope to do so by email this afternoon, and follow this up with a hard copy of the submission to be delivered by post in the next day or two. I would be grateful if you could confirm that this is acceptable.

Thanks.

Leo Magee,
Senior Engineer,
South Dublin County Council.

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Mr. Brian Meaney,
Senior Scientific Officer,
Environmental Licensing Programme,
Environmental Protection Agency,
EPA Headquarters,
PO Box 3000,
Johnstown Castle Estate,
Co. Wexford.

20 July 2009

**RE: Notice under section 42 (1) (b) of the Waste Management Acts 1996 to 2008
and article 10 of the Waste Management (Licensing) Regulations 2004.**

**Submission by South Dublin County Council in respect of
Waste License W0004-03.**

Dear Sir,

Further to the above notice dated 18 June 2009 South Dublin County Council wishes to make the following submission regarding the treatment of waste prior to landfilling. Also set out below are details of proposed amendments to some of the licence conditions contained in W0004-03 which South Dublin County Council wishes to put forward for consideration by the Agency at this time. In this regard the Council considers that some of the licence conditions are now no longer relevant to the site, as it is due to close in June 2010 with planning permission due to expire on 21st December 2010. Some of the amendments proposed by the Council here relate to submissions made in the past to the Agency which have not yet been addressed.

In the first instance the Council would like to set out the following general information regarding waste accepted to date at the facility and waste to be accepted up to closure of the facility.

General

Remaining Void Space

At 1 January 2009 the void space remaining in Arthurstown landfill was 380,000 cum, which equates to capacity for approximately 303,000 tonnes of waste. At the end of the current year it is expected that the remaining void space will be 110,000 cum (capacity for 88,000 tonnes). With waste currently being placed at a rate of just under 18,000 tonnes per month it is expected that the landfill will close around the end of June 2010.

As of today's date, 18 July 2009, it is expected that a further 183,000 tonnes of waste is due to be placed in Arthurstown to the expected date of closure in June 2010. As set out below under 'Projection of Waste Arisings for 2009' currently 55% of waste placed in Arthurstown receives pre-treatment through the 3 bin system operated by Dublin City Council, with the balance coming from 2 bin collection systems operated by the other local authorities disposing of waste in Arthurstown landfill. **The tonnage of waste which will be placed in the landfill between now and closure, and which will not be subject to the separation of biodegradable waste at source, is expected to be 83,000 tonnes. The quantity of waste from that 83,000 tonnes which would be diverted away from landfill were a 3 bin system in place in all areas of concern is estimated to be 21,000 tonnes.** The benefit that this diversion from landfill would bring would be small, and indeed is miniscule when compared to the total quantity of waste placed in Arthurstown landfill to date which is 4,465,000 tonnes.

Projection of waste arisings for 2009

Processed at Ballymount baling station	175,000 tonnes
Processed at Thorntons baling station	25,000 tonnes
Processed at Ballyogan baling station	10,000 tonnes
Processed at Oxigen baling station	<u>5,000 tonnes</u>
Total	215,000 tonnes

It is expected that 115,000 tonnes (or 55%) of the total arisings in 2009 will come from Dublin City Council waste collections. Dublin City Council have recently completed the roll out of brown bin collections in their functional area, therefore around 55% of the waste to be disposed of in Arthurstown in 2009 will be collected from areas where a 3 bin system is in operation. South Dublin County Council is currently in the process of engaging with waste collection staff regarding the arrangements that are to be put in place for the provision of a brown bin collection service in it's functional area. It is this Council's proposal to commence and complete the roll out of this service at the earliest possible date, once those negotiations have been completed. Bye laws governing the presentation of biodegradable waste have already been adopted by South Dublin County Council in anticipation of the commencement of this service.

Waste placed at Arthurstown in the period 1997 to 2009

Period	Landfilled (tonnes)	BMW Fraction (tonnes)**	Diverted from Landfill (tonnes) **	Percentage diverted **
'97 – '00	796,415	506,520	n/a	n/a
'01	276,452	175,823	n/a	n/a
'02	295,404	187,877	n/a	n/a
'03	483,582	307,558	n/a	n/a
'04	423,626	269,426	n/a	n/a
'05	497,400	316,346	n/a	n/a
'06	591,755	376,356	n/a	n/a
'07	480,529	305,616	26,200	7.9 %
'08	301,828	191,963	35,300	15.5 %
'09	215,000 *	108,000	56,500	34.3 %
'10	88,000 *	44,200	28,250	39.0 %

Notes :

1. Figures denoted with an * are projections.
2. Figures denoted with an ** are estimates.
3. 'Diverted from landfill' figures are made up of actual tonnage reductions brought about by DCC brown bin collections, added to the estimate of garden waste diverted through home and community composting.
4. Figures are not available for 3 above prior to 2007.
5. Waste composition studies on grey bin waste show 63.6% to be biodegradable.
6. Estimate of biodegradable waste diverted from Arthurstown is 34.3% for 2009, and expected to increase to 39% for that part of 2010 during which the landfill will remain open.
7. As Arthurstown landfill opened in 1997 it is not possible to carry out a comparison with 1995 BMW acceptance figures, the baseline as set down under article 5 of the landfill directive.

Garden Waste

South Dublin County Council has a number of measures in place to deal with garden waste at the present time. Dun Laoghaire Rathdown County Council have similar measures in place in their functional area. These measures are as follows -

- Provision of subsidised compost bins for home composting,
- Estimate of home composting in the 2008 Waste Survey is 1,128 tonnes in South Dublin County,
- Facility to dispose of domestic garden waste at two civic amenity sites in the SDCC functional area with a third such facility at the design/planning stage,

- A total of 4,380 tonnes of green waste was deposited at SDCC civic amenity sites in 2008,
- A total of 5,508 tonnes of green waste was diverted away from landfill through home and community composting initiatives in the SDCC area in 2008.

Finished Ground Profile

South Dublin County Council is bound by condition 6 of the planning permission for the development of Arthurstown landfill, as granted by An Bord Pleanála on 16 November 2007, with regard to the finished levels and ground profile for the landfill development. Condition 6 of the planning permission states that –

'The site shall be restored to the profile indicated on figure number 1.1 of the Environmental Impact Statement (Volume 2) and drawing number 2006-054-03-PA 122RevA, submitted at application stage.'

Reason: *In the interest of visual amenity and to ensure that the rehabilitated site satisfactorily assimilates into the landscape.*

Similarly, the Council is also bound by the terms of the waste licence W0004-03 in this regard. Condition 4.2 of the licence states that –

'The final profile/height of the facility shall be as a maximum be that as shown in drawing number AWL99-29A Final Levels & Capping Detail. The profile of the remediated site referred to as 'Gavins Dump' shall not be altered unless otherwise agreed by the Agency.'

It should be noted that planning permission for the Arthurstown landfill development expires on 21 December 2010. **It is crucial that South Dublin County Council as operator and licence holder for this facility be enabled to continue to place waste in line with the current acceptance criteria, so as to ensure that the entire remaining void space is filled and the final ground profiles as set by the planning permission and waste licence are achieved. It is feared that any change in acceptance at this time, within 12 months of closure of the facility, would render it impossible for the Council to properly complete the development. Failure to achieve the final design ground levels and profiles is likely to create difficulties in installing an effective gas collection system in any section of the site which is left unfilled and unfinished at the time of expiry of the planning permission. It would present similar difficulties regarding the completion on an effective surface water collection system in the landfill cap.**

MSW Pre-treatment and residuals management (technical guidance document)

The technical guidance document under the heading 'Minimum pre-treatment obligations' states that '*The minimum acceptable pre-treatment for MSW landfills would consist of a source separated collection system (2 bin or equivalent). For urban areas (>1,500 population) diversion or separate collection of bio-waste (ie 3rd bin) is expected.*

Arthurstown landfill is in compliance with this minimum standard at present as currently 55% of waste accepted is collected through a 3 bin system, with the remaining 45% collected through a 2 bin system. As mentioned above the 3 bin system is due to be implemented in South Dublin County and Dun Laoghaire/Rathdown at the earliest possible date.

Summary of submission on pre-treatment of waste

- Capacity remains for approximately 183,000 tonnes of waste to be placed at Arthurstown landfill.
- Estimated 83,000 tonnes of this will not have biodegradable waste separated at source.
- Estimated 21,000 tonnes of biodegradable waste could be diverted from landfill if a 3 bin collection system were in place throughout the areas serviced by this landfill.
- Total quantity of waste placed in Arthurstown to date is 4,465,000 tonnes.
- 5,508 tonnes of garden waste was diverted from landfill in SDCC in 2008.
- Of the 215,000 tonnes of waste expected to be placed in Arthurstown in 2009 it is expected that the BMW fraction of this will be 108,000 tonnes.
- Estimated 56,500 tonnes of biodegradable waste will be diverted from landfill in 2009 (or 34.3% of the total biodegradable fraction).
- Planning permission for the facility is due to expire on 21 December 2010.
- Closing date for the landfill is expected to be the end June 2010.
- Any change in acceptance criteria at Arthurstown would cause non-completion of filling of the void space and inability to achieve the finished design ground levels, and as a result non-compliance with both the planning permission and the waste licence.
- Arthurstown landfill is currently in compliance with the minimum pre-treatment obligations as set down in the technical guidance document.

Request: The Council requests that no change in waste acceptance criteria be imposed at Arthurstown landfill for the remainder of it's lifespan.

Condition 3.13.5

“The licensee shall connect the vents in the area known as “Gavin’s Dump” to the active landfill gas collection system if monitoring at these vents indicates significant quantities of landfill gas.”

Monitoring has been carried out once a month since 1999 and then quarterly for the past 2 years and landfill gas levels are negligible in this area. This area is now in dormant stage.

Argument: No gas levels are being detected in this remediated area.

Request: The Council requests that monitoring of landfill gas in this area be reduced to once per year.

Condition 5.9.2

“Leachate levels in the waste shall not exceed a level of 1 metre over the top of the liner at the base of the landfill”

Leachate management is becoming increasingly difficult due to the unprecedented amounts of rainfall in recent years. Leachate levels are to be maintained below 1m within the leachate cells. (See **Appendix 1**: dwg 2002-130-01-003 – Section C-C and Plan –Leachate collection sump.)

Argument: All sumps in cells are 0.5m below liner level and 2.0m in diameter, so there is only 0.5m of leachate above the liner in each cell. This means that there are pumps starting and stopping at frequent intervals, and this obviously causes excessive wear and tear and damage to the pumps. In cell 8 for example, which has a riser pipe of 50m length and 0.5m in diameter, removal and re-installation of the pump on a regular basis resulting from excessive starting and stopping and resulting damage presents a maintenance problem which is very difficult to manage. Replacement of the cell 8 pump can take 2 -3 days to complete.

As can be seen from the enclosed drawing (**Appendix 1**) a 1 metre restriction, which for practical purposes is measured at the sump, in reality allows only a depth of 0.5 m of leachate in the cell.

Also, provision has been allowed within the license for a leachate storage lagoon (3.12.1) of similar construction materials but several meters of leachate can be stored within this structure once a freeboard of 0.5 metres is maintained. (Condition 5.9.4).

It should be noted also that at present approximately 400 to 500 cum of leachate is tankered away each day from the leachate treatment works and disposed of in the sewerage collection network within the South Dublin area. The leachate discharged in this manner flows through a portion of the sewerage collection network which is operating over its capacity and is in need of upgrading. The leachate is ultimately discharged to the Dublin City Council treatment works at Ringsend, which is also operating above its capacity.

Request: The Council requests that the limit on leachate levels on top of the liner within the landfill body be increased to 2 metres to assist in management of leachate at Arthurstown. The flexibility that this will afford in drawing down of leachate levels in the landfill will have a resulting beneficial effect on the issues of concern regarding capacity in the sewerage collection network and the treatment works.

Condition 5.9.5

“Recirculation of Leachate or other contaminated water shall not be undertaken without the prior agreement of the Agency and, in any case, shall only be undertaken within cells which have been lined to the satisfaction of the Agency.”

A letter regarding recirculation of leachate from the Agency (ref: 4-3/AK37EM) stated that

“However, Leachate recirculation may not commence until the licensee has demonstrated to the Agency’s satisfaction that condition 5.9.2 is being complied with for at least one month.” (See Appendix 2)

Due to the impracticality of this stipulation, the Council requested permission to recirculate due to large volumes of leachate as a result of poor weather conditions for the previous 3 summer periods.

The Council submitted a request to commence recirculation of leachate to assist in compliance with condition number 5.9.2. This request was sent to the Agency on 24th June 2008. (Ref: 240608). Attached to this request were leachate levels at the time. (Only 2 out of the 15 cells were in breach) (See Appendix 2)

Request: The Council requests that the licence be amended to permit recirculation of leachate commencing immediately at Arthurstown.

Condition 6.3

The Council have had some exceedances in Landfill gas limits in some of the perimeter boreholes. This was thoroughly investigated by management staff at the facility. An independent consultant (Odour Monitoring Ireland) sampled the gas within the boreholes and concluded that it was occurring naturally and not originating from the landfill body due to the various gas concentrations during analysis.

This report was sent to the Agency during 2005. (ref: 090905A) (See **Appendix 4**)

Request: The Council requests that landfill gas boreholes be reduced to quarterly monitoring.

Condition 6.3.3

“Emission Limits for emissions from landfill gas flare/combustion plant to atmosphere in this licence shall be interpreted in the following way :-“

6.3.3.1 Continuous monitoring

- (a) No 24 hour mean value shall exceed the emission limit value;
- (b) 97% of all 30 minute mean values taken continuously over an annual period shall not exceed 1.2 times the emission limit value;
- (c) No 30 minute mean value shall exceed twice the emission limit value.

The Council requested a reduction in monitoring of the NO_x to quarterly as per correspondence dated 10th December 2008. (see copy attached in **Appendix 3**)

Previous results of the emissions from the utilisation plant were submitted, and were fully compliant.

The Council are still awaiting a response from the Agency on this matter.

Request: The Council requests that NO_x be monitored quarterly at Arthurstown.

Condition 6.2

Licence Condition 6.2 states that *'the licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary'*.

and

Condition 7.1.

Licence condition 7.1 states that *'the licensee shall ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution'*.

Legal proceedings were taken by the Agency against South Dublin County Council with regard to the Council's failure to comply with these licence conditions at certain times during 2007 and 2008. The charges which related to 7.1 were withdrawn by the Agency on the day of the court hearing, while the Council pleaded guilty to two charges relating to breach of licence condition 6.2.

It had been the intention of the Council to explain the difficulties it has encountered in its efforts to comply with these licence conditions, had the case been heard in full. As indicated to the Agency in a letter dated 26 March '09 from time to time the Council's efforts to comply with certain conditions of the licence can in fact give rise to non-compliance with other licence conditions. This has been found to be the case in relation to works required by the Agency in completion of parts of the final capping as required under condition 4 of the licence. Consents have been issued in the past by the Agency for construction of the final cap, with conditions specifying that the gas extraction system be tied in to the final cap and that any waste excavated during the course of this work be covered by the end of the day. In carrying out these works on dates during June and August 2007 for example the Agency found the Council to be in breach of conditions 6.2 and 7.1 of the licence. On the occasions mentioned the Council complied in full with the conditions of the consents issued by the Agency, and on at least one of these occasions Agency staff were present on site and witnessed this. However due to odours arising from the disturbance of the 'aged' waste the Agency issued the Council with non-compliance notices for odours which it deemed to be in breach of both conditions 6.2 and 7.1 on both occasions mentioned above. Excavation and drilling of the 'aged' waste is an aspect of the work associated with completion of the final capping which is absolutely necessary, if for example temporary gas wells are to be extended and connected to the permanent gas extraction system. The means prescribed

for dealing with this excavated waste, that is covering before the end of the day, have proven not to be effective in dealing with this issue. In fact the Council's landfill management take measures to ensure that such excavated waste is buried immediately at the active landfill face. Due to the nature and the age of this waste it is certain to give off odours when disturbed. Odour neutralising equipment is used when such work is being carried out, and it too has been ineffective in suppressing the odours that are given off. Indeed the Agency's odour reports from time to time make reference to the neutralising chemical itself being detected beyond the site boundary on these occasions. It should also be noted that all of the methods specified in section 7.2 of the EPA manual on Landfill Operational Practices have been utilised on the Arthurstown landfill site and that on occasions such as those referred to here the measures employed have failed to abate the odours arising.

Argument : It is the Council's contention that all conventional and reasonable means of dealing with these odours have failed on occasions in the past, and it seems that the only possible method of abatement of these odours would be to contain the area of work and extract the odours for treatment. It is obvious that such a system would not be practical on such a vast site and would exceed what is required from the licensee in compliance with the utilisation of 'best available techniques' on the site, as such a proposal would not be technically viable.

Request : The Council requests that the requirements of these two licence conditions be amended to take account of the fact that on occasions it is not possible to ensure full compliance with them as they are currently applied.

Yours sincerely,

J. Smith,
Facility Manager.

M.Heffernan,
Deputy Facility Manager.

L.Magee,
Senior Engineer,
Environmental Services Department.