Monaghan County Council

Scotch Corner Landfill

Scotch Corner Landfill

1st January 2010 – 31st December 2010

Annual Environmental Report

June 2011 **Waste Licence W0020-02**

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1. INTRODUCTION

On 7th December 2001 the EPA granted a waste licence, W0020-01, subject to conditions to Monaghan County Council for its facility at Scotch Corner Landfill. This licence is for the operation and development of an existing non-hazardous landfill at Scotch Corner, Letterbane, Annyalla, Castleblaney, Co. Monaghan and also covers the operation of a Material Recovery Facility at the site. The Material Recovery Facility allows for the storage and processing of pre-segregated recyclable wastes.

This licence was reviewed by the Agency and a new licence, W0020-02 was issued on the 24th March 2010.

Condition 11.7 of Waste Licence W0020-02 states the following:

11.7 Annual Environmental Report

11.7.1 The licensee shall submit to the Agency, by the 31st March each year an AER covering the previous calendar year. This report, which shall to the satisfaction of the Agency, shall include as a minimum the information specified in Schedule G: Annual Environmental Report of this Licence and shall be prepared in accordance with any revelant guidelines issued by the Agency.

The AER shall include as a minimum the information specified in Schedule G: Content of the Annual Environment Report of this licence and shall be prepared in accordance with any relevant written guidance issued by the Agency.

This Annual Environmental Report will include the following:

- Reporting Period.
- Waste activities carried out at the facility.
- Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year.
- Calculated remaining capacity of the facility and year in which final capacity is expected to be reached.
- Methods of deposition and recovery of waste.
- Summary report on emissions.
- Summary of results and interpretation of environmental monitoring.
- Resource and energy consumption summary.
- Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown)
- Capacity and provision of contingency, backup and spares in the case of breakdown).
- Volume of leachate produced and volume of leachate transported / discharged off-site.
- Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year.
- Report on restoration of completed cells/ phases.
- Site survey showing existing levels of the facility at the end of the reporting period.
- Estimated annual and cumulative quantities of landfill gas emitted from the facility.
- Estimated annual and cumulative quantity of indirect emissions to groundwater.
- Annual water balance calculation and interpretation.
- Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.
- Schedule of Environmental Objectives and Targets for the forthcoming year.
- Updates to Landfill Environmental Management Plan (LEMP)

- Review of Environmental Liabilities
- Report on waste recovery
- Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.
- Tank, pipeline and bund testing and inspection report.
- Reported incidents and Complaints summaries.
- Review of Nuisance Controls.
- Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.
- Report on training of staff.
- Statement of compliance of facility
- Any other items specified by the Agency.

2. REFERENCES

Waste Licence W0020-02
Waste Licence Application Form – Monaghan County Council 25th February 1998
EPA Landfill Manuals – Landfill Operational Practises
E.I.S. for Scotch Corner Landfill Site Monaghan – MCOS
Scotch Corner Landfill 2010 Groundwater, Surface Water and Leachate Monitoring Reports.
Scotch Corner Landfill 2010 Noise Monitoring Report.
Scotch Corner Landfill 2010 Landfill Gas Monitoring Reports.
Scotch Corner Landfill 2010 Dust Monitoring Reports.
Pestproof Service Reports.
Rock Bird Control Service Reports.
Environmental Management System at Scotch Corner Landfill Rev.00
Monaghan County Council Scotch Corner Landfill One Year Phasing Report – Phase 3 Rev 1 October 2007 by RPS and Monaghan County Council Scotch Corner Landfill Commencement Cell 4b Specified Engineering Works: Addendum 2 March 2010 by RPS.
Scotch Corner Landfill 1st January 2009– 31st December 2009 Annual Environmental Report
Scotch Corner Landfill 2010 AER Returns Workbook
Scotch Corner Landfill 2010 EPA Landfill Gas Survey
Scotch Corner Phase 2 Capping CQA Report
North East Region Waste Management Plan 2005 - 2010

3. CONTENT OF ANNUAL ENVIRONMENTAL REPORT

3.1 Reporting Period

This report covers the period 1st January 2010 to 31st December 2010.

3.2 Waste activities carried out at the facility

Scotch Corner Landfill is licenced to accept household waste, commercial waste, non-hazardous industrial waste and construction and demolition waste.

Wastes that will not be accepted at the landfill facility include the following:

- Liquid Wastes
- Hazardous Wastes as defined by the European Waste Catalogue & Hazardous Waste List
- Sewage Sludge and Industrial Sludge

Scotch Corner Landfill is closed to the public and accepts the above waste types from licenced hauliers only. All other persons must present their waste for disposal at the Material Recovery Facility (MRF). The MRF accepts the following clean, dry, segregated recycables from householders and industrial and commercial sectors: paper, newspaper, cardboard, glass, timber, rubble, aluminium and steel cans, plastic, textiles/clothes, footwear, white goods, scrap metal, electrical goods (except printers), waste oil, used cooking oil, fluorescent tubes, batteries, gas cylinders, tyres, polystyrene, plasterboard, paint cans and green waste. The MRF also accepts mixed skips of recyclables from householders and kerbside collection of recycables from waste hauliers.

Scotch Corner Landfill is licensed to accept and deposit the following waste types in lined cells as per Schedule A of the Waste Licence:

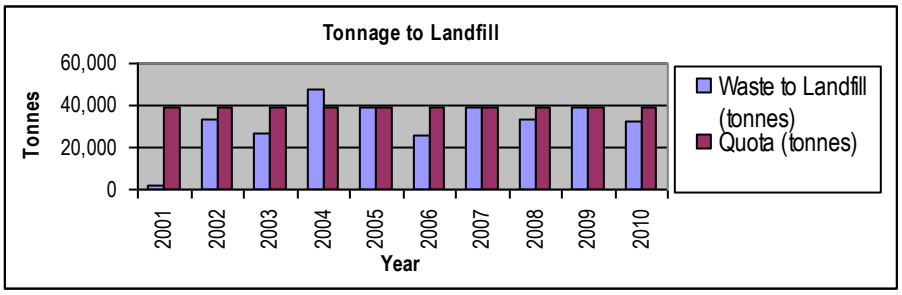
Waste Type	Maximum Tonnes Per Annum
Household	18,200
Commercial	5,700
Construction and Demolition	2,800
Industrial Non-Hazardous	12,800
TOTAL	39,500

3.3 Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year

(A) Waste Disposal

Table 1: Types and Quantities of waste disposed to landfill from 07/12/01 – 31/12/10.

Year	Household EWC 20 03 01	Commercial EWC 20 03 01	Industrial Non-hazardous EWC 20 03 01	Mixed Municipal Waste EWC 20 03 01	Sewage Sludge EWC 19 08 05	Industrial Sludge EWC 02 05 02	Construction & Demolition EWC 17 09 04	Street Cleanings EWC 20 03 03	TOTAL (tonnes)
2001	908.52	121.89	562.75		238.72	15.90	0	13.11	1860.89
2002	15,103.3	3,736.66	8,390.4		4,703.44	622.77	277.32	397.39	33,231.28
2003	11,895.14	2,047.01	6,833.30		4,921.88	662.85	239.29	414.65	27,014.12
2004	19,096.03	3,757.94	16,210.71		5,473.12	560.91	345.56	2,487.23	47,931.50
2005	20,111.51	2,981.29	8,085.37		5,681.26	1020.06	214..28	729.77	38,823.54
2006	13,770.61	1,305.71	7,280.73		1,232.70	169.60	291.48	1,693.69	25,744.52
2007	12,559.82	2,689.06	10,888.38	12,528.14	0	0	49.44	792.75	39,507.59
2008	12,976.48	1,972.74	7,121.10	10,137.14	0	0	40.9	706.38	32,954.74
2009	9,228.92	612.22	4,737.98	23,492.30	0	0	93.28	668.16	38,832.86
2010	18,689	9,140	3,717	Re-classified	0	0	5	671	32,222.00
Quota	18,200	5,700	12,800		0	0	2,800		39,500



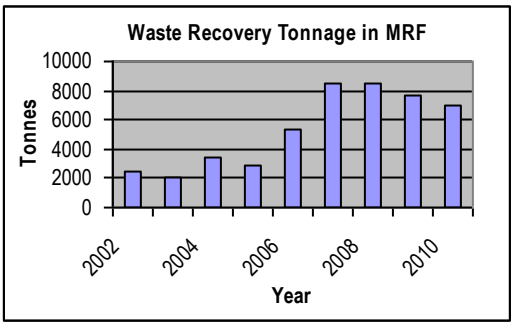
(B) Waste Recovery

Table 2: Waste Recovery Table for Scotch Corner Recycling Centre 01/01/10 – 31/12/10

Load Type	EWC Code	Tonnes
Lead Batteries	16 06 01	5.16
Household Batteries	16 06 02	2.13
C & D waste	17 09 04	896.76
Textiles	20 01 11	29.28
Glass Packaging	15 01 07	82.88
Green waste	20 02 01	64.18
Fluores lights & Bulbs	20 01 21	1.1
Newspapers	20 01 01	98.5
Scrap metal	20 01 40	218.03
Timber	20 01 38	698.89
Cooking Oil	20 01 25	0.72
Waste oil	13 02 08	0.95
Metallic Packaging	15 01 04	18.56
Paper and Cardboard Packaging	15 01 01	1702.34
Paper mixed	20 01 01	112.86
LDA's cold	20 01 36	26.19
CRT's	20 01 35	43.89
SDA's	20 01 36	54.55
LDA's	20 01 36	25.56
Kerbside	20 03 01	2342.62
Plasterboard	17 08 02	62.62
Polystrene	15 01 02	1.34
Tyres	16 01 03	4.52
Plastic bottles	15 01 02	26.12
Plastic	17 02 03	1.86
Plastic Packaging	15 01 02	105.44
Other Plastic Packaging	20 01 39	26.92
Coloured plastic film	20 01 39	32.36
Aerosol cans	16 05 04	0.22
Mixed Plastics	20 01 39	29.302
Biodegradable waste	20 02 01	202.33
	total	6999.56

Table 3: Waste Recovery Table for Scotch Corner Recycling Centre 2001 - 2010

Year	Tonnes
Dec 2001 & 2002	2,435.88
2003	2,067.32
2004	3,382.10
2005	1749.69
2006	5280.5
2007	8531.999
2008	8460.12
2009	7683.77
2010	6999.56



3.4 Calculated Remaining Capacity of the Facility and year in which Final Capacity is expected to be reached

Ref. Report entitled "Monaghan County Council Scotch Corner Fill Commencement Cell 4b Specified Engineering Works: Addendum" Rev 1 dated 2/3/2010 by RPS. By 15/3/2010 when waste deposition commenced in Cell 4b there remained 302,000 tonnes capacity in Phase 3 with a life expectancy of approx. 8 years. Since filling of waste commenced in Cell 4b on 15/3/2010, 42,426 tonnes of waste and 4,965 tonnes of compost has been placed in Cell 4b. Therefore the remaining capacity is approx. 250,000Tonnes with a life expectancy of approx. 8 years

Cell	Year of Filling	Capacity
4B	2010	37,000 tonnes
4C	2011	37,000 tonnes
5B	2012	37,000 tonnes
5C	2013	37,000 tonnes
5A.1	2014	37,000 tonnes
4A.1	2015	40,000 tonnes
5B.1	2016	32,000 tonnes
4B.1	2017	25,000 tonnes
5A.2	2017	20,000 tonnes

3.5 Methods of Deposition and Recovery of Waste

Since 15/3/10 waste was deposited to landfill into Cell 4b of Phase 3. Waste was compacted using a dozer and/or hymac and a compactor.

From 25th April 2005 to date the MRF is operated by McElvaney Waste & Recycling Ltd. During this period 1/1/10 to 31/12/10, source segregated recyclable materials and mixed recyclables from their skip collection service at the MRF are sent to recycling outlets approved by the Agency. Unsorted household recyclable materials collected by kerbside is not sorted at the MRF but are sent directly to approved recycling outlets.

Waste deposited in the compactor at the MRF was landfilled in Cell 4b.

Ref. "SOP 05 Waste Acceptance and Characterisation Procedure at Scotch Corner Landfill"

3.6 Summary Report on Emissions

3.6.1 Dust

Results for all dust monitoring locations were below the Waste Licence dust deposition limit of 350mg/m^2/day except as follows:

Results for dust monitoring location D2 in the first schedule and locations D1, D2 & D3 exceeded the dust deposition limit for the second schedule slightly due to a number of tiny insects in the sample.

Results for dust monitoring locations D2, D3 and D4 exceeded the Waste Licence dust deposition limit of 350mg/m^2/day for the third schedule because of capping works on site which involved movement of clay materials on site.
Data since 2002 shows significant improvements since monitoring commenced in 2002.

Ref. 'Scotch Corner Landfill 2010 Dust Monitoring Report'.

3.6.2 Noise

As per in previous years the noise survey carried out at Scotch Corner Landfill in 2010 indicated that there are no significant noise emissions at the facility.

Results for noise monitoring locations NSL1, NSL 2, D1 and D4 are below the Waste Licence noise emission limits of 45 Night dB(A) L_{AEQ}(30 minutes) and 55 Day dB(A) L_{AEQ}(30 minutes).

Ref. 'Scotch Corner Landfill 2010 Noise Monitoring Report'.

3.6.3 Landfill Gas

Permanent landfill gas extraction and flaring has operated from Area 1 and Area 2 (capped cells) since 8th December 2005 including this period 1/1/10 to 31/12/10. Landfill gas extraction and flaring has operated from Phase 2 (uncapped cells) from vertical extraction wells since 10th December 2007. Landfill gas extraction and flaring has operated from Cell 5a (partially capped cell) from horizontal extraction pipework since 29th January 2008 and from vertical extraction wells 16th December 2009. Landfill gas extraction and flaring has operated from Cell 4a (uncapped cell) from horizontal extraction pipework since 19th January 2009 and from vertical extraction wells 16th December 2009. Landfill gas extraction and flaring has operated from cell 4b since 30/6/2010

Landfill gas produced by the decomposition of waste from Phase 2 (cells 2 & 3) discharged to the atmosphere since waste deposition commenced in this cell on 22/10/03 until 10/12/07 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from Cell 5a discharged to the atmosphere since waste deposition commenced in this cell on 21/6/07 until 29/1/08 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 4a discharged to the atmosphere since waste deposition commenced in this cell on 23/6/08 until 19/1/09 when flaring from this area commenced.

Landfill gas produced by the decomposition of waste from the Cell 4b discharged to the atmosphere since waste deposition commenced in this cell on 15/3/10 until 30/6/10 when flaring from this area commenced.

See also 3.7 Summary of results and interpretation of environmental monitoring and 3.14 Estimated annual and cumulative quantities of landfill gas emitted from the facility.

3.6.4 Leachate

An analysis of surface water and groundwater at the Scotch Corner facility indicates that there is contamination of surface water and groundwater by leachate from the old landfill.
See also 3.7 Summary of results and interpretation of environmental monitoring and 3.10 Volume of leachate produced and volume of leachate transported / discharged off-site and 3.15 Estimated annual and cumulative quantities of indirect emissions to groundwater.

3.7 Summary of results and interpretation of environmental monitoring

3.7.1 Landfill Gas

During 2010, analysis of the inlet the landfill gas flarestack indicates active decomposition of waste since monitoring commenced on 1/3/06.

Analysis of the outlet the landfill gas flarestack was carried out by Odour Monitoring Ireland on 12th July 2010 and 27th Oct 2010. All parameters remained below the flarestack emission trigger levels for these dates.

During 2010, analysis of gas in boreholes at the perimeter of the facility (B1a, B2a, B3a, B4a, B5a, B6a and S3) indicate that there is no migration of gas from the current facility i.e. Area 1 (comprising of Cell 1 and the unlined cell to the north of Cell 1), Area 2 (comprising of the unlined cell behind the MRF), Phase 2 (Cells 2 and 3) and Phase 3 (Cells 5a and 4a & 4b)

Landfill Gas readings for boreholes L7, L8 and L9, located within the body of waste, are typical for waste that is actively decomposing.

Continuous monitoring of landfill gas in the weighbridge office, MRF office and in the MRF canteen indicate that the results are below the Waste Licence trigger levels for landfill gas emission levels of less than or equal to 1.0%v/v methane and less than or equal to 1.5% Carbon Dioxide.

Ref. 'Scotch Corner January to March 2010 Landfill Gas Monitoring Report'
'Scotch Corner Landfill April to June 2010 Landfill Gas Monitoring Report'
'Scotch Corner Landfill July to December 2010 Landfill Gas Monitoring Report'
"Air Emission Testing reports of a landfill Flare located in Scotch Corner Landfill, Letterbane, Annyalla, Castleblaney, Co. Monaghan" performed by Odour Monitoring Ireland on behalf of Monaghan County Council on 12/7/10 & 27/10/10

3.7.2 Noise Monitoring

See 3.6.2 Noise above.

3.7.3 Groundwater Monitoring

Analytical results of groundwater samples taken from private wells within 250m of the facility indicate no contamination from the landfill.
Old G1 was connected to the leachate collection system on 28/5/07. Works to install groundwater interceptor drains around the perimeter of old landfill took place in early 2007 and the discharge from this system was sampled and analysed as new G1 since April 2007. Analysis of groundwater at new G1 represents the quality of groundwater that is discharging from upstream of the old landfill (across the road from the current facility) to a surface water drain at the western side of Cell 1. When compared to the Department of the Environment's MACs for Salmonid Water Regulations 1988, new G1 continues to show exceedance levels of ammonia which indicates continued contamination by leachate from the old landfill with levels ranging from 2.92mg/l to 81.82mg/l in 2010.

Further investigations at the old landfill have identified the source of contamination and further remedial works were completed in summer of 2008 to prevent this source of contamination entering this groundwater collection system.

A flow meter was fitted to new g1 on 10/11/09 and a replacement was fitted on 4/10/10. From 4/10/2010 to 4/1/2011 4,557m^3 has discharged from new G1.

Since 12/10/09 new g1 has been re-routed through the bog area between Cell 1 and Phase 3. The discharge is now filtering through the peaty are before discharging to G2.

A significant improvement in new G1 water quality has been noted since November 2008. This may be attributed due to the extreme winter weather conditions at this time.

Groundwater from G2 (discharge of groundwater from under Phase 3 since July 2007) indicates no contamination from the landfill and its quality remains typical of background levels for a boggy area until December 2009 when the discharge at new G1 was rerouted to discharge to G2 since 12/10/2009. When compared to the Department of the Environment's MACs for Salmonid Water Regulations 1988, G2 show exceedance levels of ammonia with levels ranging from <0.19mg/l to 16.46mg/l in 2010. Results for G2 in the months of July to September 2010 showed a significant improvement in water quality with decreased ammonia levels and this improvement continued in October, November and December 2010 such that the ammonia levels decreased to below the ammonia MAC for Salmonid Water Regulations 1988 . However attenuation of ammonia levels from new G1 to G2 is also noted as there is dilution from G2 groundwater and reduction in the nutrient loading from the peat area through which G1 now flows.

The leachate interceptor drain has been fully operational around unlined Cell 1 since 04/06/03 and this has eliminated leachate contamination from this unlined cell to Boreholes S3 and RC1.

Analysis of groundwater sampled from S3, RC1, B1, B1a, B2, B2a, B3, B3a, B4, B4a, B6 and B6a show no contamination from the landfill while analysis of groundwater from boreholes B5 and B5a continues to indicate leachate contamination from the old landfill. As per 2009 significant improvement in water quality at B5a was noted in 2010.

Groundwater levels and temperature continued to be monitored in groundwater boreholes RC1, S3, B1, B1a, B2, B2a, B3, B3a, B4, B4a, B5, B5a, B6 and B6a on a quarterly basis during 2010.

Ref. Scotch Corner Landfill January to March 2010 Groundwater, Surface Water and Leachate Monitoring Report.
Scotch Corner Landfill April to June 2010 Groundwater, Surface Water and Leachate Monitoring Report.
Scotch Corner Landfill July to December 2010 Groundwater, Surface Water and Leachate Monitoring Report.

3.7.4 Leachate Monitoring

Results of analysis of leachate in all boreholes on site are typical of leachate from waste that is actively decomposing, with elevated readings of BOD, COD, Ammonia, Chloride and Minerals during this reporting period.

Leachate levels continue to be recorded on a weekly basis in leachate boreholes L5, L7, L8 and L9 from pressure transducer data on the Scada computer located in the landfill manager's office.

Leachate levels in cell 5a and Phase 2 were also recorded on a weekly basis during 2010 from pressure transducer data on the Scada computer located in the landfill manager's office.

Leachate levels in the lined cells, Cell 1, Cell 3 and Phase 3 did not exceed the 1m threshold in 2010.

Ref. Scotch Corner Landfill January to March 2010 Groundwater, Surface Water and Leachate Monitoring Report.
Scotch Corner Landfill April to June 2010 Groundwater, Surface Water and Leachate Monitoring Report.
Scotch Corner Landfill July to December 2010 Groundwater, Surface Water and Leachate Monitoring Report.

3.7.5 Surface Water Monitoring

Surface water samples S5, S6 and S7 continue to show contamination from the landfill. This contamination is attenuated with distance from the landfill as seen by analysis data for S7, EPA 155 and EPA 180. S8 is the surface water sampling point upstream of the landfill and is typical of background surface water quality. Oil Interceptor S9 shows elevated ammonia levels but mineral oil analysis remains below the trigger level.

Ref. Scotch Corner Landfill January to March 2010 Groundwater, Surface Water and Leachate Monitoring Report.
Scotch Corner Landfill April to June 2010 Groundwater, Surface Water and Leachate Monitoring Report.
Scotch Corner Landfill July to December 2010 Groundwater, Surface Water and Leachate Monitoring Report.

3.7.6 Meteorological Monitoring

Met Eireann on behalf of Monaghan County Council recorded the meteorological parameters as per Schedule D.6 of the Waste Licence W0020-02 for its facility at Scotch Corner.

Ref. Scotch Corner Landfill Meteorological Monitoring Report for 2010.

3.7.7 Topographical Survey

This survey completed by QED Engineering in August 2010

3.7.8 Biological Assessment

This survey was completed by Conservation Services in June 2010 and indicated that water quality remained the same as 2009 levels with S7 remaining at Q2-3 and EPA155 at Q3. Biological monitoring was carried out monitoring location S8 for the first time in 2010 and is classified as moderately polluted (Q2-3)

3.7.9 Archaeological Assessment

An archaeological assessment was carried out at the facility in 2010. Nothing of archeological importance was found.

3.7.10 Nuisance Monitoring

Nuisance monitoring was carried out at least twice weekly basis by the landfill manager or by the deputy landfill manager or by the acting landfill manager. These site inspections recorded the presence or absence of nuisances caused by litter, vermin, birds, flies, mud, dust and odours at the facility and at its immediate surrounds and the corrective actions to be carried out. Completed 'Site Inspection Forms at Scotch Corner Landfill' are maintained at the Landfill Office.

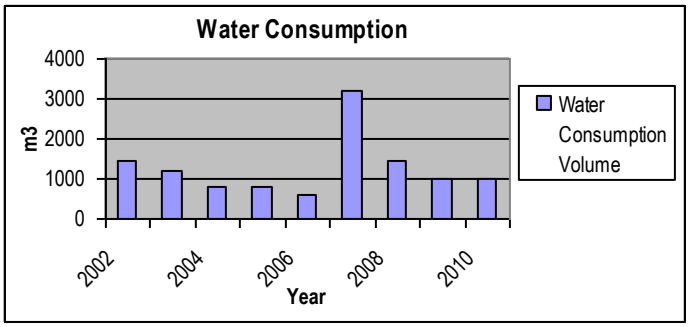
Ref. "SOP 11 Site Inspection Procedure in Environmental Management System at Scotch Corner Landfill

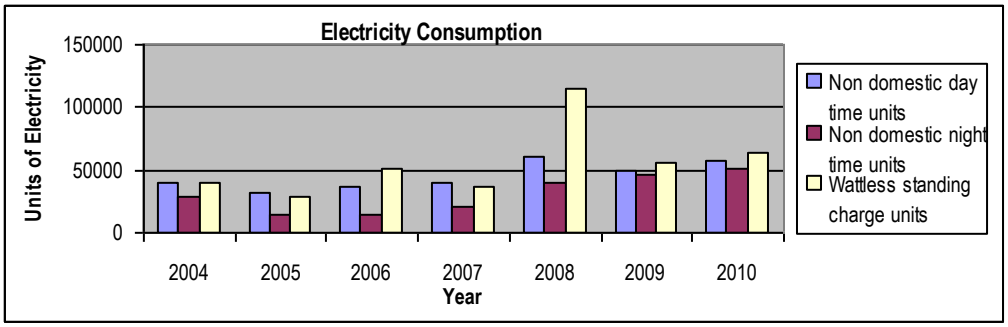
3.8 Resource and energy consumption summary

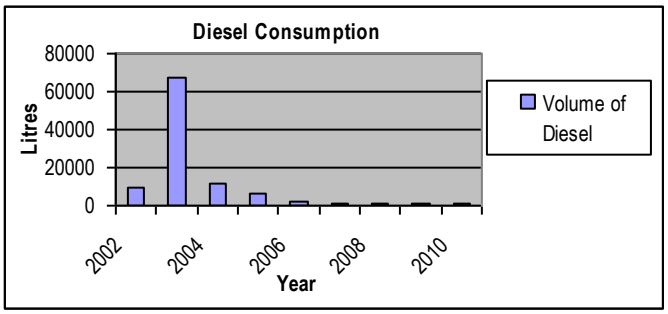
The following table summaries the consumption on site of water, electricity, diesel, and gravel. Water consumption consisted of usage by the wheelwash facility and domestic purposes. Electricity consumption consisted of usage by the landfill office, leachate pumps, groundwater pumps and the landfill gas flare. Diesel consumption includes the diesel supplied for the jeep and other hired in plant and equipment (e.g. dumper, generator etc). Gravel was required for maintenance of site roads, installation of horizontal gas extraction pipework and vertical gas extraction boreholes and other works on site as they arose (e.g. placement of ducting).

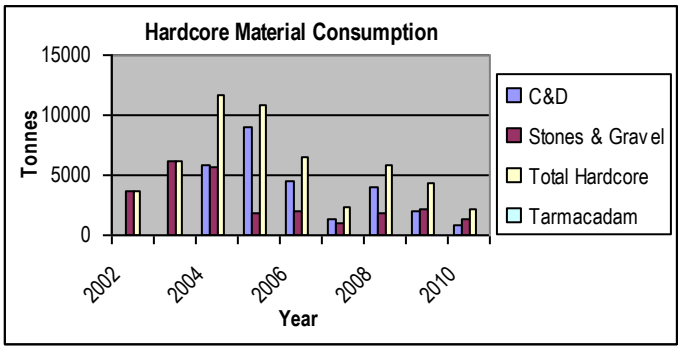
Table 8: Resource and Energy Consumption Table

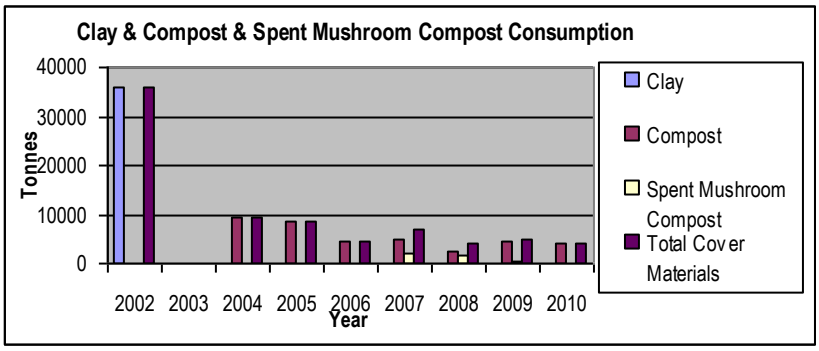
Resource/Energy Source	Units consumed
Water	~1000m3
Electricity	Non-domestic day time units 56,988 Non-domestic night time units 51,852 Wattless standing charge units 64,452
Diesel	~1,000L
Stones/Gravel	1,290.71 tonnes
C&D	877.8 tonnes
Compost	3,990.80 tonnes
Tarmacdam	8,540 tonnes
Spent Mushroom Compodt	0 tonnes











3.9 Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown)

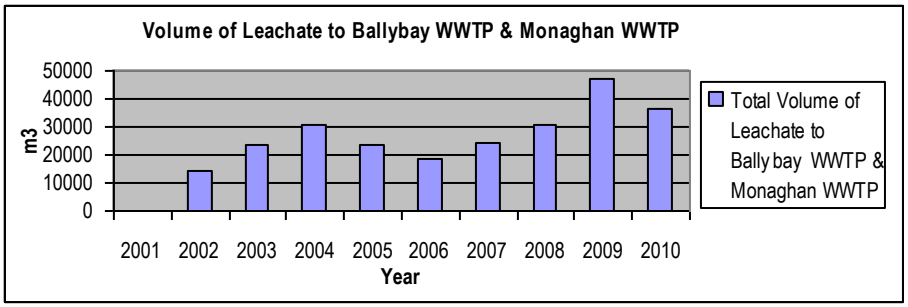
The following are the proposed development works for the year 2011/2012 subject to approval from the Agency, planning permission and/or funding from the Department of the Environment as appropriate:

- Gas infrastructure in Cells 4c.
- Final and Temporary Capping Phase 3.
- Feasability of Construction of Phase 4 & 5 on site
- Construction of wetlands for leachate treatment on old landfill and current facility (subject to approval by Planning Authories and EPA).
- Developing level concrete hardstanding to facilitate composting.
- Infrastructure from alternative processing at MRF e.g. MBT, removal of high calorific waste.

3.10 Volume of leachate produced and volume of leachate transported / discharged off-site

Table 9: Disposal of Leachate from 07/12/01 – 31/12/10

Year	Total Volume to Monaghan WWTP
07/12/01 – 31/12/01	81.97 m^3
2002	14,484.68 m^3
2003	23,411.11 m^3
2004	30,841.64 m^3
2005	23,490.46 m^3
2006	18,344.17 m^3
2007	24,313.93 m^3
2008	30,631.02 m^3
2009	47,498.06 m^3
2010	36,149.02 m^3



3.11 Report on development works undertaken during the reporting period, and a timescale for those proposed during the coming year

The following development works were undertaken during the reporting period 01/01/10 to 31/12/10

- Installation of horizontal gas infrastructure in Cell 4b.
- Installation of vertical gas extraction boreholes in Cell 4b.
- Submission of SEW for wetlands as leachate treatment option for approval to the Agency.
- Replacement of flow meter on new G1.
- Completion of Capping project for Phase 2 in 2010 (completed Aug 2010).
- Installation of covered area for WEEE at Recycling Centre.

See also 3.9 Proposed development of the facility and timescale of such development (including plant operating capacity at the MRF, provision of adequate standby and provision of contingency, backup and spares in the case of breakdown) above.

3.12 Report on restoration of completed cells/ phases

Final Capping of Phase 2 (m2) and Intermediate Capping of Phase 3 (m2) were completed in August 2010.

3.13 Site survey showing existing levels of the facility at the end of the reporting period

A topographical survey was carried out by QED Engineering in August 2010.

3.14 Estimated annual and cumulative quantities of landfill gas emitted from the facility

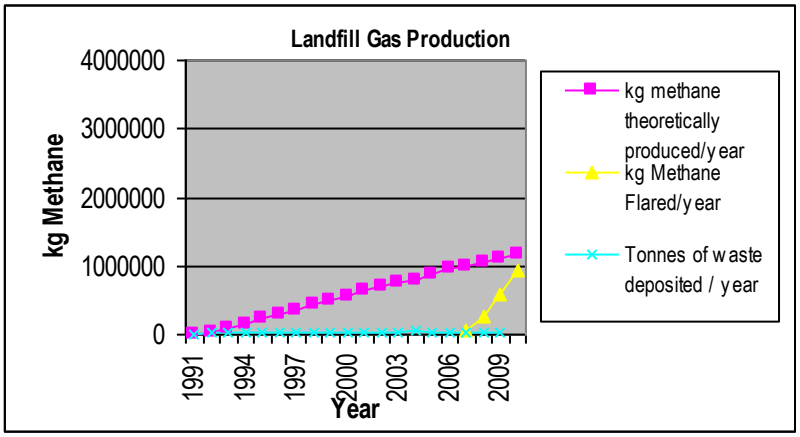
The volume of landfill gas has been estimated as 200m^3 of gas per tonne of waste over its life in the Waste Licence Application. This figure assumes that the waste comprises of a 50/50 mix of slowly decomposable and rapidly decomposable material. The rapidly decomposable material is assumed to generate gas for 5 years after placement with peak gas generation for each tonne of waste being 1 year after placement. Gas generation for the slowly decomposable material is assumed to be on going for 15 years after placement with a peak at 5 years after placement.

Using the Landgem program 3.462 x 10^6 m^3 of landfill gas was theoretically produced in 2010 by waste deposited at Scotch Corner. This is equivalent to 1,155,000kg Methane in 2010.

Landfill gas extracted and flared from Area 1, Area 2, Phase 2 and Phase 3 in 2010 was approximately 3.93 x 10^6 m^3 of landfill gas with an average composition of 32.65% CH_4 and 27.4% CO_2.

The follows summaries landfill gas production since the site opened in 1991 using the Landgem Program and EPA Landfill Survey Data for 2008, 2009 and 2010:

Year	Tonnes of waste deposited / year	Theoretical kg methane produced /year	Actual kg methane flared /year
1991	6750 (estimated)	0	0
1992	28000 (estimated)	17,690	0
1993	28000 (estimated)	90,390	0
1994	28000 (estimated)	160,200	0
1995	28000 (estimated)	227,300	0
1996	28000 (estimated)	291,800	0
1997	32237 (estimated)	353,800	0
1998	30120.87	424,400	0
1999	33882.46	486,700	0
2000	36762.53	556,400	0
2001	33256.37	631,000	0
2002	33231.28	693,400	0
2003	27014.12	753,300	0
2004	47931.5	794,600	0
2005	38823.53	889,100	0
2006	25744.52	956,000	0
2007	39507.59	986,000	~59,614
2008	32954.74	1,051,000	258,086
2009	38832.86	1,096,000	588,747
2010	32222	1,155,000	921,191



3.15 Estimated annual and cumulative quantities of indirect emissions to groundwater

Waste for disposal at Scotch Corner landfill is placed in lined cells to prevent potential discharge to groundwater. Leachate is pumped from the lined cell to the leachate lagoon and tankered off-site for treatment at Monaghan WWTP.

However, prior to the construction of lined cells on site, the landfill operated on a dilute and disperse principle with leachate collection by gravity in the old leachate lagoon. Consequently leachate from the unlined cells also migrated to groundwater. Leachate interceptor drains have been put in place around unlined cells at the facility to mitigate the risk of leachate contamination of groundwater and capping of unlined cells was completed on 28/7/05.

Despite remediation works that were undertaken at the old landfill, leachate contamination from the old landfill continues to discharge to surface water at new G1. In 2010 46,610m3 discharged from New G1 with an average ammonia concentration of 41mg/L. This equates to a ammonia loading of approx. 1910kg of ammonia to this surface water in 2010.

See also 3.7.3 Groundwater Monitoring.

3.16 Annual water balance calculation and interpretation

The calculation for annual water balance is as follows:

$$Lo = [ER(A) + LW + IRCA + ER(1)] – [aW]$$

Where
- Lo = leachate produced (m^3)
- ER = effective rainfall (use actual rainfall (R) for active cells)(m)
- A = area of cell (m^2)
- LW = liquid waste (also includes excess water from sludges) (m^3)
- IRCA = infiltration through restored and capped areas (m)
- 1 = surface area of lagoons (m^2)
- a = absorptive capacity of waste (m^3/t)
- W = weight of waste deposited (t/a)

ER = 0.8358m (Total rainfall for 2010 from Met Eireann Data)
Jan-Jul2010 = 0.3991m
Aug-Dec = 0.4367

A = 17,700m^2) (~Area of unlined cell 1 & Area of unlined cell behind MRF)
+ 7,800m^2 (~Area of Cell 1)
+ 20,000m^2 (~Area of Cell 2 & 3)
+ 8,100m^2 (~Area of Cell 5a)
+ 4,500m^2 (~Area of Cell 4a)
+ 4,500m^2 (~Area of Cell 4b)

LW = 0m^3

IRCA = 30% of ER x Area of capped cells
= (30% of 0.8358) x (7800m^2 + 17700m^2) + (30% of 0.4367) x (14240m^2 + 8048m^2)
= 0.2507m x 25500 m^2 + 0.1310m x 22288 m^2
= 9313m^3

1 = 350m^2 (~ area of new leachate lagoon)

a = 0.025m^3/t

W = 32222t (total weight deposited in landfill in 2010)

ER(A) = 0.3991m x (20000m^2 + 8100m^2 + 4500m^2 + 4500m^2)
+ 0.4367m x (20000m^2 + 8100m^2 + 4500m^2 + 4500m^2 - 14240m^2 + 8048m^2)
= 0.3991m x 37100 m^2 + 0.4367m x 14812 m^2
= 21275m^3

Lo = [ER(A) + LW + IRCA + ER(1)] – [aW]
= 21275m^3 + 0m^3 + 9313m^3+(0.8358 x 350m^2)]–[0.025m^3/t x 32222t]
= [21275m^3 + 0m^3 + 9313m^3 + 293m^3] – 806m^3
= 30075m^3

Theoretical volume of leachate produced in 2010 = 30075m^3.
Actual volume of leachate tankered off site to Monaghan WWTP = 36149m^3.

The figure of 36,149m^3 of leachate tankered to Monaghan WWTP also includes approximately 3,589m^3 of contaminated water from the old landfill (old G1) and condensate from the gas collection system (estimated at ~500m^3 for 2010). Therefore the actual volume of leachate produced and tankered off site in 2010 was ~32,000m^3.

The reason for the discrepancy in the theoretical and actual volume of leachate generated on site can be attributed to the fact that the water balance formula does not take into account the fact that 17,700m2 of the capped area on site are actually unlined cells and that leachate generation is as a result of ingress of groundwater at the base of the cells.

3.17 Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report

The following progress toward achieving the Environment Objectives and targets listed in the 2009 AER was achieved in 2010:

- Implementation of EMS.
- Installation of roofed area for WEEE at Recycling Centre.
- Provision of Staff training as per training plans in 2010.
- Final Capping of Phase 2 & 3.
- Temporary Capping of Phase 2 & 3.
- Installation of vertical gas extraction boreholes and horizontal gas collection pipework for the active collection & flaring of landfill gas from Cell 4b.
- Submission of SEW for Integrated Wetlands for Leachate treatment for approval by the Agency and Planning Authorities
- Implementation of new Waste Licence 20-02.
- On-going implementations of "Scotch Corner Landfill Resource Use and Energy Efficiency Report" dated December 2006 and subsequent Energy Audits.

3.18 Schedule of Environmental Objectives and Targets for the forthcoming year

Table 12: Schedule of Environmental Objectives and Targets for 2011

Objective	Target	Completion Date
Maintain EMS	Update and implement changes to EMS and continuous implementation of EMS to meet requirements of ISO14001, Audit by Odour Monitoring Ireland, "Energy Map" by SEI and new waste licence W0020-02.	March 2012
Implement new requirements of W002-02	Carry out Environmental Liabilities Risk Assessment	March 2012
Prepare AER	Submit Annual Environmental Report 2011 to the Agency	By 31st March 2012
Provision of Training	Provide training as per training plans for 2011.	December 2010
Provision of MRF Infrastructure / Reduce waste to landfill	Provision of baled waste storage facility at rear of existing MRF if required. Provision of concrete hardstanding area to facilitate composting if required. Provision of new infrastructure at MRF for MBT if required.	December 2015 December 2015 December 2015
Provision of Landfill Infrastructure	Temporary capping of Cell 4b Connection of Cell 4b gas boreholes to gas collection system and flare when allowed by the Agency Ref. Incident 31/10 Installation of vertical gas extraction boreholes and horizontal gas collection pipework for the active collection & flaring of landfill gas from Cell 4c Further remediation of Old Landfill if required by Agency. Obtain Planning Permission and EPA approval for Integrated Constructed Wetlands. Construction of Integrated Constructed Wetlands (pending Planning Permission and EPA approval).	July 2011 December 2011 December 2011 December 2011 December 2011 December 2013
Provision of Restoration & Aftercare	On-going implementation of Restoration and Aftercare Plan.	December 2011
Improve Energy Efficiency & Reduce Resource Use	On-going implementation of "Scotch Corner Landfill Resource Use and Energy Efficiency Report" dated December 2006 and subsequent Energy Audits and "Energy Map" recommendations by SEI.	December 2011

3.19 Updates to Landfill Environmental Management Plan (LEMP)

Not applicable as the Landfill Environmental Management Plan (LEMP) has yet to be written. It will be completed by 24th March 2012 as required by Waste Licence W20-02 Condition 2.3.2.2 Landfill Environmental Management Programme.

3.20 Review of Environmental Liabilities

Not applicable as the Environmental Liabilities Risk Assessment has yet to be carried out.. It will be completed by 24th March 2012 and submitted to the Agency for approval as required by Waste Licence W20-02 Condition 12.3 Environmental Liabilities

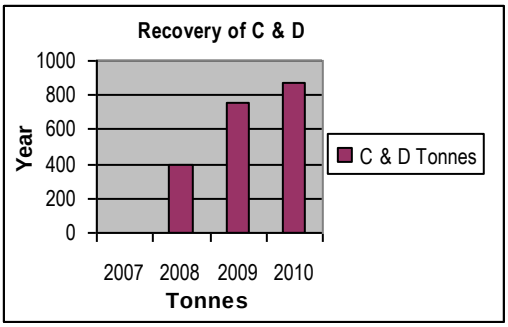
3.21 Report on Waste Recovery

See also 3.3 Quantity and Composition of waste received, disposed of and recovered during the reporting period and each previous year

3.21.1 The recovery of Construction and Demolition Waste

In 2010 Scotch Corner Landfill reused 876.76tonnes of C & D waste collected at its MRF for maintenance of entrance pad and tipping area in its active Cell.

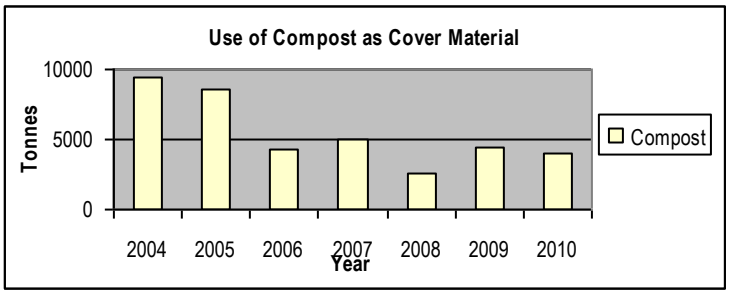
Year	C & D Tonnes
2007	0
2008	399.62
2009	760.7
2010	877.8



3.21.2 The recovery of other waste in landfill operation, including restoration

In 2010 Scotch Corner Landfill used 876.76tonnes of compost from NWP for daily cover material and intermediate cover material.

Year	Compost
2004	9413.32
2005	8624.64
2006	4292.1
2007	5014
2008	2632.18
2009	4422.98
2010	3990.38



In addition Scotch Corner landfill used on site clay and peat as intermediate cover material.

During 'Scotch Corner Phase 3 Capping Works' on site clay was used to place a 850mm layer of subsoil on 14,420m^2 of permanent capping. All available top soil on site was used as part of the 150mm top soil layer.

3.21.3 The recovery of energy through landfill gas combustion

There is recovery of energy through landfill gas combustion on site as it was deemed as not feasible by RPS.

3.22 Full Title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation

No procedures were created in 2010.

The following SOPs are in operation on site:

Title: SOP 01 Document Control and Records
Revision No: Rev.00
Issue Date: 22/10/02
Summary: This procedure outlines how documentation and data relating to the operation of the landfill at Scotch Corner is controlled and how records are maintained to demonstrate compliance with the Waste Licence 20-1. This procedure covers the control of the following documents and the records associated with them: Waste Licence 20-1; Environmental Management Plan; SOPs; Master Forms.

Title: SOP 02 Procedure for Leachate Management at Scotch Corner Landfill
Revision No: Rev.02
Issue Date: 07/03/02, Revised 29/04/02, Revised 12/04/07
Summary: This procedure details the leachate collection and removal system in operation at Scotch Corner landfill.

Title: SOP 03 Procedure for Operation of Weighbridge at Scotch Corner Landfill
Revision No: Rev.00
Issue Date: 12/04/07
Summary: This procedure details the protocol for the weighbridge using Riteweigh software at Scotch Corner landfill.

Title: SOP 04 Emergency Response Procedure
Revision No: Rev.01
Issue Date: 28/08/02, Revised 05/12/02
Summary: This procedure details the Emergency Response Procedure that will be implemented at the facility at Scotch Corner to comply with Condition 9.2 of Waste Licence 20-1. This procedure and SOP 07 Corrective Action Procedure will be followed in the event of an emergency situation arising on site. The Emergency Response Procedure applies, but is not limited to the following incidents: Major Fire / Explosion; Migration of Landfill Gas; Spillage; Serious injury/accident to persons; Equipment Breakdown greater than 24 hours; Any other incident that may pose a significant threat to persons or to the environment.

Title: SOP 05 Waste Acceptance and Characterisation Procedure at Scotch Corner Landfill
Revision No: Rev.01
Issue Date: 29/05/02, Revised 18/10/04
Summary: This procedure details the waste acceptance and characterisation operations in place at Scotch Corner landfill to comply with Condition 5.2 of Waste Licence 20-1. The procedure is summarised under the following headings: Waste Acceptance; Waste Rejection; Waste Handling; Waste Characterisation; Sludge Testing.

Title: SOP 06 Communications Programme
Revision No: Rev.00
Issue Date: 20/08/02
Summary: This procedure details the Communications Programme that will be implemented at the facility at Scotch Corner to comply with Condition 2.4.1 of Waste Licence 20-1. The Communications Programme includes newspaper advertisements, web site advertisements, and letters to the elected members and information requests to the Landfill Manager.

Title: SOP 07 Corrective Action Procedure
Revision No: Rev.00
Issue Date: 28/08/02
Summary: This procedure details the Corrective Action Procedure that will be implemented at the facility at Scotch Corner to comply with Condition 2.3.2.3 of Waste Licence 20-1. This procedure will be followed in the event of any non-compliance of the Waste Licence that occurs in relation to the operation of the site. This includes incidents, complaints from the public, non-conforming waste loads, etc.

Title: SOP 08 Procedure for Operation of Scotch Corner Landfill in Adverse Wind Conditions
Revision No: Rev.00
Issue Date: 04/10/02
Summary: This procedure details the programme that operates at Scotch Corner landfill in adverse wind condition resulting in either complete closure, limited closure or complete closure.

Title: SOP 09 Procedure for Acceptance and Handling of Sludge at Scotch Corner Landfill
Revision No: Rev.01
Issue Date: 09/10/02, Revised 18/10/04
Summary: This procedure details the operations for accepting and handling sludges (sewage sludge and industrial non-hazardous sludges) at Scotch Corner landfill including restricted acceptance hours and deep burial of sludge on site to minimise nuisance by odours from sludges on site.

Title: SOP 10 Awareness and Training Programme
Revision No: Rev.00
Issue Date: 22/10/02
Summary: This procedure details the Awareness and Training Programme that has implemented at the facility at Scotch Corner to comply with Condition 2.3.2.4 of Waste Licence 20-1. The purpose of this programme is to outline how training needs are identified, carried out and documented for all staff whose work is related to the operation of Scotch Corner Landfill by means of training plans and training records.

Title: SOP 11 Site Inspection Procedure
Revision No: Rev.00
Issue Date: 03/12/02
Summary: This procedure details the protocol for performing a site inspection at Scotch Corner to comply with Condition 8.14 of Waste Licence W0020-01 and completion of Site Inspection Forms at Scotch Corner Landfill.

Title: SOP 12 Sampling Procedure
Revision No: Rev.00
Issue Date: 04/12/02
Summary: This procedure details the frequency and protocol for sampling and analysis of groundwater, well water, surface water, leachate, and dust and landfill gas at Scotch Corner to comply with Condition 8.1 of Waste Licence W0020-01.

Title: SOP 16 Wheel Wash Facility Procedure
Revision No: Rev.00
Issue Date: 05/12/02
Summary: This procedure details the protocol for operation and maintenance of the wheel wash facility in operation at Scotch Corner since 21/10/2002.

Title: SOP 17 Procedure for Landfill Gas Management at Scotch Corner Landfill
Revision No: Rev.01
Issue Date: 13/06/2007, Revised 21/09/2009
Summary: This procedure details the landfill gas analysis and balancing protocol for efficient landfill gas flare operation at Scotch Corner landfill.

3.23 Tank, pipeline and bund testing and inspection report

No bund testing was carried out in 2010.

3.24 Reported Incidents and Complaints Summaries

3.24.1 Incidents

Incident 02/10 and 03/10records an exceedance in the waste license W0020-01 trigger levels for leachate in L5 and Phase 3 at Scotch Corner Landfill.

Incident No. 01/10, 04/10, 05/10, 06/10, 07/10, 08/10, 09/10, 10/10, 11/10, 12/10, 13/10, 14/10, 15/10, 16/10, 17/10, 18/10, 19/10, 20/10, 21/10, 23/10, 24/10, 25/10, 26/10, 27/10, 28/10, 29/10, 30/10, 32/10 and 33/10 records shutdowns of the landfill gas flare.

Incident No. 22/10 records an exceedance in the waste license W0020-01 trigger levels for dust at monitoring location D1, D2, D3 and D4.

Incident No. 31/10 records a fire in the active cell.

3.24.2 Complaints

Complaint 01/10, 02/10 and 03/10: Relates to complaints from local residents about flies in their houses.

3.25 Review of Nuisance Controls

3.25.1 Litter

The erection and maintenance of 5m high anti-litter netting has been very successfully in controlling wind blown litter within the active face. Holes in netting are repaired and landfill operatives collect any litter that escapes from the tipping area. Compaction, daily cover with geo-hess and/or compost or clay and intermediate covering of the waste with compost or clay will continue as to prevent nuisance by litter at the facility.

3.25.2 Vermin

During 2010 rodent control duties were carried out by Pestproof. From inspection of the bait boxes on site, Pestproof has noted sporadic low levels of infestation from mice and to a lesser extent rat infestation at varying times of the year. Satisfactory rodent control was provided by Pestproof during the reporting period.

3.25.3 Birds

Bird control at Scotch Corner landfill is an integrated approach of keeping the tipping face as small as possible, compacting the waste, daily covering with geo-hess and/or compost or clay and intermediate covering of the waste with compost or clay and deployment of visual deterrents and use of acoustic deterrents. To compliment bird control management by landfill operatives, Monaghan County Council also contract the services of Rock Bird Control on site. Satisfactory bird control was provided by Rock Bird Control during the reporting period.

3.25.4 Flies

Fly control at Scotch Corner landfill is also an integrated approach of keeping the tipping face as small as possible, compaction of the waste, and covering the tip head daily with geo-hess and/or compost or clay and intermediate covering of the waste with compost or clay. The above measures proved to be very successful in preventing nuisance by flies in 2010. The spraying of insecticide was carried out as required.

3.25.5 Mud

The installation of the wheel wash facility at Scotch Corner Landfill has been successful as it has virtually eliminated mud as a nuisance at the facility. Additional measures in place to prevent nuisance by mud are the regular maintenance of site roads and regular cleaning of the site entrance and the weighbridge.

3.25.6 Dust

Nuisance by dust was not a problem at the facility during the reporting period due to compaction of the waste and spraying of site roads with water when necessary.

3.25.7 Odour

Nuisance by odour was addressed during the reporting period by an integrated approach that involved keeping the tipping face as small as possible, compacting the waste, daily covering with compost, intermediate covering with compost and clay, capping of completed cells, installation of both horizontal gas extraction pipework and vertical gas extraction boreholes in the active cell from commencement of waste deposition in the active cell and operation of permanent flare on a continuous basis. As a response to odour in the vicinity of Cells 2 and 3 gas extraction and flaring from this phase has commenced since 10/12/07 and from Cell 5a since 29/1/08. Gas extraction from Cell Leachate sump commenced on 12/1/2009 and landfill gas extraction from horizontal pipework in Cell 4a on 16/1/2009.

3.26 Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information

3.26.1 Report on financial provision made under this licence

From the period January to December 2010, Monaghan County Council paid €26,010 to the Agency in Wexford for Waste Licence monitoring for this reporting period.

The operating cost of the landfill was €2,818,366 for 2010. This included a loan repayment of €813,146

Income from the deposition of waste at Scotch Corner was €3,179,194 for 2010

3.26.2 Report on management and staffing structure

The management and staffing structure at Scotch Corner Landfill consisted of Senior Engineer, Landfill Manager, Deputy Landfill Manager, Weighbridge Operative, 2 Landfill Operatives and subcontracted Machine Operatives for this reporting period.

The management and staffing structure at Scotch Corner Recycling Centre at the end of 2010 was employed by McElvaney Waste and Recycling and consisted of a Facility Manager, Deputy Facility Manager, Civic Amenity Site Caretaker, 4 Office staff and 6 MRF Operatives.

3.26.3 Report on programme for public information

Environmental information relating to the landfill and to the Recycling Centre is on display at the landfill offices and available in the Environment Section of Monaghan County Council. A notice to this effect is on the Monaghan County Council Web site.

3.27 Report on training of staff

Training plans and records were compiled for all staff at the facility including the subcontracted machine operators. Training was been completed as per training plans during the reporting period.

Training completed for this period included the following:

01/10 Renewal of Safe Pass Training by FAS.
02/10 Landfill Gas Management by Landfill Manager.
03/10 Recording of Leachate levels from Scada; Groundwater, Surface Water and Leachate sampling; Measurement of Groundwater levels and temperature; Prepartaion of Quarterly Groundwater, Surface Water and Leachate Reports by Landfill Manager
04/10 Incident Sheets, Complaint Sheets and Site Inspection Sheets by Landfill Manager.

3.28 Statement of Compliance of facility with any updates of the relevant Waste Management Plan

The facility at Scotch Corner is operated under the conditions of Waste Licence W0020-02 and is in compliance with the "North East Region Waste Management Plan 2005 – 2010".

3.29 Statement of the achievement of the waste acceptance and treatment obligations

Scotch Corner Landfill have not achieved their waste acceptance and treatment obligation of less than 47% BMW:

Date	% BMW	% BMW (Target)
July – September 2010	50.63%	47%
October – December 2010	52.45%	47%

3.30 Any Other Items Specified by the Agency,

3.30.1 AER / PRTR Electronic Reporting Workbook 2010

A copy of the 2010 AER / PRTR Electronic Reporting Workbook is contained in Appendix 1.

3.29.2 EPA Landfill Gas Survey 2010

A copy of the Scotch Corner Landfill EPA Landfill Gas Survey 2010 is contained in Appendix 2.

3.29.3 Biodegradable Municipal Waste Reporting 2010

A copy of the Scotch Corner Landfill EPA Biodegradable Municipal Waste Reporting Landfill Submission Report for July – September 2010 and October – December 2010 are contained in Appendix 3.

Report Prepared By:	Report Approved By:	Date:
_____	_____	_____
Irene Williamson	**Eugene Hickey**	
Landfill Manager	***Senior ExecutiveEngineer***	

APPENDIX 1

AER / PRTR Electronic Reporting Workbook for 2010

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.12

REFERENCE YEAR	2010

1. FACILITY IDENTIFICATION

Parent Company Name	Monaghan County Council
Facility Name	Scotch Corner Landfill
PRTR Identification Number	W0020
Licence Number	W0020-02

Waste or IPPC Classes of Activity

No.	class_name
3.1	Deposit on, in or under land (including landfill).
3.11	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.13	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 where the waste concerned is produced.
3.2	Land treatment, including biodegradation of liquid or sludge discards in soils.
3.4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
3.5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.
4.1	Solvent reclamation or regeneration.
4.11	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
4.8	Oil re-refining or other re-uses of oil.

Address 1	Letterbane
Address 2	Annyalla
Address 3	Castleblaney
Address 4	Co. Monaghan
Country	Ireland
Coordinates of Location	-7.32431 54.0181
River Basin District	GBNIIENW
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Irene Williamson
AER Returns Contact Email Address	iwilliam@monaghancoco.ie
AER Returns Contact Position	Landfill Manager
AER Returns Contact Telephone Number	047-80930
AER Returns Contact Mobile Phone Number	087-6991844
AER Returns Contact Fax Number	047-80930
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(d)	Landfills
5(c)	Installations for the disposal of non-hazardous waste
5(d)	Landfills
50.1	General

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : w0020_2010 (completed PRTR Workbook 2010).xls | Return Year : 2010 | 17/6/2011 13:46

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0
01	Methane (CH4)	M	OTH	Calculated using "Landgem" theoretical landfill gas production model and Landfill Gas Survey 2010	0.0	233809.0	0.0	233809.0
03	Carbon dioxide (CO2)	M	OTH	Calculated using "Landgem" theoretical landfill gas production model and actual flow data from flare and in house qualification data	0.0	1082465.5	0.0	1082465.5
02	Carbon monoxide (CO)	M	OTH	Calculated using actual flow meter data from flare and analysis data by Odour Monitoring Ireland	13.76	13.76	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	M	OTH	Calculated using actual flow meter data from flare and analysis data by Odour Monitoring Ireland	74.7	74.7	0.0	0.0
11	**Sulphur oxides (SOx/SO2)**	M	OTH	Calculated using actual flow meter data from flare and analysis data by Odour Monitoring Ireland	353.84	353.84	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Scotch Corner Landfill

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	1155000.0	E	Estimate	Calculated using "Landgem" theoretical landfill gas production model	N/A	
Methane flared	921191.0	M	Estimate	From Landfill Gas Survey 20	1000.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	233809.0	E	Estimate	Calculated using "Landgem" theoretical landfill gas production model and Landfill Gas Survey 2010	N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this only concerns Releases from your facil

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT						QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT						QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT						QUANTITY		
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

| PRTR# : W0020 | Facility Name : Scotch Corner Landfill | Filename : w0020_2010 (completed PRT 17/6/2011 13:46

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	19 07 03	No	36149.02	landfill leachate other than those mentioned in 19 07 02	D8	M	Weighed	Onsite in Ireland	Monaghan Waste Water Treatment Plant,D0061-01	Tirkennan,.,.,Monaghan ,Ireland		
Within the Country	20 03 01	No	28.58	Residual Waste	D5	M	Weighed	Onsite in Ireland	Panda Waste Services Ltd.,W0140-03	Rathdrinagh,Beaupark,Navan,Co. Meath,Ireland		
Within the Country	20 03 01	No	2342.62	Mixed Recycables	R11	M	Weighed	Onsite in Ireland	Shergrim Recycling,WML 25/01	81 Killyclogher Road,.,Omagh,Co. Tyrone,Ireland		
Within the Country	20 02 01	No	64.18	Green Waste	R11	M	Weighed	Onsite in Ireland	Terralift Ireland Ltd.,WPR 10/8	Tullyhattina,.,Castleblaney,Co. Monaghan,Ireland		
Within the Country	20 01 40	No	218.03	Scrap Metal	R4	M	Weighed	Onsite in Ireland	T-Met,ROC227	86 Armagh Road,Dungannon,Co. Tyrone,BT71 7JA,Ireland		
Within the Country	15 01 02	No	8.44	Plastic Bottles	R11	M	Weighed	Onsite in Ireland	Shergrim Recycling,WML 25/01	81 Killyclogher Road,.,Omagh,Co. Tyrone,Ireland		
Within the Country	15 01 02	No	16.92	Plastic Bottles	R11	M	Weighed	Onsite in Ireland	Shabra Recycling Ltd.,WFP-MN-08-0022-01	Killycard Industrial Estate,Bree,Castleblaney,Co. Monaghan,Ireland		
Within the Country	17 02 03	No	1.86	plastic	R11	M	Weighed	Onsite in Ireland	Leinster Environmental,WP/2004/30	Clermont Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 01 39	No	26.92	Other Plastic Packaging	R11	M	Weighed	Onsite in Ireland	Leinster Environmental,WP/2004/30	Clermont Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	15 01 02	No	105.44	plastic packaging	R11	M	Weighed	Onsite in Ireland	Leinster Environmental,WP/2004/30	Clermont Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 01 39	No	32.36	Coloured Plastic Film	R11	M	Weighed	Onsite in Ireland	Leinster Environmental,WP/2004/30	Clermont Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 01 39	No	10.34	Mixed Plastics	R11	M	Weighed	Onsite in Ireland	Leinster Environmental,WP/2004/30	Clermont Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 01 39	No	18.962	Mixed Plastics	R11	M	Weighed	Onsite in Ireland	Irish Packaging Recycling,WPR 021-2	Ballymount Road,.,Dublin 12,.,Ireland		
Within the Country	20 01 38	No	47.82	wood other than that mentioned in 20 01 37	R11	M	Weighed	Onsite in Ireland	Terralift Ireland Ltd.,WPR 10/8	Tullyhattina,.,Castleblaney,Co. Monaghan,Ireland		
Within the Country	20 01 38	No	651.07	wood other than that mentioned in 20 01 37	R10	M	Weighed	Onsite in Ireland	Local Farmers and School,.	.,.,.,.,Ireland		
Within the Country	20 01 36	No	26.19	LDA's cold	R11	M	Weighed	Onsite in Ireland	Electrical Waste Management Ltd.,wfp-ds-09-0012-01	Ballystrahan,St. Margarets,Co. Dublin,.,Ireland		
Within the Country	20 01 35	Yes	43.89	CRT's	R11	M	Weighed	Onsite in Ireland	The Recycling Village,WP2007-20	Tenure Business Park,.,Monasterboice,Co. Louth,Ireland	The Recycling Village,WP2007-20,Tenure Business Park,Monasterboice,Co. Louth,.,Ireland	Tenure Business Park,Monasterboice,Co. Louth,.,Ireland
Within the Country	20 01 36	No	54.55	SDA's	R11	M	Weighed	Onsite in Ireland	NWP,ROC102	91 Moy Road,Portadown,Co. Armagh,BT62 1QW,Ireland		
Within the Country	20 01 36	No	25.56	LDA's	R11	M	Weighed	Onsite in Ireland	Immark Ireland Ltd.,W185-1	8 Greenogue Industrial Estate,Rathcoole,.,Co. Dublin,Ireland		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	15 01 07	No	61.5	glass packaging	R11	M	Weighed	Onsite in Ireland	Rehab Recycling,WPR 004-02	Rosylin Park,Sandymount,Dublin 4,.,Ireland		
Within the Country	15 01 07	No	21.38	glass packaging	R11	M	Weighed	Onsite in Ireland	Muleadys Ltd.,W0169-01	Cloonnaugh,Drumlish,Co. Longford,.,Ireland		
Within the Country	15 01 07	No	106.94	glass packaging	R11	M	Weighed	Onsite in Ireland	Glassdon Recycling,LN/08/103	52 Greagh Road,Toomebridge,Co. Antrim,BT41 3SE,Ireland		
Within the Country	20 02 01	No	53.16	biodegradable waste	R11	M	Weighed	Onsite in Ireland	Thorntons Recycling,W0195-01	Kilmainham Wood Compost,Ballynalurgan,Kilainham Wood,Co. Meath,Ireland		
Within the Country	20 02 01	No	143.58	biodegradable waste	R11	M	Weighed	Onsite in Ireland	Terralift Ireland Ltd.,WPR 10/8	Tullyhattina,.,Castleblaney,Co. Monaghan,Ireland		
Within the Country	20 02 01	No	5.61	biodegradable waste	R11	M	Weighed	Onsite in Ireland	Preseco Ireland,MN-08-0025-01	Clones,Co. Monaghan,.,.,Ireland		
Within the Country	16 06 02	Yes	2.13	Household Batteries	R11	M	Weighed	Onsite in Ireland	The Recycling Village,WP2007-20	Tenure Business Park,.,Monasterboice,Co. Louth,Ireland	The Recycling Village,WP2007-20,Tenure Business Park,Monasterboice,Co. Louth,.,Ireland	Tenure Business Park,Monasterboice,Co. Louth,.,Ireland
Within the Country	16 06 01	Yes	5.16	lead batteries	R11	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd. (WEEE Recycle),W0133-03	Daingean Road,Tullamore,Co. Offaly,.,Ireland	KMK Metals Recycling Ltd. (WEEE Recycle),W0133-03,Daingean Road,Tullamore,Co. Offaly,.,Ireland	Daingean Road,Tullamore,Co. Offaly,.,Ireland
Within the Country	13 02 08	Yes	0.95	other engine, gear and lubricating oils	R9	M	Weighed	Onsite in Ireland	Enva Ireland Ltd.,WO-184-02	Portlaoise,Co. Laois,.,.,Ireland	Enva Ireland Ltd.,WO-184-02,Portlaoise,Co. Laoise,.,.,Ireland	Portlaoise,Co. Laoise,.,.,Ireland
Within the Country	20 01 25	No	0.72	edible oil and fat	R9	M	Weighed	Onsite in Ireland	Agri Pure,WCP MH/2006/097/B	Swords,Co. Dublin,.,.,Ireland		
Within the Country	20 01 21	Yes	1.1	fluorescent tubes and other mercury-containing waste	R11	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd. (WEEE Recycle),W0133-03	Daingean Road,Tullamore,Co. Offaly,.,Ireland	KMK Metals Recycling Ltd. (WEEE Recycle),W0133-03,Daingean Road,Tullamore,Co. Offaly,.,Ireland	Daingean Road,Tullamore,Co. Offaly,.,Ireland
Within the Country	20 01 11	No	29.28	textiles	R11	M	Weighed	Onsite in Ireland	Textile Recycling Ltd.,WPR 014	Belgard Road,Tallaght,Co. Dublin,.,Ireland		
Within the Country	16 05 04	Yes	0.22	Aerosol Cans	R11	M	Weighed	Onsite in Ireland	Enva Ireland Ltd.,WO-184-02	Portlaoise,Co. Laois,.,.,Ireland	Enva Ireland Ltd.,WO-184-02,Portlaoise,Co. Laoise,.,.,Ireland	Portlaoise,Co. Laoise,.,.,Ireland
Within the Country	20 01 01	No	98.5	Newspaper	R11	M	Weighed	Onsite in Ireland	Irish Packaging Recycling,WPR 021-2	Ballymount Road,.,Dublin 12,.,Ireland		
Within the Country	15 01 02	No	1.34	Polystyene	R11	M	Weighed	Onsite in Ireland	Rehab Recycling,WMP 2007/03	Navan,Co. Meath,.,.,Ireland		
Within the Country	**15 01 04**	**No**	18.56	Metallic Packaging	R4	M	Weighed	Onsite in Ireland	Shergrim Recycling,WML 25/01	81 Killyclogher Road,.,Omagh,Co. Tyrone,Ireland		
Within the Country	16 01 03	No	4.52	end-of-life tyres	R11	M	Weighed	Onsite in Ireland	Crumb Rubber Ireland Ltd.,WP2007/01	Mooretown,Dromiskin,Dundalk,Co. Louth,Ireland		
Within the Country	17 09 04	No	18.96	C&D Waste	R11	M	Weighed	Onsite in Ireland	McNally Quarry,WP20/05	Donagh,Glaslough,Monaghan,.,Ireland		
Within the Country	17 09 04	No	877.8	C&D Waste	R11	M	Weighed	Onsite in Ireland	Scotch Corner Landfill,W0020-02	Letterbane,Annyalla,Castleblaney,Co. Monaghan,Ireland		
Within the Country	17 08 02	No	62.62	Plasterboard	R11	M	Weighed	Onsite in Ireland	Gypsum Recycling Ireland,WMP238/2006	Rathcoffey,Donadea,Naas,Co. Kildare,Ireland		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
To Other Countries	15 01 01	No	301.58	paper and cardboard packaging	R11	M	Weighed	Abroad	Failand Paper,ENW/029763B	11 Triangle South,Clifton,Bristol,B58 1EY,United Kingdom		
Within the Country	15 01 01	No	1400.76	paper and cardboard packaging	R11	M	Weighed	Onsite in Ireland	Irish Packaging Recycling,WPR 021-2	Ballymount Road,.,Dublin 12,.,Ireland		
Within the Country	20 01 01	No	82.87	Mixed Paper	R11	M	Weighed	Onsite in Ireland	Irish Packaging Recycling,WPR 021-2	Ballymount Road,.,Dublin 12,.,Ireland		
To Other Countries	20 01 01	No	29.99	Mixed Paper	R11	M	Weighed	Abroad	Failand Paper,ENW/029763B	11 Triangle South,Clifton,Bristol,B58 1EY,United Kingdom		
Within the Country	15 01 02	No	0.74	plastic bottles	R11	M	Weighed	Onsite in Ireland	Leinster Environmental,WP/2004/30	Clermont Park,Haggardstown,Dundalk ,Co. Louth,Ireland		
Within the Country	20 03 01	No	4580.38	Mixed Residual Waste	D5	M	Weighed	Onsite in Ireland	Scotch Corner Landfill,W0020-02	Letterbane,Annyalla,Castlebl aney,Co. Monaghan,Ireland		
Within the Country	20 03 01	No	4781.0	Commercial Waste	D5	M	Weighed	Onsite in Ireland	Scotch Corner Landfill,W0020-02	Letterbane,Annyalla,Castlebl aney,Co. Monaghan,Ireland		
Within the Country	20 03 01	No	479.0	Household skip waste	D5	M	Weighed	Onsite in Ireland	Scotch Corner Landfill,W0020-02	Letterbane,Annyalla,Castlebl aney,Co. Monaghan,Ireland		

* Select a row by double-clicking the Description of Waste then click the delete button

Link to previous years waste data
Link to previous years waste summary data & percentage change

Appendix 2

EPA Landfill Gas Survey 2010

Environmental Protection Agency

A survey of landfill sites to determine the quantity of methane flared and or recovered in utilisation plants for 2010

Please choose from the drop down menu the license number for your site	W0020
Please choose from the drop down menu the name of the landfill site	Scotch Corner Landfill
Please enter the number of flares operational at your site in 2010	1
Please enter the number of engines operational at your site in 2010	Select
Total methane flared	921,191 kg/year
Total methane utilised in engines	0 kg/year

Please note that the closing date for reciept of completed surveys is 31/03/2011

Introduction

The Office of Climate Licensing and Resource Use (OCLR) of the Environmental Protection Agency acts as the inventory agency in Ireland with responsibility for compiling and reporting national greenhouse gas inventories to the European Commission and the United Nations Framework Convention on Climate Change. In addition to meeting international commitments Ireland's national greenhouse gas inventory informs national agencies and Government departments as they face the challenge to curb emissions and meet Ireland's targets under the Kyoto Protocol. The national inventory also informs data suppliers, making them aware of the importance of their contributions to the inventory process and a means of identifying areas where input data may be improved.

It is on this basis that the Environmental Protection Agency is asking landfill operators to partake in this survey so that the most uptodate information on methane flaring and recovery in utilisation plants at landfills sites is used in calculating the contribution of the waste sector to national greenhouse gas emissions

The Environmental Protection Agency wishes to thank you for partaking in this survey. If you have any questions about the survey and how to complete it please view the "Help sheet" worksheet. If however, your query is not answered by viewing the "Help sheet" worksheet please contact:
LFGProject@epa.ie

Once completed please send the completed file as an attachment clearly stating the name and or license number of the landfill site (e.g. W000 Xanadu landfill_2010) to:
LFGProject@epa.ie

Environmental Protection Agency

A survey of landfill sites to determine the quantity of methane flared and or recovered in utilisation plants for 2010

How to use the survey?

1) Please enter your license details and landfill name in the title sheet

2) Please enter the landfill name in the title sheet

3) Please enter the number of flares present and in use at your site in 2010 in the title sheet

4) Please enter the number of engines present and in use at your site in 2010 in the title sheet

5) The survey consists of 10 worksheets for flares. Only complete the number of worksheets for the number of flares present and in use in 2010 at your site

6) The survey consists of 11 worksheets for utilisation engines. Only complete the number of worksheets for the number of engines present and in use in 2010 at your site

7) Data can either be directly enetered in each cell of the tables or chosen from the drop down menus. Where data is outside of the range of values presented in the drop down menus an error message will appear. Please check the value and try again. Where data or description is not provided in the drop down menus please type the answer in the box provided

8) Please view a copy of the worksheet for flare No. 1 below and click on the cells under each of the headings to help you fill out the survey questionnaire.

9) Please note under the method heading
M = Measured e.g. direct from scada
C = Calculated e.g from weekly/fortnightly/monthly checks/monitoring
E = Estimated e.g. based on operational design of flare/engine

10) Please note that data is only to be enetered in either the monthly or the yearly tables but not both

	to be filled in by licensee
	calculated by spreadsheet

Flare No. 1

Flare type ?	AFS HT750	Enclosed	**If "other" enter flare description here**
Is the flare an open or enclosed flare ?			**Rated flare capacity ?** 700 **m3/hr**
Month /year comissioned ?	September	2006	
Month decomissioned if decomissioned in 2010 ?	Select		
What is the function of the flare ?	Extraction from capped and uncapped areas		**If "other" enter flare function here**

Monthly	Method M/C/E	Runtime days/month	Runtime hrs/day	Downtime hrs	Total runtime hrs/month	Average Inlet Pressure (mbg)	Average Flow Rate (m^3/hr)	Average CH_4 %v/v	Average CO_2 %v/v	Average O_2 %v/v	Combustion efficiency (%)	Total CH_4 m^3	Total CH_4 kgs
January	C	29	21	10	599	-21	700	32	44	4	98	131,492	88,907

	to be filled in by licensee		calculated by spreadsheet	

Flare No. 1

Flare type ?	Biogas BG2468	**If "other" enter flare description here**	
Is the flare an open or enclosed flare ?	Enclosed	**Rated flare capacity ?**	1000 **m3/hr**
Month /year comissioned ?	March 2005		
Month decomissioned if decomissioned in 2010 ?	Select		
What is the function of the flare ?	Extraction from capped and uncapped areas	**If "other" enter flare function here**	

Monthly	Method M/C/E	Runtime days/month	Runtime hrs/day	Downtime hrs	Total runtime hrs/month	Average Inlet Pressure (mbg)	Average Flow Rate (m^3/hr)	Average CH_4 %v/v	Average CO_2 %v/v	Average O_2 %v/v	Combustion efficiency (%)	Total CH_4 m^3	Total CH_4 kgs
January	M	31	24.0	25.8	718	-58	495	31.00	25.80	5.80	98.0	108,047	70,331
February	M	28	24.0	0.3	672	-58	495	36.20	28.80	4.50	98.0	117,949	76,776
March	M	31	24.0	29.4	715	-67	426	34.70	26.50	5.30	98.0	103,521	66,750
April	M	30	24.0	116.4	604	-73	292	35.10	25.40	3.70	98.0	60,627	38,844
May	M	31	24.0	51.1	693	-54	527	32.90	21.30	3.20	98.0	117,623	76,884
June	M	30	24.0	23.5	697	-40	593	34.20	28.40	4.30	98.0	138,429	91,805
July	M	31	24.0	12.0	732	-28	652	34.60	30.50	2.50	98.0	161,855	108,665
August	M	31	24.0	113.0	631	-31	646	32.60	30.20	2.00	98.0	130,228	87,165
September	M	30	24.0	20.0	700	-43	576	33.80	30.60	1.90	98.0	133,556	88,300
October	M	31	24.0	8.0	736	-42	598	29.60	27.80	3.10	98.0	127,608	84,455
November	M	30	24.0	75.0	645	-45	575	28.50	25.50	5.40	98.0	103,585	68,344
December	M	31	24.0	152.5	592	-42	573	28.60	29.10	4.00	98.0	94,995	62,871
Total					8,133							1,398,025	921,191

Please note: Only fill the "Yearly" table if data is not availabe or cannot be calculated nor estimated on a monthly basis

Yearly	Method M/C/E	Runtime days/year	Runtime hrs/day	Downtime hrs	Total runtime hrs/year	Average Inlet Pressure (mbg)	Average Flow Rate m^3/hr	Average CH_4 %v/v	Average CO_2 %v/v	Average O_2 %v/v	Combustion efficiency (%)	Total CH_4 m^3	Total CH_4 kgs
2010					0						98.0	0	0