



ANNUAL ENVIRONMENTAL REPORT 2011
SUBMITTED TO ENVIRONMENTAL PROTECTION AGENCY

REPORTING PERIOD: JANUARY - DECEMBER 2011

SUBMITTED: MARCH 2012

ENVA
JFK Road,
Naas Road,
Dublin 12

WASTE LICENCE NUMBER W0196-1



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ENVIRONMENTAL, HEALTH, SAFETY & QUALITY POLICY



Health, Safety & Environmental Policy

ENVA is a leading supplier of specialist waste & wastewater related products/services in Ireland and the UK. Our capabilities include waste treatment within our own sites, waste handling, emergency response services, the production and supply of chemical products for water treatment and other purposes, the design/installation of water treatment systems at customer sites, the provision of analytical services as well as other products and services associated with the above.

ENVA operates to OHSAS 18001 and ISO 14001 standards for occupational health and safety and environmental management. Compliance with all applicable legal HSE requirements are only a minimum starting point as we are committed to continually improving our performance in relation to health, safety and the environment.

We seek to do this by;

- Consulting our HSE committee (selected by our employees) on HSE matters.
- Identifying safety hazards including chemical hazards, assessing and managing these so as to minimise risk as far as practicable.
- Seeking to prevent ill health and occupational injury especially those arising from occupational exposure, manual handling, use of equipment/tools, driving, slips, trips and falls.
- Minimising the need for and risks associated with confined space entry and hazardous materials.
- Providing safe places of work and healthy working conditions for employees and visitors.
- Promoting the provision of recovery options for waste in preference to direct disposal.
- Preventing pollution to any environmental media and minimising the environmental impact of emissions to water, land and air.
- Communicating with customers to ensure necessary information is provided and precautions are taken when collecting and handling waste, providing treatment or other services for customers..
- Being prepared for reasonably foreseeable emergency situations.
- Assessing and considering the performance of third parties used by us who may have potential for significant environmental impact.
- Using energy and natural resources efficiently.
- Communicating appropriately with our employees in relation to HSE matters and providing appropriate information and training
- Expecting the cooperation of our employees in relation to HSE management.

We will set improvement objectives and targets on an annual basis in order to achieve goals consistent with the above and monitor the implementation of these.


Declan Ryan, Managing Director

Date. 27/6/11

1.0 INTRODUCTION

1.1. General Description

Enva Ireland is located in JFK Road, Naas Road, Dublin 12. This site is licenced since 2004. Waste activities carried out on site include the storage of waste for onward movement and the processing of oily waters and waste waters.

1.2 Waste Management Activities carried out at the Facility.

Third Schedule

Class 7. Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule (including evaporation, drying and calcination).



Class 11: Blending or mixture prior to submission to any activity referred to in a preceding paragraph to this schedule.

Class 12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Class 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.

Fourth Schedule

Class 3. Recycling or reclamation of other inorganic metals and metal compounds

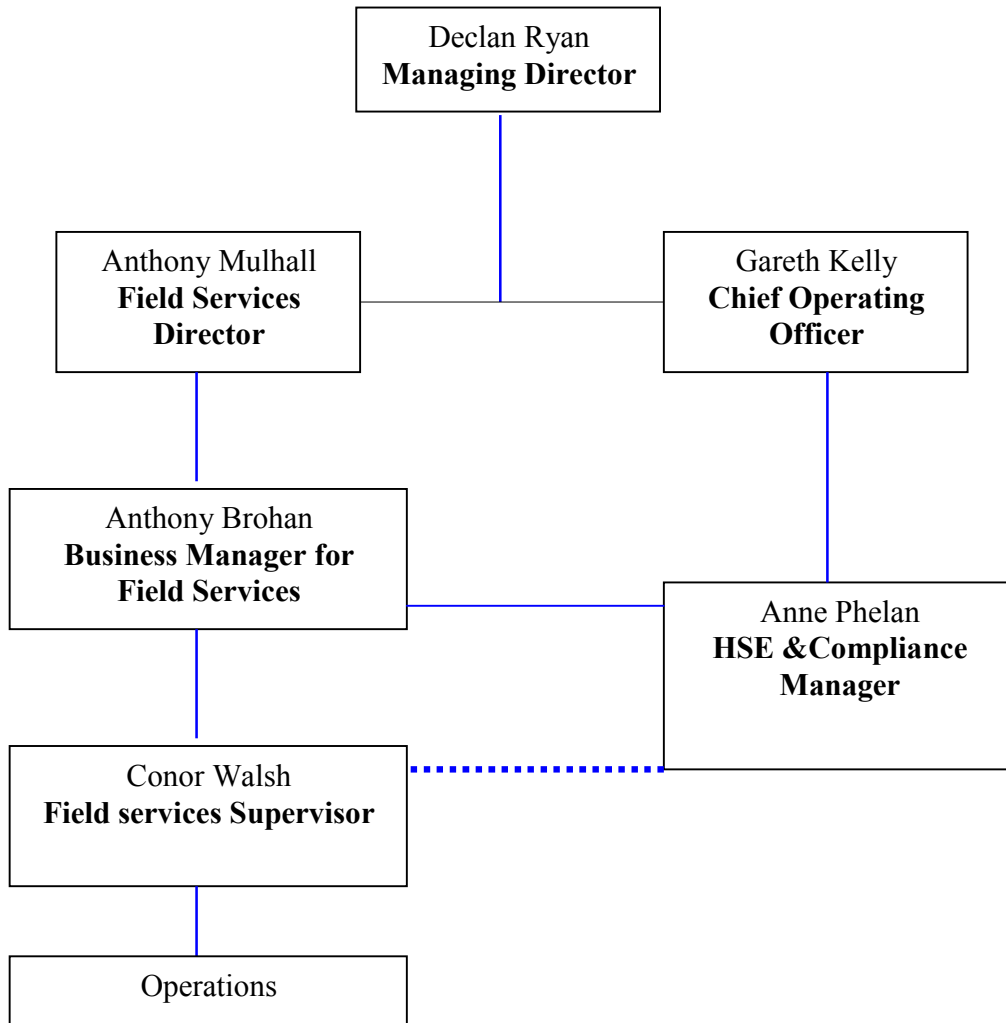
Class 4. Recycling or reclamation of other inorganic materials.

Class 6 Recovery of components used for pollution abatement.

Class 8. Oil re-refining or other re-uses of oil.

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.

1.3 Management Structure



2.0 WASTE ACTIVITIES

Quantities of waste to be accepted on site as detailed in Schedule A of waste licence W0196-1.

Table 1

Waste Type	Quantity (tonnes per annum) Schedule A of W0196-1	Quantity (tonnes per annum) 2009
Hazardous	30,600	4227.92
Industrial waste	4,800	1526.74
Total	35,400	5754.66

2.1 Waste Volumes Received

Waste description	EWC Codes	2011 (tonnes) Received
Contaminated wood	17 02 04*	79.3
Waste waters	01 05 04	29.54
Cooling water	10 01 26	410.86
Waste oils	13 02 04*	73.52
Waste oils	13 02 08*	5.89
Oily waters	13 05 01*	8.08
Liquid oily sludge's from oil/water separators	13 05 02*	6.68
Interceptor waters	13 05 03*	115.85
Oily water from oil water separators	13 05 07*	1869.255
Mixtures of waters from grit chambers	13 05 08*	19.54
Waste oil/Fuel Mix	13 07 01*	5.17
Other waste oils	13 07 03*	9.1
Waste Fuels	13 07 07*	0.3
Emulsions of oils and oily waters	13 08 02*	2018.665
Solid flammable fractions	15 02 02*	3.97
Oily waters	15 05 07*	3.64
Oily water	16 07 09*	8.96
Aqueous liquid waste	16 10 02	592.66
Process water	19 02 03	98.94
Waste waters	19 07 03	14.94
Alum sludge	19 09 02	359.38
Biodegradable kitchen and	20 01 08	9.66



canteen waste		
Grease trap waste	20 01 25	7.2
Sewage waste	20 03 06	2.18
Waste coolants/antifreezes	16 01 15	1.38
Total tonnage accepted on site.		5754.66

2.2 Waste sent off site

Waste description	EWC Codes	2011(tonnes) sent off site
Waste oils	13 02 04*	97.95
Oily water from oil water separators	13 05 07*	64.74
Diesel	13 07 01*	4.56
Other emulsions	13 08 02*	183.96
Antifreeze/Coolants	16 01 15	12
Process waters	16 10 01*	28.06
Contaminated wood	17 02 04*	93.36
Biodegradable kitchen and canteen waste	20 01 08	15.5
Solid flammable waste	15 02 02*	6.55
Filtercake	17 05 03*	98.74
Waste effluent	19 02 99	5011
Activated carbon	19 09 04	7.20

3.0 EMISSIONS

3.1 Surface water emissions monitoring

Quarter 1.

Parameter	Date sampled	Result
pH		No Flow
BOD (mg/l) *Note		No Flow
COD (mg/l)		No Flow
Suspended solids (mg/l)		No Flow
Mineral oils (mg/l)		No Flow

Quarter 2

Parameter	Date sampled	Result
pH	16/06/11	8.05
BOD (mg/l)	16/06/11	6.54
COD (mg/l)	16/06/11	50
Suspended solids (mg/l)	16/06/11	21.3
Mineral oils (mg/l)	16/06/11	2.7

Quarter 3

Parameter	Date sampled	Result
pH	16/09/11	7.46
BOD (mg/l)*Note	16/09/11	4.07
COD (mg/l)	16/09/11	22.4
Suspended solids (mg/l)	16/09/11	6.67
Mineral oils (mg/l)	16/09/11	<10

Quarter 4

Parameter	Date	Result
pH	25/10/11	7.31
BOD (mg/l)	25/10/11	2.77
COD (mg/l)	25/10/11	21.4
Suspended solids (mg/l)	25/10/11	8
Mineral oils (mg/l)	25/10/11	161

3.2 Waste water emissions

Date	Volume	COD mg/l	COD kg/day	BOD mg/l	BOD Kg/day
21/01/11	44.213	481	21.266	128	5.659264
25/02/11	46.97	698	32.785	280	13.1516
08/03/11	51.901	776	40.275	359	18.632459
20.04.11	49.81	142	7.07	33.4	1.66
19.05.11	56.59	195	11.04	81.6	4.62
23.06.11	54	343	18.522	178	8.05
28/07/11	50.986	1060	57.24	702	35.79217
26/08/11	20.308	334	13.360	145	2.94466
27/09/11	30.416	1393	42.369	546	16.60714
15.10.11	48.022	697.5	33.495	332	15.9433
17.11.11	44.64	760	33.930	392	17.50084
06.12.11	48.948	405	19.82394	198	9.691704

Date	Volume	SS (mg/l)	SS(kg/day)	SO 4(mg/l)	SO4(kg/day)
21/01/11	44.213	180	7.958	27	1.1938
25/02/11	46.97	157	7.374	38.64	1.8149
08/03/11	51.901	141	7.318	112.6	5.8441
20.04.11	49.81	32	0.2263	41.7	0.295
19.05.11	56.59	65	0.717	48.3	0.53
23.06.11	54	150	2.778	16.39	0.3036
28/07/11	50.986	135	7.290	7	0.38
26/08/11	20.308	115	4.600	10	0.4000
27/09/11	30.416	156	6.610	90	3.8133
15.10.11	48.022	479	16.044	5	0.1675
17.11.11	44.64	212	7.193	28	0.9500
06.12.11	48.948	401	7.949	53	1.05

Date	Volume	Zn (mg/l)	Zn(kg/day)	Cu (mg/l)	Cu (kg/day)
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21/01/11	44.213	0.168	0.007428	0.046	0.00203
25/02/11	46.97	0.0144	0.000676	0.009	0.00042
08/03/11	51.901	0.3446	0.017885	0.009	0.00047
20.04.11	49.81	0.0371	0.0018	0.002	0.0001
19.05.11	56.59	0.0572	0.00323	0.003	0.0001
23.06.11	54	0.2888	0.01559	0.036	0.0019
28/07/11	50.986	0.1669	0.0090	0.06	0.0032
26/08/11	20.308	0.2552	0.0102	0.002	0.0001
27/09/11	30.416	0.1445	0.0061	0.515	0.0218
15.10.11	48.022	0.1394	0.0047	0.07	0.0023
17.11.11	44.64	0.339	0.0115	0.17	0.0058
06.12.11	48.948	0.8868	0.0176	0.07	0.0014

Table 4: Volume Phosphates, pH and temperature

Date	Volume	PO4P(mg/l)	PO4P (kg/day)	pH	Temp.°C
21/01/11	44.213	0.03	0.0013	7.06	10.7
25/02/11	46.97	0.133	0.00625	6.89	17.1
08/03/11	51.901	0.03	0.001	6.83	20.4
20.04.11	49.81	1	0.04981	6.7	20.6
19.05.11	56.59	14	0.79226	7.34	18.9
23.06.11	54	10	0.54	7.34	17.9
28/07/11	50.986	0.3	0.162	6.27	21.9
26/08/11	20.308	3	0.1200	7.12	20.6
27/09/11	30.416	0.0551	0.0023	6.79	19.9
15.10.11	48.022	0.03	0.0010	7.37	17.4
17.11.11	44.64	0.03	0.0010	7.16	12.4
06.12.11	48.948	0.03	0.001	7.73	14.1

Table 5: Volume, Mineral Oil and detergents

Date	Volume	Mineral Oil (mg/l)	Mineral oil (kg/day)	Detergents (mg/l)	Detergents (kg/day)
21/01/11	44.213	7.98	0.3528	1.95	0.08622
25/02/11	46.97	1.05	0.0493	4.36	0.20479
08/03/11	51.901	7.35	0.3815	1.74	0.09031
20.04.11	49.81	0.212	0.0105	4.5	0.224
19.05.11	56.59	1.42	0.080	0.657	0.037
23.06.11	54	3.83	0.1733	2.99	0.135
28/07/11	50.986	0.613	0.0313	2.74	0.157
26/08/11	20.308	1.63	0.0331	14.3	0.191
27/09/11	30.416	20*	0.6083	18.7	0.792
15.10.11	48.022	0.469	0.0225	9	0.3015

17.11.11	44.64	7.06	0.315	2.08	0.0706
06.12.11	48.948	16.6	0.812	4.79	0.0950

Date	Volume	Toluenes (mg/l)	Toluenes (kg/day)	o/m/p Xylenes	o/m/p Xylenes kg/day
21/01/11	44.213	0.463	0.02047	0.319	0.01410
25/02/11	46.97	0.101	0.00474	0.145	0.00681
08/03/11	51.901	0.024	0.00125	0.039	0.00202
20.04.11	49.81	0.011	0.00054	0.022	0.001
19.05.11	56.59	0.043	0.00243	0.053	0.0029
23.06.11	54	0.024	0.001086	0.113	0.0051
28/07/11	50.986	0.004	0.00020	0.003	0.0001
26/08/11	20.308	0.007	0.00014	0.037	0.0007
27/09/11	30.416	0.032	0.00097	0.045	0.0013
15.10.11	48.022	0.012	0.0002	0.02	0.0003
17.11.11	44.64	0.093	0.0016	0.067	0.0005
06.12.11	48.948	0.066	0.0006	0.094	0.0007

Table 3.2 e: Volume of waste water produced

Year	Volume of effluent released (tonnes)
2011	5011

3.3 Groundwater monitoring

Quarter 1

Table 1: Groundwater monitoring for January.

Parameter	Date sampled	Result
Visual	13.01.11	Greyish Cloudy
Electrical conductivity (μ S)	13.01.11	672
pH	13.01.11	7.27
Temp ($^{\circ}$ C)	13.01.11	12.4
Mineral Oil (ug/l)	13.01.11	46
BTEX (ug/l)	13.01.11	<10
Groundwater Level (m)	13.01.11	2.78
DO (mg/l)	13.01.11	3.04



Table 2: Groundwater monitoring for February.

Parameter	Date sampled	Result
Visual	26.02.11	Greyish Cloudy
Electrical conductivity (μ S)	26.02.11	823

Table 3: Groundwater monitoring for March.

Parameter	Date sampled	Result
Visual	30.03.11	Cloudy
Electrical conductivity (μ S)	30.03.11	743

Quarter 2

Table 1: Groundwater monitoring for April.

Parameter	Date sampled	Result
Visual	04.04.11	Grey/Cloudy
Electrical conductivity (μ S)	04.04.11	825
pH	04.04.11	7.43
Temp ($^{\circ}$ C)	04.04.11	12.9
Mineral Oil (μ g/l)	04.04.11	<10
BTEX (μ g/l)	04.04.11	<19
Groundwater Level (m)	04.04.11	2.97
DO (mg/l)	04.04.11	4.82

Table 2: Groundwater monitoring for May.

Parameter	Date sampled	Result
Visual	27.05.11	Grey/Cloudy
Electrical conductivity (μ S)	27.05.11	841

Table 3: Groundwater monitoring for June.

Parameter	Date sampled	Result
Visual	28.06.11	Grey/Cloudy
Electrical conductivity (μ S)	28.06.11	659

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Quarter 3

Table 1: Groundwater monitoring for July.

Parameter	Date sampled	Result
Visual	25/07/11	Clear
Electrical conductivity (μ S)	25/07/11	847
pH	25/07/11	7.39
Temp ($^{\circ}$ C)	25/07/11	13.8
Mineral Oil (ug/l)	25/07/11	<10
BTEX (ug/l)	25/07/11	None detected.
Groundwater Level	25/07/11	2.75
DO (mg/l)	25/07/11	2.94

Table 2: Groundwater monitoring for August.

Parameter	Date sampled	Result
Visual	31/08/11	Clear
Electrical conductivity (μ S)	31/08/11	843

Table 3: Groundwater monitoring for September.

Parameter	Date sampled	Result
Visual	30/09/11	Clear
Electrical conductivity (μ S)	30/09/11	741

Quarter 4

Table 1: Groundwater monitoring for October.

Parameter	Date sampled	Result
Visual	24.10.11	Clear
Electrical conductivity (μ S)	24.10.11	833
pH	24.10.11	7.41
Temp ($^{\circ}$ C)	24.10.11	12.8
Mineral Oil (ug/l)	24.10.11	123
BTEX (ug/l)	24.10.11	<28
Groundwater Level (m)	24.10.11	2.71
DO (mg/l)	24.10.11	2.87

Table 2: Groundwater monitoring for November.



Parameter	Date sampled	Result
Visual	30.11.11	Clear
Electrical conductivity (μ S)	30.11.11	741

Table 3: Groundwater monitoring for December.

Parameter	Date sampled	Result
Visual	05.12.11	Clear
Electrical conductivity (μ S)	05.12.11	648

3.4 Noise Monitoring

Noise monitoring was carried out in October 2012. There were no significant noise sources identified and no non-compliance with the site licence limits. Appendix 1 includes the noise monitoring report carried out for the site in 2011.

3.5 Monitoring Locations

Appendix 2 indicates the site monitoring locations, noise monitoring locations are attached to the noise monitoring report.

4.0 ENVIRONMENTAL MANAGEMENT

4.1 Environmental Management programme.

Appendix 3 details the status of objectives and targets for the site

4.2 Summary of Standard Operating Procedures since January 2011

The following procedures have been drafted/ revised in 2011:

Notification of incidents to the Agency.

5.0 NON-CONFORMANCES

There were 2 reportable non-conformances during the reporting period with regard to mineral oil exceedances. Preventative measures such as increased cleaning of process tanks have been put in place to reduce the risk of this re-occurring.



6.0 PUBLIC INFORMATION

Please see Appendix 4 for the Enva Communications procedure

7.0 OEE METHODOLOGY FOR DETERMINATION OF ENFORCEMENT CATEGORIES

Submitted to the Agency as per Appendix 5

8.0 PRTR

Submitted to the Agency as per Appendix 6

9.0 FIRE WATER RETENTION PLAN

A review of the fire water retention plan was carried out. There are no changes to activities on site and therefore no additional fire water retention requirements. See Appendix 7 for final report.

10.0 CLOSURE, RESTORATION, AFTERCARE & MANAGEMENT PLAN 2011

See appendix 8

11.0 ENVIRONMENTAL LIABILITY RISK ASSESSMENT 2011

See appendix 8

12 REVIEW OF NUISANCE CONTROLS.

A weekly site inspection is carried out to ensure that all bunds are good condition and that there are no nuisances present on site.

APPENDIX 1



WRIGHT ENVIRONMENTAL

S E R V I C E S

CONFIDENTIAL REPORT

Client	Title
Enva Ireland Ltd	Annual Environmental
Clonminam Industrial Estate	Noise Survey 2011
Portlaoise	Enva Ireland Ltd. – Dublin
Co. Laois	EPA Waste Licence Reg. No. 196-1

Attn. Ms. Anne Phelan

Report Ref:	1200	Report by:	Frances Wright BSc, PgDip Env, Dip SHWW, CertOH <i>Frances Wright</i>
Date recd:		Approved by:	Paddy Wright BSc, PgDip ChemEng, CertOH <i>Paddy Wright</i>
Copies to:		Date:	10 th November 2011

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1. INTRODUCTION:

Enva Ireland Ltd. operate a waste recovery facility at JFK Industrial Estate, JFK Road, Naas Road, Dublin 12 which is licensed under the EPA Waste Licence system (Reg. No. 196-1). Schedule D of the company's licence requires an annual Environmental Noise Survey to be undertaken.

At the request of Ms. Anne Phelan of Enva Ireland Ltd., Wright Environmental Services carried out this Noise Survey on the 13th October 2011.

This report presents and interprets the results of the survey with reference to the companies waste licence noise limits. The methodology used for the survey is described in Appendix I. Instrumentation and calibration is described in Appendix II. Monitoring locations are shown in the site map in Appendix III. Appendix IV presents the 1/3 octave band analysis of the noise at monitoring locations.

2. SUMMARY

In accordance with their EPA Waste Licence (Reg. No. 196), Enva Ireland Ltd are required have an annual noise survey undertaken to ensure compliance. Wright Environmental Services carried out this environmental noise survey on the 13th October 2011.

Noise was measured at one noise sensitive location and four site boundary locations. The dominant noises source at the noise sensitive location was traffic noise and external industrial noise. The main activity onsite during the daytime survey was a vacuum tanker, tools in the workshop, run down screen and vehicle movement.

Noise was measured at one noise sensitive monitoring location, NSL 1, adjacent to Enva. The noise levels measured at this location were 57 dB(A) during the daytime and 49(A) during the night time. There was a very faint hum/hiss audible from the Enva site during the day and night time monitoring, however the main dominant noise source at this location was traffic on the JKF road and industrial noise from the surrounding industrial estate (particularly from the S/E). There was also a high volume of traffic (see comments in table 2) passing this location. It is therefore concluded that the elevated noise levels at this location are predominantly attributable to extraneous noise and not Enva.

Noise measurement were taken at the boundary locations. The following L_{eq} noise levels were measure at NB 1, NB 2, NB 3 and NB 4 respectively; 54 dB(A) , 56 dB(A), 56 dB(A), 56 dB(A) . These are however boundary locations and not noise sensitive locations and therefore the criterion levels set out in the company's waste licence do not apply at these locations.

One third octave band analysis of the noise was carried out at each location. Tones were detected on this analysis at NB 1 (31.5Hz) and NB 3 (31.5Hz and 63Hz). No tones were detected at the noise sensitive location NSL 1. The noise at each location was audibly observed to identify the presence of tones and possible sources, however the source at these 2 locations was not clearly identifiable. The tonal components detected on the one third octave band analysis may have been from activity onsite (eg. tanker filling) or extraneous

noise (eg. air handling unit from neighbouring facility or other extraneous noise). However, as these are boundary locations and not noise sensitive locations, Enva are in compliance with this noise requirement of their licence. The analysis is presented in Appendix IV.

3. MONITORING RESULTS AND DISCUSSION:

Wright Environmental Services carried out the day (08:00 – 22:00) and night (22:00 – 08:00) Environmental Noise Survey on the 13th October 2011. The monitoring locations are described below and are shown in the site map in Appendix III.

- Location **NB 1**: This is a boundary location to the south/east of the site.
- Location **NB 2**: This is a boundary location to the east of the site.
- Location **NB 3**: This is a boundary location to the north/east of the site.
- Location **NB 4**: This is a boundary location to the west of the site.
- Location **NSL 1**: This noise sensitive locations is the neighbouring facility to the west. It is near the roadside on the busy JFK road in the JFK industrial estate. The neighbouring facility is a place of worship.

Enva Ireland do not operate during night time (22:00 – 08:00). Noise monitoring was therefore carried out at all locations during the daytime survey and at the noise sensitive location only during the night time survey.

The following "A-Weighted" data was determined for each discrete sampling period.

- L_{eq}** : The equivalent continuous noise level for the measurement period.
(This is defined as the sound level of a steady sound having the same energy as a fluctuating sound over the specified measuring period).
- L₍₁₎** : The noise level exceeded for 1% of the measurement period.
(This parameter gives a good indication of typical maximum levels.)
- L₍₁₀₎** : The noise level exceeded for 10% of the measurement period.
- L₍₉₀₎** : The noise level exceeded for 90% of the measurement period.
(This is taken to represent the background noise level).

Detailed results are presented in Table 1 and 2 below along with appropriate comments regarding noise in the monitoring environment.

Table 1

Boundary Locations Results – 13th October 2011

Monitoring Position	Time	L_{eq} (dBA)	L₁ (dBA)	L₁₀ (dBA)	L₉₀ (dBA)	Comments
NB 1	15:06 – 15:36	54	61	56	52	Dominant noise source: Vacuum tanker running on Enva site. Traffic from JFK road and external industrial noise are audible.
NB 2	15:38 – 16:08	56	62	60	50	Dominant noise source: Vacuum tanker running on Enva site and air handling unit in neighbouring facility (when vacuum tanker is off). Traffic is also dominant when it is passing. Other activity on Enva site: talking, machinery in workshop being used occasionally, hiss from run down screen.
NB 3	14:33 – 15:03	56	64	55	53	Dominant noise source: air handling unit in the neighbouring yard. Activity on Enva site: Vacuum tanker running, tanker entering/leaving site, faint hum/hiss from run down screen.
NB 4	16:11 – 16:41	56	61	58	53	Dominant noise source: Traffic and run down screen are the dominant noise sources. 2 Fireworks go off in the distance. Other Enva activity: air compressor on in the workshop occasionally, faint rumble (possible pump) from the tank farm.

Table 2

Noise Sensitive Location Results – 13th October 2011

Monitoring Position	Time	L_{eq} (dBA)	L₁ (dBA)	L₁₀ (dBA)	L₉₀ (dBA)	Comments
NSL 1	13:55 – 14:25	57	67	61	49	Dominant noise source: Traffic passing (approximately 120 cars, 10 HGVs, 10 vans/4by4 pass) and industrial noise from to the S/E (hiss/hum). Faint hum audible from Enva.
NSL 1	22:12 – 22:42	49	60	49	46	Dominant noise source: industrial facility to the S/E (hiss/hum) in the absence of traffic. Traffic passing (approximately 22 cars, 2 HGVs). Distant traffic from W/SW audible. Roller door closing in neighbouring facility. Faint hum from Enva barely audible.

In accordance with their waste licence, Enva Ireland Ltd are required to comply with maximum noise limit values. Criterion noise levels are set for day and night time and apply at noise sensitive locations. They are presented in the licence as follows:

C.1 Noise Emissions: (Measured at any noise sensitive location).

<i>Day</i>	<i>55 dB(A) LAeq(30 minutes)</i>
<i>Night</i>	<i>45 dB(A) LAeq(30 minutes)</i>

Noise was measured at one noise sensitive monitoring location, NSL 1, adjacent to Enva. The noise levels measured at this location were 57 dB(A) during the daytime and 49(A) during the night time. There was a very faint hum/hiss audible from the Enva site during the day and night time monitoring, however the main dominant noise source at this location was traffic on the JKF road and industrial noise from the surrounding industrial estate (particularly from the S/E). There was also a high volume of traffic (see comments in table 2) passing this location. It is therefore concluded that the elevated noise levels at this location are predominantly attributable to extraneous noise and not Enva.

Noise measurement were taken at the boundary locations. The following L_{eq} noise levels were measure at NB 1, NB 2, NB 3 and NB 4 respectively; 54 dB(A) , 56 dB(A), 56 dB(A), 56 dB(A) . These are however boundary locations and not noise sensitive locations and therefore the criterion levels set out in the company's waste licence do not apply at these locations.

Section 6.6 of the company's licence states that

“There shall be no clearly audible tonal component or impulsive component in the noise emissions from the activity at the noise sensitive locations.”

One third octave band analysis of the noise was carried out at each location. Tones were detected on this analysis at NB 1 (31.5Hz) and NB 3 (31.5Hz and 63Hz). No tones were detected at the noise sensitive location NSL 1. The noise at each location was audibly observed to identify the presence of tones and possible sources, however the source at these 2 locations was not clearly identifiable. The tonal components detected on the one third octave band analysis may have been from activity onsite (eg. tanker filling) or extraneous noise (eg. air handling unit from neighbouring facility or other extraneous noise). However, as these are boundary locations and not noise sensitive locations, Enva are in compliance with this noise requirement of their licence. The analysis is presented in Appendix IV.

APPENDIX I

Methodology

METHODOLOGY

The methodology of the survey was based upon procedures set out in the International Standard, ISO 1996-2 (Acoustics – description and measurement of environmental noise). The following Environmental Protection Agency’s guidance documents were also referenced; “Environmental Noise Survey Guidance Document, 2003” and “Guidance Note For Noise In Relation To Schedule Activities, 2nd Edition , 2006”.

Environmental noise levels were determined by using a Pulsar Model 33 , Type 1 Real Time Sound Level Meter, with half inch condenser microphone. The instrumentation was calibrated directly before and after the noise measurements. Details of the instrumentation and external calibration are presented in Appendix II of this report. A series of 1/3 Octave Band level measurements were simultaneously taken using the Sound Level Analyser and this data was used to evaluate the presence of tones. This analysis is presented in Appendix IV.

Results reported were determined using the fast response, A-Weighting (ref. 20 µPa) and are rounded off to the nearest whole decibel. Monitoring was conducted in relatively calm, dry weather conditions during the day (08:00 – 22:00) and night (22:00 – 08:00).

Throughout the monitoring, the microphone was situated 1.5 m above ground level, away from any reflective surfaces. The monitoring equipment was manned throughout the sampling intervals and comments were recorded in order to aid the interpretation of the results.

During the survey air temperature and humidity measurements were undertaken using a Delta Ohm Hygrometer HD 8501 H. Wind speed measurements were taken using a TSI VelociCalc and the wind direction was noted using a compass. Details of the weather conditions are presented in Table below.

Summary of Weather Conditions

Time	Air Temperature °C	Relative Humidity %	Wind Direction	Wind Speed m/s	General Conditions
15:05	15	82	SE	3.1	Dry – no precipitation.
10:00	9	100	SE	0.6	Dry – no precipitation.

APPENDIX II

Instrumentation and External Calibration Details

INSTRUMENTATION AND EXTERNAL CALIBRATION DETAILS

Instrumentation:

Pulsar Model 33 , Type 1 Real Time Sound Level Meter, with half inch condenser microphone, Serial Number T223417.

On-site calibrations were carried out before and after sampling with a Pulsar Calibrator – model 100B, Serial Number: 42171.

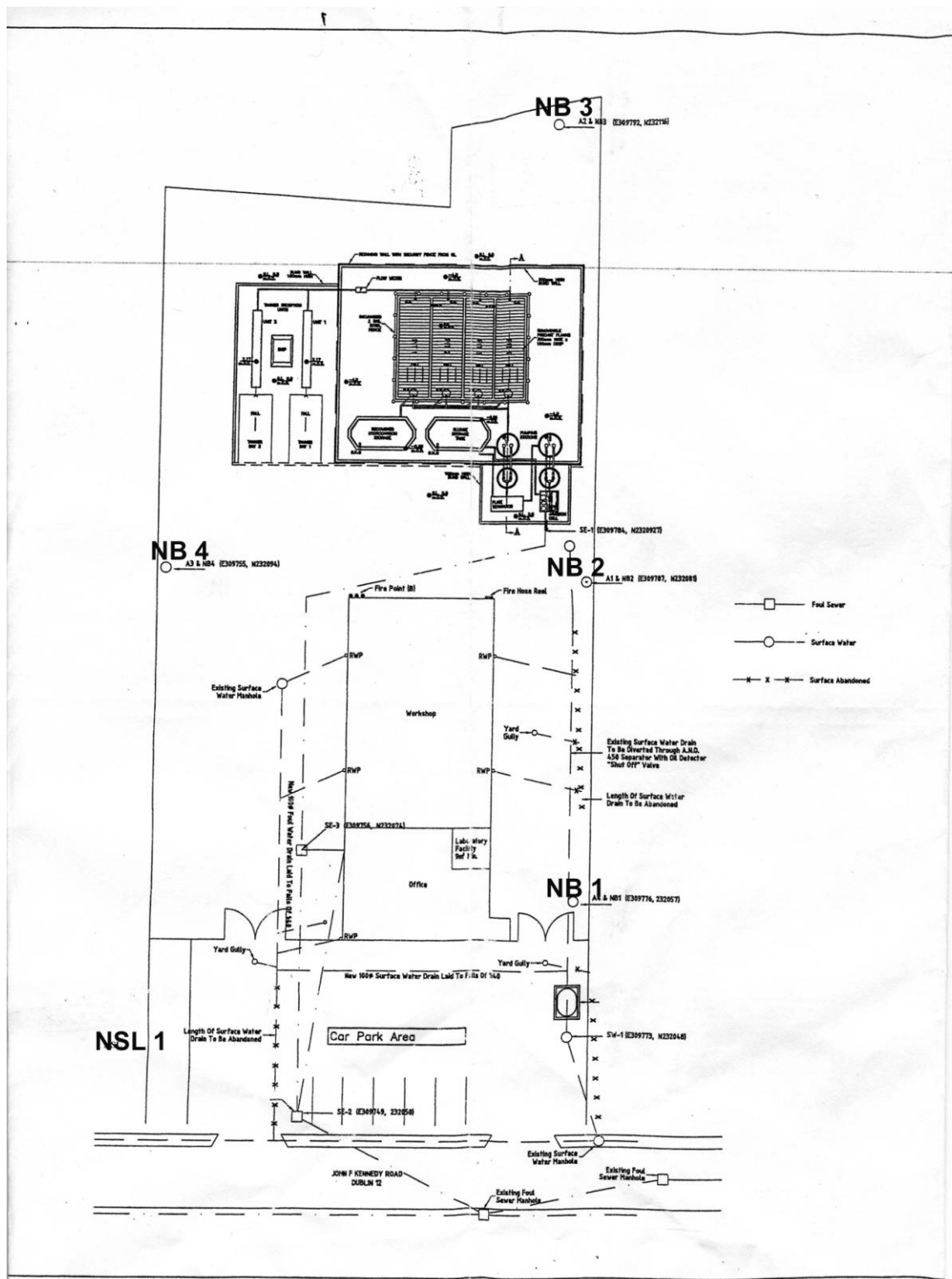
External Calibration:

External Calibration of instrumentation was undertaken by Pulsar Instruments Plc:

Unit	Calibration Date	Calibration Certificate Number
Sound Level Meter Serial No. T223417	19 th November 2010	182109
Calibrator – Serial No. 42171	19 th November 2010	182110

APPENDIX III

Site Plan showing Noise Monitoring Positions



APPENDIX IV

1/3 Octave Band Analysis (OBA)

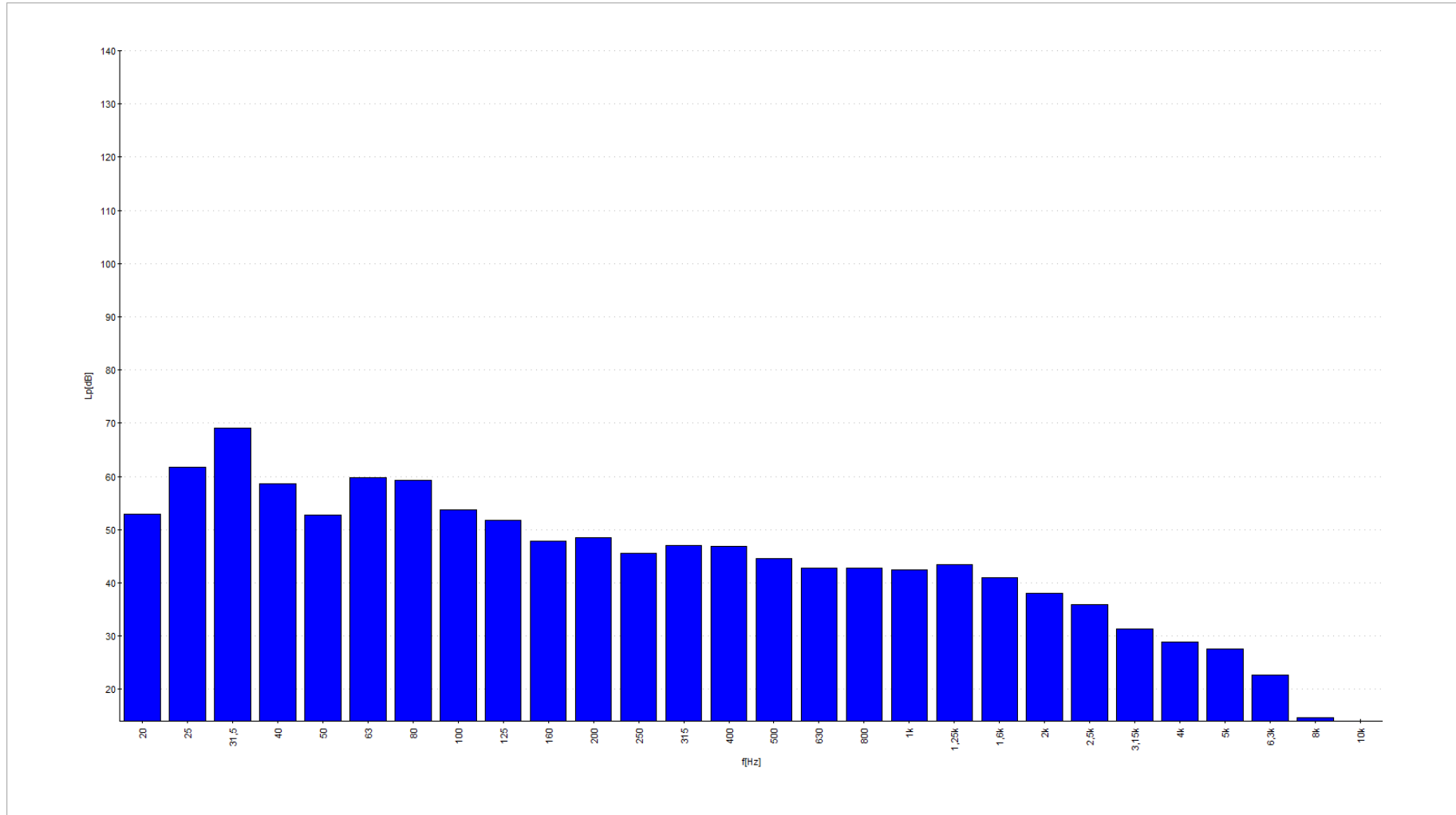


Figure 1: NB 1 - Daytime

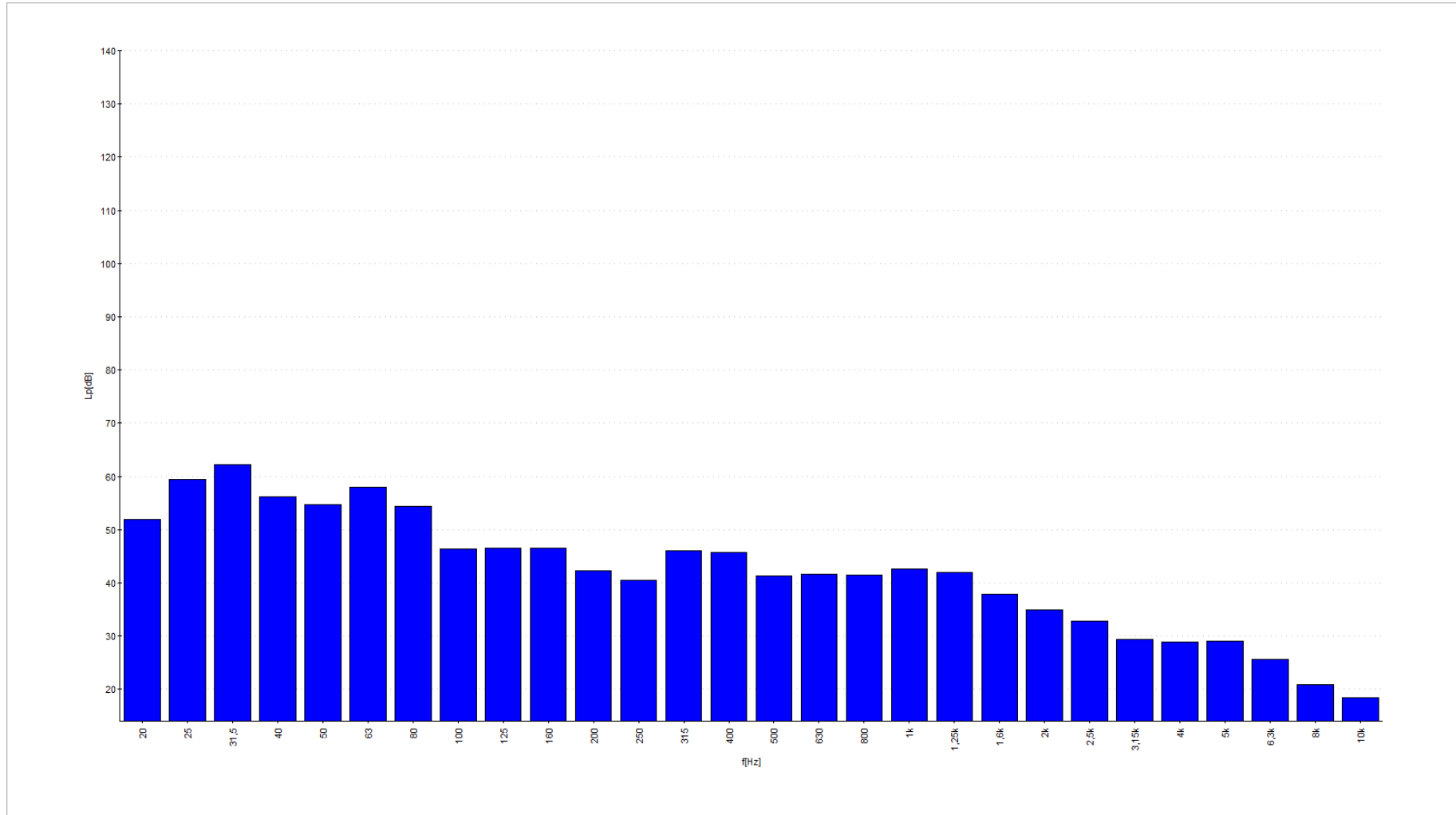


Figure 2: NB 2 - Daytime

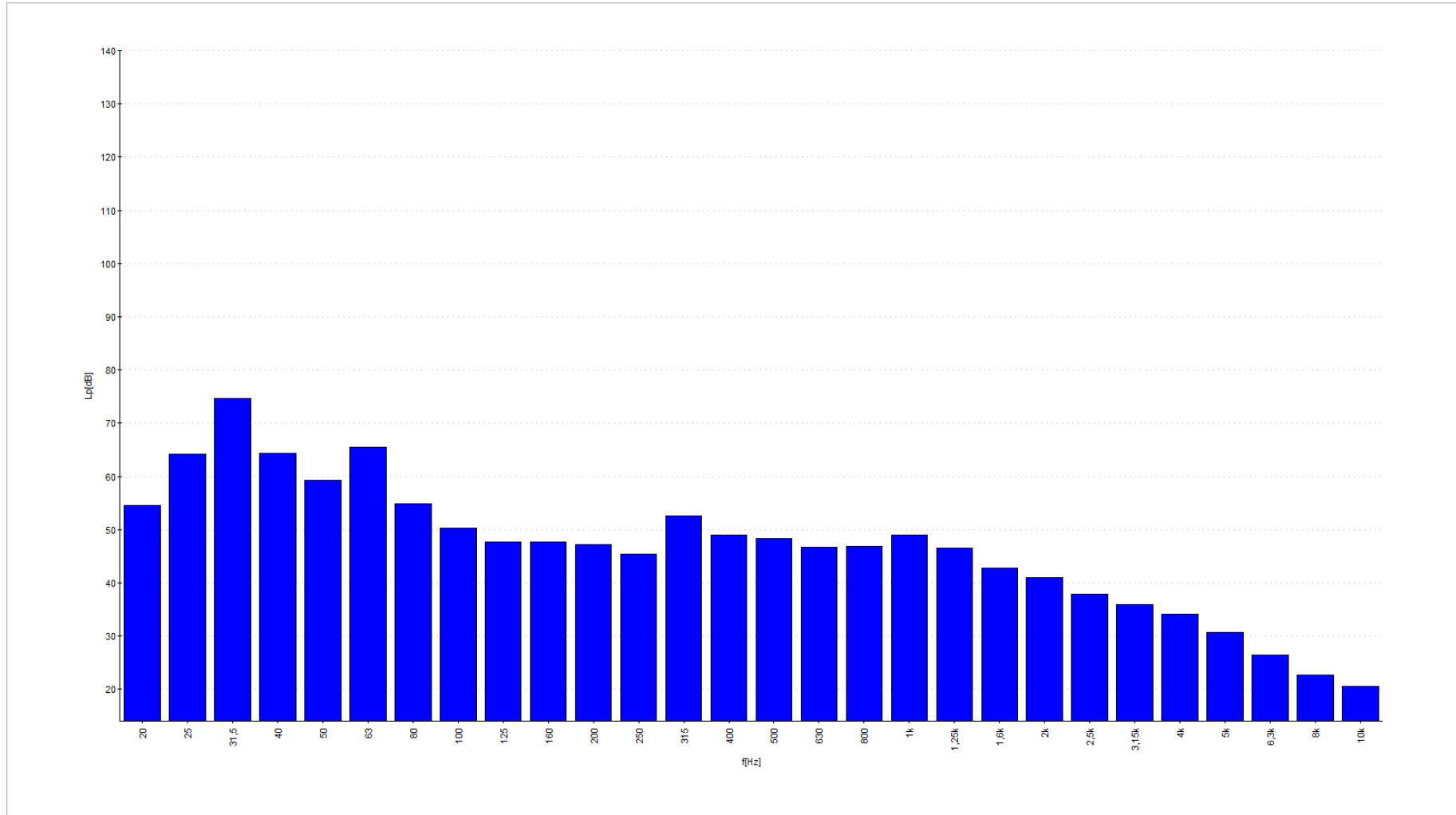


Figure 3: NB 3 - Daytime

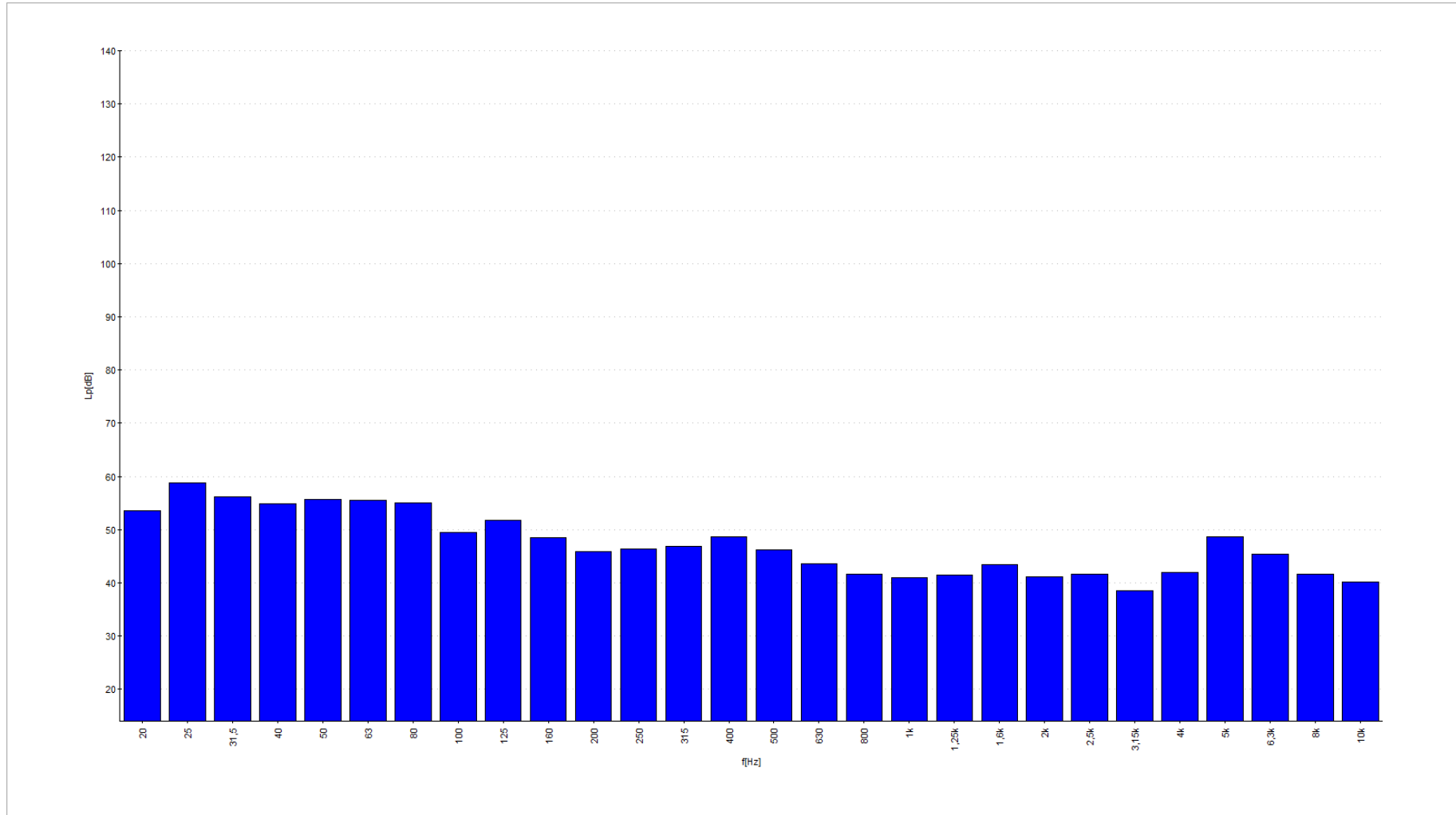


Figure 4: NB 4 - Daytime

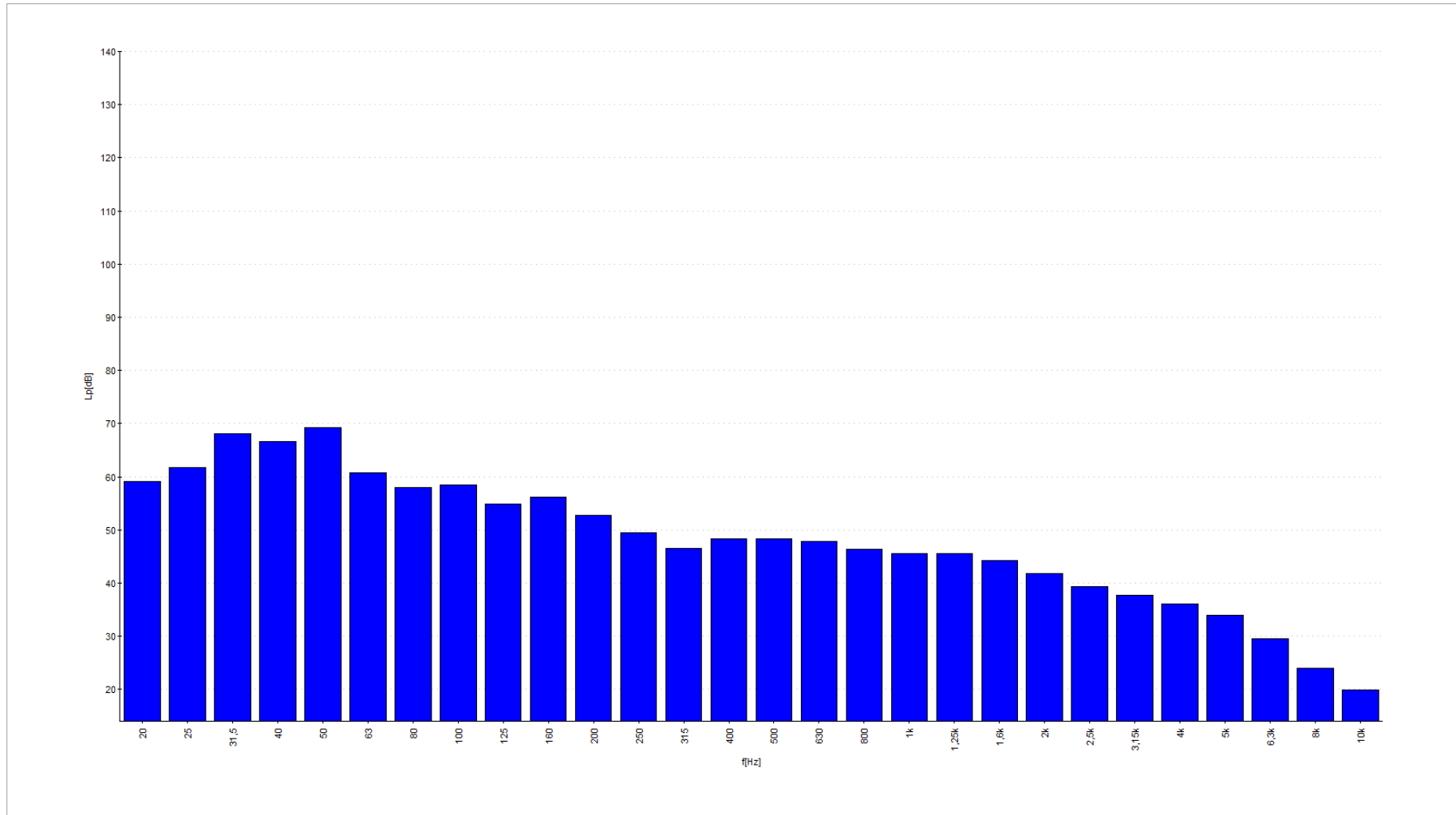


Figure 5: NSL 1 – Day time

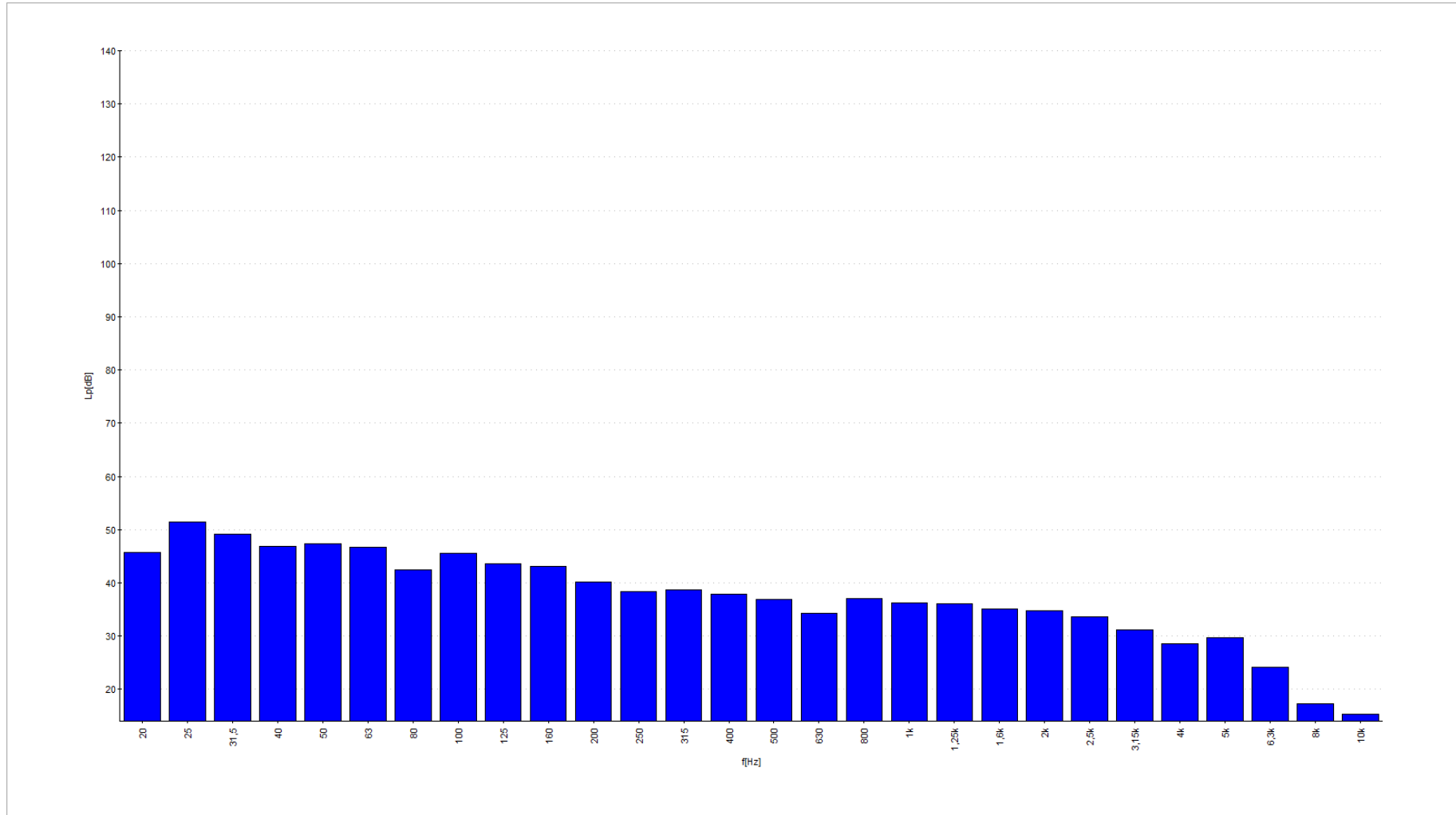
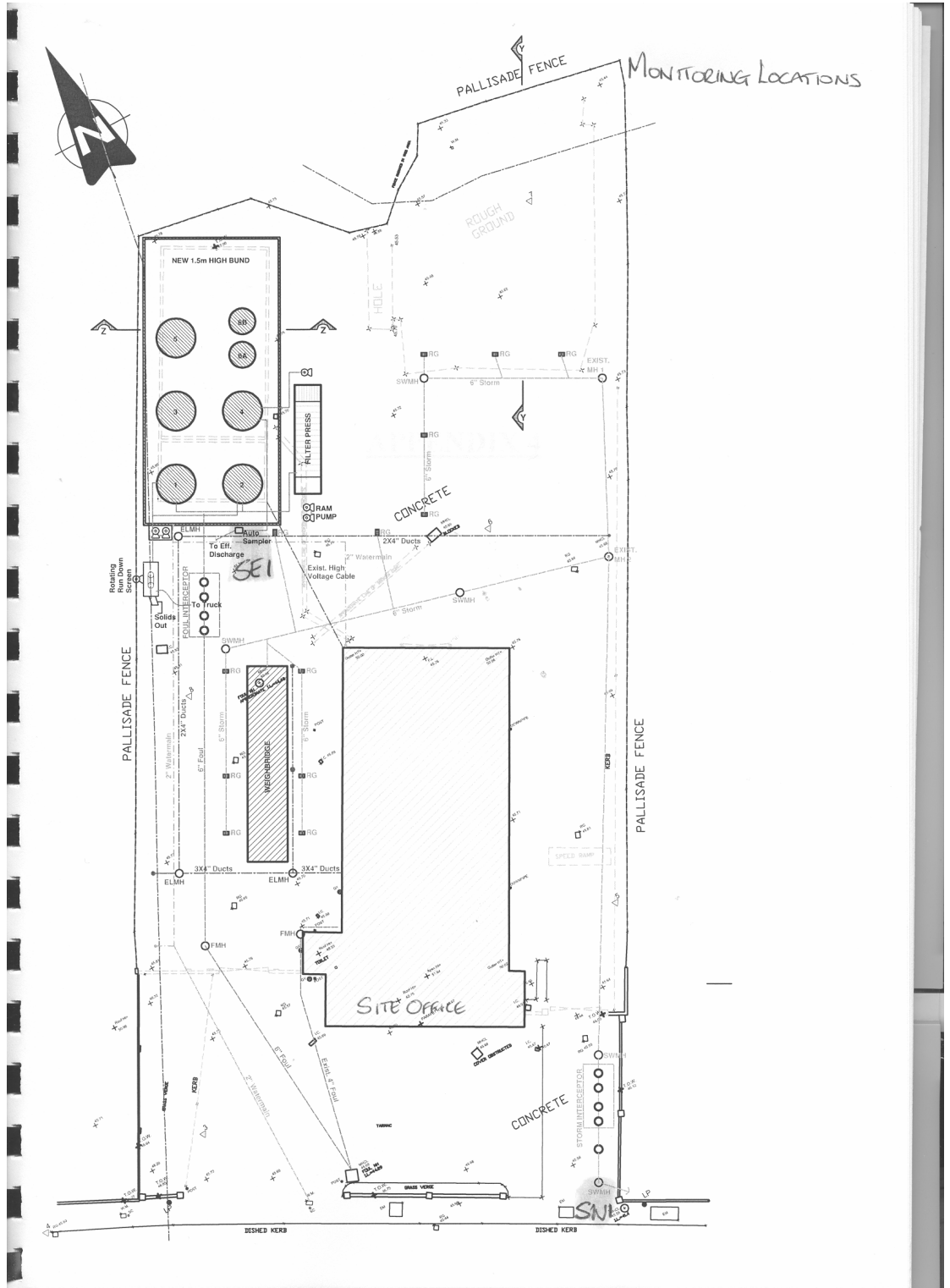


Figure 6: NSL 1 – Night time

APPENDIX 2



APPENDIX 3

OBJECTIVE:				ACHIEVE BY:
	Improvement in environmental performance and compliance.			31/03/2011
RATIONALE: To ensure that activities from the site do not impact on the environment.				
TARGET:				ACHIEVE BY:
PL01 T01	Establish monitoring as per site licence requirements			31/12/2008
STEP	IMPLEMENTATION PROGRAMME	RESP.	Target Date	STATUS
	1 Put in place metal triangle on yard to identify the surface water gulleys, reducing the need to continually paint the gulleys.	Operations	31/03/2012	This has been reviewed and deemed not necessary as site traffic is not significant enough to currently wear the markings in place as per licence requirements
	2 Implement tank maintenance programme	Operations	31/03/2012	The maintenance of tanks on site has been reviewed and it has been agreed to carry out an additional desludging, a three yearly clean and internal inspection and a 6 year ultrasonic test.
	3 Install bund level alarms bunds >50,000 litre retention.	Operations	31/12/2012	This has been completed.
4- NEW	Improve yard surface integrity -Seal cracks in surface.	Operations	21/03/2013	
COMMENTS / REVIEW DETAILS				

APPENDIX 4

1.0 PURPOSE

The purpose of this procedure is to ensure that environmental, health & safety information is communicated effectively to all external bodies and other parties and to ensure that environmental, health & safety concerns are effectively communicated and appropriately dealt with.

2.0 SCOPE

This procedure relates to any external environmental, health & safety communication with members of the public or with regulatory authorities or any requests for information regarding the environmental, health & safety performance of site operations within any of the Enva facilities in the Republic of Ireland.

It does not cover reporting of incidents/accidents/emergencies or training. These are dealt with under separate procedures. Customer complaints or dealing with customer requests is outside the scope of this procedure also.

3.0 RESPONSIBILITIES

It shall be the responsibility of the HSE Department to;

- Communicate environmental, health and safety information to all members of the public and regulatory authorities as necessary.
- Retain logs and records of external communications.
- Address requests for information from the public.
- Address and report complaints which relate to HSE performance.

4.0 PROCEDURE

4.1 The following documents are used to communicate environmental health and safety information to external parties

- HSE policy
- HSE manual
- EPA Annual Environmental Report
- Waste Collection Permit Reports
- DGSA report
- EPA waste licence
- Waste Collection Permits
- Contractor inductions
- External audits

Printed documents are uncontrolled and subject to change. Please check electronic document control system for current version of this document.

4.2. Communications with Regulatory Authorities

All communications with regulatory authorities such as the HSA, EPA, etc shall be entered into a communications log. This shall record the dates of the communication, persons involved, topic covered and close out of the communication. Copies of communications sent or received shall also be filed by the HSE Department.

4.3 Communications with other Interested External Parties

4.3.1 All enquiries regarding the environmental, health & safety performance of the site operations are to be directed to the HSE department.

4.3.2 Requests for information from the general public shall be directed to the HSE Department who shall deal with each request or enquiry as appropriate. Envna sites are required under their Waste Management licenses to maintain a file for public inspection which should as a minimum include:

- Monitoring results,
- Complaints records,
- Environmental incidents records,
- EPA communication files including audits and inspections,
- Annual Environmental Reports.

Copies of information shall only be given to the public on the authority of the Chief Operations Officer (C.O.O.) or Managing Director of Envna.

4.3.3 Any complaints relating to HSE matters (e.g. related to public safety, nuisances, environmental emissions etc) received by Envna shall be directed to the HSE department. The HSE Department shall record details of the complaint and initiate corrective action. As appropriate the complaint shall be reported to the relevant regulatory authorities (e.g. EPA/HSA). The HSE Department shall ensure an investigation takes place and shall respond (generally in writing) within one week of the complaint being received. A Corrective Action Requirement (CAR) shall be raised in relation to any complaint. . The person/ persons who have submitted the complaint shall be kept informed of any progress made in resolving the issue that gave rise to the complaint.

4.3.4 All enquiries regarding environmental, health & safety information shall be dealt with by the HSE department. Written requests shall be filed with the response attached.

4.3.5 If the request for information cannot be fulfilled over the telephone the HSE department may if appropriate invite the enquirer to the site to review any Printed documents are uncontrolled and subject to change. Please check electronic document control system for current version of this document.

appropriate documentation or records available on the public file. In such cases the C.O.O. must be notified.

- 4.3.6** All site tours associated with an enquiry should be scheduled where possible within one working week of receipt of request. In exceptional circumstances it may be arranged at shorter notice.

5.0 RELATED DOCUMENTS

Correspondence Logs
Records of complaints

6.0 REFERENCE

ISO14001:2004 Clause 4.4.3
OHSAS 18001 Clause 4.4.3

Printed documents are uncontrolled and subject to change. Please check electronic document control system for current version of this document.

APPENDIX 5

Enforcement Category Summary



Organisation Name	Enva Ireland
Case Number	W0196-1

Fixed Attributes	Enforcement Category
Complexity	High
Location	Mid

Enforcement Category due to Fixed Attributes	B3
--	-----------

Sheet Reference	Enforcement Category
Complexity	High
Emissions	Mid
Location	Mid
Operator Management	Low
Enforcement Record	Low

Enforcement Category Based Upon Above 7 Attributes	B2
--	-----------

FINAL ENFORCEMENT CATEGORY FOR YOUR FACILITY ¹	A1
--	-----------

Note¹: If different from above, a default may have been applied.

APPENDIX 6



[Guidance to completing the PRTR workbook](#)

AER Returns Workbook

Version: 1.1.13

REFERENCE YEAR 2011

1. FACILITY IDENTIFICATION

Parent Company Name	MacAnulty Specialist Underground Services Ltd
Facility Name	MacAnulty Clear Drains
PRTR Identification Number	W0196
Licence Number	W0196-01

Waste or IPPC Classes of Activity

No.	class_name
3.7	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.11	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.12	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.
3.13	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.
4.13	Recycling or reclamation of metals and metal compounds.
4.3	Recycling or reclamation of other inorganic materials.
4.4	Recovery of components used for pollution abatement.
4.6	Oil re-refining or other re-uses of oil.

Address 1	John F. Kennedy Industrial Estate
Address 2	John F. Kennedy Road
Address 3	Naas Road
Address 4	Dublin 12
	Dublin
Country	Ireland
Coordinates of Location	-6.35314 53.3279
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Anne Phelan
AER Returns Contact Email Address	aphelan@enva.ie
AER Returns Contact Position	Anne Phelan
AER Returns Contact Telephone Number	0578678600
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	0578678699
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(a)	Installations for the recovery or disposal of hazardous waste
5(c)	Installations for the disposal of non-hazardous waste
50.1	General

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

Is it applicable?	No
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#: W0196 | Facility Name : MacAnulty Clear Drains | Filename : W0196_2011.xls | Return Year : 2011 |

30/03/2012 10:41

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR				Please enter all quantities in this section in KGs			
POLLUTANT		METHOD		QUANTITY			
No. Annex II	Name	M/C/E	Method Used 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 AIR				Please enter all quantities in this section in KGs			
POLLUTANT		METHOD		QUANTITY			
No. Annex II	Name	M/C/E	Method Used 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			
Pollutant No.	Name	M/C/E	Method Used 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:	MacAnulty Clear Drains			
Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used Method Code Designation or Description	Facility Total Capacity m3 per hour
	Total estimated methane generation (as per site model)	0.0		N/A
	Methane flared	0.0		0.0 (Total Flaring Capacity)
	Methane utilised in engines	0.0		0.0 (Total Utilising Capacity)
	Net methane emission (as reported in Section A above)	0.0		N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO WATERS	
POLLUTANT	
No. Annex II	Name

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

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS	
POLLUTANT	
No. Annex II	Name

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

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

RELEASES TO WATERS	
POLLUTANT	
Pollutant No.	Name

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

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be entered in this section.

Please enter all quantities in this section in KGs				
M/C/E	Method Used		Emission Point 1	T (Total) KG/Year
	Method Code	Designation or Description		
			0.0	0.0

) then click the delete button

Please enter all quantities in this section in KGs				
M/C/E	Method Used		Emission Point 1	T (Total) KG/Year
	Method Code	Designation or Description		
			0.0	0.0

) then click the delete button

Please enter all quantities in this section in KGs				
M/C/E	Method Used		Emission Point 1	T (Total) KG/Year
	Method Code	Designation or Description		
			0.0	0.0

) then click the delete button

OT be submitted under AER / PRTR Reporting as this only concerns Releases from your facility

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

QUANTITY	
A (Accidental) KG/Year	F (Fugitive) KG/Year
0.0	0.0

4.3 RELEASES TO WASTEWATER OR SEWER

[Link to previous years emissions data](#)

| PRTR#: W0196 | Facility Name : MacAnulty Clear Drains | Filename : W0196_2011.xls | Return Year : 30/03/2012 10:41

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			
No. Annex II	Name	M/C/E	Method Code	Method Used Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
20	Copper and compounds (as Cu)	C	OTH	Standard Methods for the Examination of Water and Wastewater, 18th edition, 1995, Part 4000, section 4500 -Nitrogen (Ammonia) F Phenate Method	0.365	0.365	0.0	0.0
24	Zinc and compounds (as Zn)	C	OTH	Standard Methods for the Examination of Water and Wastewater, 18th edition, Metals by Flame Atomic Absorption Spectrometry – Direct Air-Acetylene Flame Method. 3111B - Modified	1.013	1.013	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			
Pollutant No.	Name	M/C/E	Method Code	Method Used Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
306	COD	C	OTH	Standard Methods for the Examination of Water and Wastewater, 21st edition, 2005 - Chemical Oxygen Demand.	3294.661	3294.661	0.0	0.0
240	Suspended Solids	C	OTH	Standard Methods for the Examination of Water and Wastewater, 18th edition, 1995, Part 2540, D - Solids.	917.571	917.571	0.0	0.0
343	Sulphate	C	OTH	Standard Methods for the Examination of Water and Wastewater, 18th edition, 1995, Part 4500 - SO ₄ ²⁻ E	202.121	202.121	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](#)

| PRTR# : W0196 | Facility Name : MacAnully Clear Drains | Filename : W0196_2

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND				
POLLUTANT		METHOD		
No. Annex II	Name	M/C/E	Method Code	Method Used Designation or Description

* 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				
POLLUTANT		METHOD		
Pollutant No.	Name	M/C/E	Method Code	Method Used Designation or Description

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

Please enter all quantities in this section in KGs			
		QUANTITY	
Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	
0.0	0.0	0.0	0.0

Please enter all quantities in this section in KGs			
		QUANTITY	
Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	
0.0	0.0	0.0	0.0

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

| PRTR# : W0196 | Facility Name : MacAnulty Clear Drains | Filename : W0196_2011.xls | Return Year : 2011 |

30/03/2012 10:41

Please enter all quantities on this sheet in Tonnes

0

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 Recoverer / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used		Haz Waste : Name and Licence/Permit No of Recover/Disposer	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 Recoverer / Disposal Site (HAZARDOUS WASTE ONLY)		
Within the Country	13 02 04	Yes	97.95	mineral-based chlorinated engine, gear and lubricating oils	R9	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland		Enva Ireland,W0184-1,Clonminam Industrial Estate,Portlaoise,Laois,0,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	13 05 07	Yes	64.74	oily water from oil/water separators	R9	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland		Enva Ireland,W0184-1,Clonminam Industrial Estate,Portlaoise,Laois,0,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	13 07 01	Yes	4.56	fuel oil and diesel	R9	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland		Enva Ireland,W0184-1,Clonminam Industrial Estate,Portlaoise,Laois,0,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	13 08 02	Yes	183.96	other emulsions absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R9	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland		Enva Ireland,W0184-1,Clonminam Industrial Estate,Portlaoise,Laois,0,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	15 02 02	Yes	6.55	antifreeze fluids other than those mentioned in 16 01 14	R12	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland		Enva Ireland,W0184-1,Clonminam Industrial Estate,Portlaoise,Laois,0,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	16 01 15	No	12.0	aqueous liquid wastes containing dangerous substances	R9	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland		Enva Ireland,W0184-1,Clonminam Industrial Estate,Portlaoise,Laois,0,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	16 10 01	Yes	28.06	glass, plastic and wood containing or contaminated with dangerous substances	D9	M	Weighed	Offsite in Ireland	Enva Ltd,W0-41/1		Smithtown Industrial ,Smithtown Industrial ,Shannon ,Co Clare,Ireland		W041-1,Enva Ireland,Smithtown Industrial Estate,Shannon,Clare,0,Ireland	Smithtown Industrial Estate,Shannon,Clare,0,Ireland
To Other Countries	17 02 04	Yes	93.38	soil and stones containing dangerous substances	R1	M	Weighed	Abroad	Reiling GmbH,121197630-3		Weetfelder Strasse,36,Bonen,59199,Germany		Reiling GmbH,121197630-3,Weetfelder Strasse 36 ,Bonen,,Germany	Weetfelder Strasse 36 ,Bonen,,Germany
Within the Country	17 05 03	Yes	98.74	soil and stones containing dangerous substances	D8	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland
Within the Country	19 09 04	No	7.2	spent activated carbon	D13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland		Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland
Within the Country	20 01 08	No	15.5	biodegradable kitchen and canteen waste	D9	M	Weighed	Offsite in Ireland	College Proteins,P0037-03		Meath,Ireland		Meath,Ireland	Meath,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 7

FIREWATER RISK ASSESSMENT REPORT

FOR

**ENVA DUBLIN,
JFK ROAD,
NAAS RD.,
DUBLIN 12**

Waste Licence Registration No W0196-01

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1.0 INTRODUCTION

This Firewater Risk Assessment Study was carried out in order to comply with the requirements of condition 9.2 of the Enva waste licence W0196-1. The study was carried out in accordance with the following documents:

- EPA (Draft) GUIDANCE NOTE TO INDUSTRY ON THE REQUIREMENTS FOR FIRE-WATER RETENTION FACILITIES (1995)
- EPA DRAFT BAT GUIDANCE NOTES FOR THE WASTE SECTOR: WASTE TRANSFER ACTIVITIES April 2003.

Enva Ireland purchased this site in 2005 from Mac Anulty Clear drains. While the site held a waste licence it was not active with regard to the proposed activities outlined in the licence application. The original scope of the licence included a hydrocarbon treatment plant for the collection of bulk waste oils and separation of entrained water, however this activity did not proceed as planned. The site licence has only become active since the end of 2007 with some small volumes of wood contaminated waste being stored on site. Processing of aqueous effluents/waste waters commenced on site in 2008.

1.1 Site characteristics

The principal features of the site include the following:

- **Site:** The site is 5.65 acres in area. There is one main building on site which houses the office area and a garage/workshop area, the remainder of the site is an open hard standing area which contains the tank farm, the tanker dig out bund and a racked storage area (as described below). The only access to the site is from the south, south western boundary off of the JFK Road.
- **Tank Farm Area:** There is one tank farm on site which is located to the north western boundary of the site. It runs approximately 21 metres by 9 metres. This is the only storage facility on site for bulk storage of liquid wastes. The capacity of the bund is 312 m³. A small bund is located to the eastern boundary of the site which allows for the temporary storage of tank residues once off loaded.
- **Filter Press:** The Filter press is located to the east of the tank farm boundary wall and processes waste waters by separating out the solids from the waste water and which generates effluent for discharge.
- **Packaged storage racking:** There are two racked storage areas located on site used for the storage of any packaged wastes which may arise.

- **Offices/garage/workshop area:** The office area comprises of an open plan office area, a communications room, locker area, canteen and a small laboratory for carrying out analysis on waste incoming samples and final effluent checks.
- **Oil/water interceptor:** Run off from free standing yard surface area is collected by the oil water interceptor which discharges to the south of the site. All effluent discharges to the foul sewer through an underground interceptor located on the northern boundary of the site. A site plan incorporating drainage lines is attached in Appendix A of this report.

1.2 Site Operations

The facility predominantly operates as a treatment facility for aqueous effluents. Currently the volume of waste handled on site is approximately 200 tonnes per month. Due to fact that the wastes handled on site are aqueous in nature, they are not classified as dangerous substances and therefore do not present a significant hazard with regard to the generation of fire. There is one self bunded tank (2500l) held on site for the storage of diesel for the purposes of powering vehicles.

A dig out pit is also in place for the temporary storage of residues from tanker dig out, once again these are not classified as dangerous substances.

Table 1: Principal wastes handled on site:

Aqueous waste streams
Oily waters
Grease trap wastes
Wood contaminated with dangerous goods.
Wastes packaged in drums, boxes, IBCs.e.g. flammable solids, used batteries etc.

Table 2: Current Storage capability on site is as follows.

Materials	Current Storage provisions
Aqueous waste streams	190,000 litres
Grease trap waste.	15,000 litres
Final release	60,000 litres

1.3 Compliance

Enva operates a combined environmental and health & safety management system (HSE Management System) and is accredited by SGS Ireland to a combined ISO14001 and OHSAS 18001 certification.

2.0 RISK ASSESSMENT

2.1 Types of industrial operations that generally require fire-water retention facilities.

Enva Dublin is included in the scope of Section II (a) of APPENDIX A of the guidance document and must therefore carry out a risk assessment of proposed controls unless it is proposed to install a firewater retention feature. In addition a review of materials has shown the following:

- A significant volume of waste stored on site are aqueous waters which do not exhibit potentially flammable characteristics, therefore the risk of fire generation from storage of this material is considered to be low.
- Up to 2.5 tonnes of diesel is stored on site in a bunded tank. Diesel is classified as an R52/53 compound and is also classified as R40. This tank is double skinned and fitted with a bund alarm to alert of any possible leaks within the unit and the risk of it becoming uncontrolled is low.

2.2 Risk Assessment Criteria

As required by Appendix B of the Agency's guidance note only part 11 criteria will be evaluated for the purposes of this fire water risk assessment.

2.2.1 List of fire fighting equipment on-site

Table 3: Fire fighting equipment on site.

Fire Extinguishers No	Type	Size	Area
1	Powder	9kg	Cabinet (yard)
2	Powder	9kg	Cabinet (yard)
3	CO ₂	5kg	Entrance of warehouse (inside)
4	Powder	9kg	Entrance of warehouse (inside)
5	CO ₂	5kg	Side door warehouse
6	Powder	6kg	Workshop outside power intake room.
7	CO ₂	5kg	Work shop side exit.
8	Powder	6kg	External cabinet
9	Powder	6kg	External cabinet
10	CO ₂	2kg	Main Office
11	Foam	6kg	Main Office
12	CO ₂	2kg	Main office
13	Foam	6ltr	1 st floor landing
14	CO ₂	2kg	1 st floor landing
15	CO ₂	2kg	Canteen
15A	Fire blanket		Canteen
16	CO ₂	2kg	Workshop
17	Powder	6kg	Yard @pumping station
18	CO ₂	5kg	Yard @pumping station

2.2.2 Fire safety systems

- The main office building is equipped with a fire alarm system and detectors which are linked to a remote monitoring alarm system, in the event of a fire, the emergency services will be contacted along with the key Enva personnel.
- The process on site is not heated and therefore there is no risk of overheating of process vessels. The tanks are constructed of mild steel and compatible with the waste materials required to be processed.
- The tank farm is located 10 metres away from the northern wall of the main building, it is envisaged that a fire, if it were to occur would not spread to the main building.

2.2.3 Emergency preparedness and response procedures

- An emergency preparedness procedure is in place for the site. See Appendix B

2.2.4 Design features incorporating containment

- Containment features within the Dublin site comprise the following:

Table 4: total capacity of bunds in Enva Dublin:

LOCATION	CAPACITY OF BUND	CURRENT MAXIMUM MATERIAL STORAGE
Main Tank farm bund	312 m ³	265 m ³
Packaged waste-Storage area 1	11.65 m ³	30 m ³
Packaged waste- Storage area 2	12.66 m ³	36 m ³
Surface water interceptor	n/a	16 m ³
Effluent interceptor	n/a	16 m ³

- Spill Kits are provided at strategic locations on the site for containment of spills. These contain absorbent material and booms for preventing the spread of spilled material and for cleanup of spills.
- Materials in the laboratory will typically be stored in small containers of approximately 1 to 10 litres. Currently the substances used in the laboratory are not flammable and the analysis is carried out on water based samples. All samples are stored in sealed containers until such time as they may be disposed of.

2.2.3 Access by fire fighting equipment into and around the site

- Access to the site by Fire fighting vehicles can only occur from the JFK Road from which there are two entrances each side of the main site building. Access to the tank farm could also be obtained from the parking area of the premises located on the northern west boundary.

2.2.4 Work force awareness

- Awareness of fire safety and emergency response is reinforced among staff through training. Training will include the following topics:
 - Environmental Awareness
 - Waste License requirements
 - Fire Safety & Emergency Response
 - Chemical hazard awareness
 - Spill response and cleanup
 - Relevant Operational Controls (e.g. Waste Acceptance, Storage & segregation of materials)
 - Use of fire extinguishers
 - Incident & Accident Reporting

All personnel undergo induction upon commencement of employment.

2.2.5 Available equipment of local fire fighting unit and response time

The fire brigade located on the Belgard rd. is the nearest fire fighting unit. However in the event of an emergency the emergency response numbers 999 or 112 are required to be called to ensure that a unit that is available will respond. It is expected that the response time for the fire brigade would be 15 minutes.

A meeting was held with the Pre fire planning section of Dublin fire brigade on the 2nd of July 2010. Due to the simple nature of the activities on the site, there was not deemed to be any significant risk arising from the site. The Fire officer was satisfied that there was adequate supply located nearby within the estate such a fire occur on site. There were no issues raised with regard to the site set up and potential risks of fire. No corrective actions were raised on the day of the visit.

2.2.6 Information held by the Local fire fighting unit

A pre fire planning form has been submitted to Dublin fire brigade as requested. No further queries have been raised to date.

2.2.7 Security arrangements

- A standard palisade fence surrounds the boundary of the site. The facility is locked securely when the site is not in operation.
- An Intruder alarm is in place for the main building this is linked to a remote monitoring station who will alert key personnel.
- Only personnel with access to access codes and fobs for logging in and out are permitted to enter the facility.
- The adjacent premises to the north and north eastern boundaries are industrial and secured out of hours.

2.2.8 Emergency management structures

An Emergency Preparedness and Response Procedures in place for the site. These are audited, reviewed and tested regularly as part of the Health, Safety & Environment (HSE) Management System.

Accident scenarios addressed under the Emergency Response Procedures include the following:

- A fire/explosion in the plant
- A major/minor oil spill
- In the event of a chemical spill
- In the event of a medical emergency
- In the event of a bomb or a suspicious package

2.3 Existing and Potential hazards

Based on the above information principle hazards with potential for polluting the environment with contaminated firewater have been identified. The risks associated with these hazards are discussed in the following section. The scenarios selected are based on worst case situations. It should be stressed that the risk of any one of these events is considered to be extremely low and that in the event that a fire outbreak did occur it would be on a far lesser scale than outlined in the following section. A probability of Low, Medium or High is assigned to each scenario to demonstrate the possibility of a fire scenario occurring.

1. Major Fire in the Tank Farm.
2. Major Fire in packaged waste storage area.
3. Fire in the main offices

2.3.1 Probability of incident occurring

Before examining each of these worst case scenarios the following should be borne in mind. Flammable atmospheres are not likely to occur at this facility as the vast bulk of waste streams are not classified as flammable liquid. Waste oils which potentially can be stored on site will have flashpoints well in excess of 61°C. Therefore the probability of a significant fire resulting from the processing or storage of waste on site is considered to be low. A significant fire may occur due to malicious damage to the building or the yard, however significant investment in site security has been put in place and this is not envisaged to be probable.

2.3.1.1: Major Fire in the Tank Farm

Probability: Low

Fire scenario: The likelihood of a fire being generated within the tank farm is low. Material stored in the tank farm does not constitute as being flammable. Under normal circumstances it is not envisaged that a fire would propagate to any large extent. For the purposes of this exercise we estimate that if a fire were to occur resulting in damage to all the tanks in the tank farm this would lead to the generation of 265,000 litres of waste material, this would be contained within the existing tank farm which has a capacity of 312, 000 litres. It is therefore envisaged that this would be adequate to hold this volume of waste water plus fire water generated.

Control measures: Processing of waste only occurs during site operational hours, therefore it not envisaged that a fire would occur while the equipment is not operational. If a fire were to occur during operational hours, this would be put out by use of fire extinguisher where possible or by

contacting the emergency services. Further discussions are to be held with local Fire brigade – pre-planning to determine the potential for a fire and the fire fighting measures required.

2.3.1.2 Major Fire in Packaged storage area

Probability: Low

Fire scenario: The likelihood of a fire being generated in the packaged waste storage is determined as being low. Waste stored in this area is segregated in accordance with HSG 71. There are two bunded packaged storage areas on site which store the same types of waste material, this will be a mixture of corrosives, flammable solids and other non-regulated wastes. Assessment of the risk for this area is deemed as being low as there are no ignition sources present e.g. no electrics and waste will be stored appropriately i.e. in appropriate packagings and segregated.

Control measures: Run off will be prevented from leaving the site by closure of the surface water interceptor. Water can be pumped back into the large tank farm bund where required. The bunds of the packaged storage area themselves will retain 11.65 m³ and 12.66 m³ of water respectively. Both bunds can be used alternatively to store firewater. Further discussions are to be held with local Fire brigade – pre-planning to determine the potential volume of fire water generation.

2.3.1.3 : Major Fire in Office/work shop area

Probability: Low

Fire Scenario:

Fire scenario: The probability of a fire in the main building is extremely low. Over the last 18 months the electrics and the electrical panels have been replaced with the correct specification cabling. Any chemicals stored in the area for the purposes of maintenance of plant and equipment are stored on bunded areas, therefore preventing any risk of spread of any potential chemicals.

Control measures: The building is fitted with a fire alarm as mentioned above which is linked to a remote monitor which in turn alerts the emergency services. In the event of a fire, all water would be directed to the surface water which would be isolated to prevent the outflow of any fire water. This water may be pumped back into the main tank farm until suitable disposal can be arranged. Further discussions are to be held with local Fire brigade – pre-planning to determine the potential volume of fire water generation.

3.0 RECOMMENDATIONS

In view of the preceding assessment of contaminated firewater risk from the Enva Dublin site the risk of a release of contaminated firewater is low. Currently there is significant capacity to contain potentially contaminated firewater in all worst case scenarios considered. Discussions with Dublin Fire brigade (Pre-fire planning) has not yielded any concerns with regard to fighting a fire on site.

There have been no changes to site activities during 2011, therefore is no requirement to change the current fire water retention plan.

APPENDIX A

Site Plans

Appendix B

Site Emergency response plan

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ENVA DUBLIN EMERGENCY RESPONSE PLAN

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1.0 PURPOSE/SCOPE

Enva (Dublin) is committed to maintaining safe operations in all facilities in order do the following

- to protect the lives and health of the company's employees, the external community and the environment
- to protect it's assets
- ensure business continuity
- to engender public trust

The purpose of this procedure is to outline what actions must be taken in the event of an Emergency Situation at Enva, JFK Road, Naas Rd., Dublin 12 and the immediate evacuation of employees.

It is intended that all persons working for Enva (Dublin) (including visitors, temporary employees and contractors) should be familiar with their duties as outlined in this document.

2.0 SCOPE

This plan covers potential emergency situations which may arise from waste management activities and other environmental services carried out by Enva Dublin employees, visitors and contractors. This covers the following:

- a) A fire in the main building including warehouse.
- b) A major/minor spill
- c) Medical emergency (including man down in confined space)
- d) In the event of a bomb or a suspicious package
- e) Striking of Buried electrical cable

This plan does not apply to emergency response scenario which may arise on a clients site involving Enva personnel or to emergency situations on other Enva sites involving Enva Dublin personnel.

3.0 RESPONSIBILITY

It is the responsibility of Field services Director to ensure that each employee is familiar with this procedure.

It is the responsibility of the emergency response team to carry their designated duties as outlined in this SOP.

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4.0 OVERVIEW OF EMERGENCY RESPONSE PLAN

The priority concern in the event of any emergency situation will be to ensure the safety of all people potentially affected, whether on-site or outside the site boundary. Once this is controlled, the aim will be to prevent releases of pollutants and prevent damage to property or the environment.

The primary line of defence against most emergency situations (such as fire and major spills) will be left to the Emergency Services. **No Enva Dublin personnel** are expected to carry out front line defence in a major emergency response situation.

The sites emergency response team will co-ordinate the emergency response and will aim to support the Fire services' front line response. The Emergency response team will carry out specific duties but these duties do not include front line i.e. fire fighting duties.

Table 1. Enva Portlaoise Emergency Response team

Emergency Response Team	
Roles	Team members
Emergency team members (ERT)	Conor Walsh (ERT team leader)
	Tom Keogh
	Enva Directors on site
Evacuation Wardens	Conor Walsh Front office area (Roll call- Primary)
	Tom Keogh General yard and upstairs in office (Roll call- Back up)
Emergency First Aiders	Conor Walsh
	Tom Keogh
ALARM RESPONDANTS	
Conor Walsh	087 8164932
Tom Keogh	086 0495133
Gareth Kelly	087 8201622

Further emergency response numbers can be located in Appendix 1

5.0 EMERGENCY RESPONSE PLAN.

5.1 General response plan

The following is the general guideline steps to be taken in an emergency.

Phase 1: **Raise the alarm.** If the nature of the emergency is a fire this will either be detected automatically or activated by the nearest break glass unit. In the event of an other emergency i.e. non fire, personnel must alert ERT team or the Emergency services.

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The person raising the alarm must ensure other people in the immediate vicinity are aware of the emergency. Note any injuries – but do not put yourself in danger. Report as much relevant detail as you can to the emergency response team (ERT) or director on site at the earliest opportunity. If you are satisfied that the incident is very minor (e.g. small bin fire) you may choose to use an appropriate fire extinguisher to put out the fire but only if you are not putting yourself at risk and are trained to do so

Phase 2: **Evacuation/Shutdown.** Get away from danger yourself, get others away. Shutdown plant/equipment that you may be operating in the yard (e.g. process feedlines, pumps etc). Evacuate the site via the nearest safe exit (i.e. Maingate). Proceed to assembly point (Front car park) and follow instructions given by the ERT or Evacuation Wardens.

Phase 3: **Containment/Control.** Emergency Team will initiate response to the emergency. Determine the nature and extent of the emergency, alert fire services (and others as required), seek to minimise and treat casualties, contain the incident, protect property/the environment and render the site suitable for re-entry. Throughout this response the front line defence will be provided by the Emergency Services if required. Enva Dublin Emergency Team will liaise with and provide support to the Emergency Services.

Phase 4: **Return to Service.** Only when authorised by the ERT should personnel return to their workplace.

5.2 General evacuation rules and assembly

- 5.2.1 When the Fire alarms sounds or where site evacuation is required all personnel on site must evacuate via the nearest safe exit (Maingate and front door).
- 5.2.2 The person taking the role call will base this on the permit to work book and visitors log located in the main office. As there are only two employees based at this site the person taking the roll call will always be aware of the location of the other employee.
- 5.2.3 Internal doors should be closed behind you as you evacuate in order to prevent spread of fire/fumes.
- 5.2.4 In the yard/plant switch off any plant/equipment which you are using – especially any that could present additional hazards e.g. become a source of ignition/fuel
- 5.2.5 Upon evacuation from the site all employees, contractors, visitors etc must make their way to the main assembly point: **FRONT CAR PARK**
- 5.2.6 During evacuation of the site any personnel who have information relating to the incident (eg observed smoke/fire/steam/welding activities etc) should report this to a member of the ERT in the front car park.
- 5.2.7 Evacuation Wardens will proceed to direct all persons and take roll call. It is important to report to the assembly point so that missing persons can be quickly identified and that Emergency Services personnel (and others) do not put

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themselves at risks needlessly looking for persons who have already evacuated. In the event of the absence of the designated roll caller another evacuation warden must take this over.

5.2.8 No person may re-enter the site until directed to do so by the Emergency Response Team or until an ALL CLEAR/ RETURN TO SERVICE announcement has been made by the Emergency Response Team.

5.2.9 *General Role of the first aider's*

5.2.9.1 First aiders are responsible to render First Aid as necessary prior to the arrival of the Professional Ambulance service.

5.3 Incident Verification

5.3.1 Where it is not apparent what caused the fire alarm to activate, the ER Team Leader shall carry out an investigation from a safe distance on the external boundary of the main building and tank farm to assess the possible source of fire. If upon investigation there is deemed to be a low risk of a significant fire then further investigation inside the building may be carried out. Contact must be maintained with the emergency team member at the assembly point.

5.4 Evacuation from other premises

5.4.1 In the event of premises adjacent or in the vicinity of the Enva facility being at risk from an emergency situation on site, evacuation will normally be determined by the emergency services. The ERT leader may decide it prudent to notify adjacent premises of the incident and any possible risk identified relevant to their premises or personnel.

5.4.2 Adjoining premises especially those down wind of a fire may need to be evacuated to an upwind location or be instructed to stay indoors and close their windows..

TABLE 2: NEIGHBOURING PREMISES CONTACT

Neighbouring premises	Contact No.
Vita Cortex Dublin Ltd.	01 4506500
The redeemed Christian Church of God	01 4299923
Eurowood Interiors	01 4508159

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5.5 Contact with emergency services

5.5.1 In the event of a major accident the emergency services may need to be contacted, the approach to this will be carried out as per the following table.

Emergency Service Type	Steps to be taken
Dublin Fire Brigade	<ol style="list-style-type: none"> 1.0 The Fire brigade may be telephoned directly by dialing 999 or 112 in the event that there is immediate danger to personnel or plant 2.0 If the fire brigade are not contacted directly by an Enva employee, the requirement for emergency services must be determined by the ERT or the alarm respondents if it is out of hours. 3.0 If a break glass unit has already been broken or a detector activated, Top Security will contact one member of the respondents to confirm the incident occurrence and confirm the need for emergency services. 4.0 Relevant emergency response documents can be found in the emergency response box as set out in Appendix 2 to this document. This box is located in the reception of the main office reception.
Ambulance services	<ol style="list-style-type: none"> 1.0 The requirement for the ambulance will be determined by either a first aider or a member of the ERT. 2.0 An ambulance may be called by an Enva employee if there is a serious concern regarding an individual's immediate health.
Gardai	<ol style="list-style-type: none"> 1.0 When an emergency call is made and an ambulance is requested details are passed to local Gardai. However as a back up the ERT will dial 112/999 and ask for the GARDAI. Nature of the incident will be described and Garda support requested to control traffic on the access road to the industrial estate to prevent delays to ambulances and danger to pedestrians in the area of the plant. 2.0 The ERT will liase with the Gardai when they arrive on site, describe the situation to the them and provide whatever information they may require concerning the plant and site. 3.0 The gardai may be contacted directly by Enva staff where there is immediate threat to the safety of staff and plant.

All emergency situations require an incident report to be completed once the event has been made safe. In the event of an environmental/health and safety incident contact must be made with the relevant authorities as outlined in Appendix 3 to this procedure.

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6.0 EMERGENCY ACTION SCENARIOS.

6.1 Steps to be taken in the case of a fire/explosion

6.1.1 The Emergency Response Team shall be responsible for notifying the external Emergency Services if an emergency is discovered and liaise with them when they arrive on site. The ERT shall also be responsible for directing the site evacuation if required.

6.1.2 Fire extinguishers or other fire fighting equipment should only be used for small low risk fires and where they can prevent escalation of the fire with out harming/injuring personnel. Fire extinguishers are available and readily accessible through out the Enva plant. Fire extinguishers are maintained as per SOPN 34. Where it is not possible to prevent escalation then raise the alarm (if not already activated) and evacuate the site immediately.

Particular areas of risk in Enva

- Office.
- Warehouse.

6.1.3 **ERT Role (Normal working hours)**

6.1.3.1 Emergency team members must go to control centre in the front car park. The Emergency response folder at reception will hold a map indicating the lay out of the site.

6.1.3.2 The Emergency response team leader will be the most senior person available on site.

6.1.3.3 Evacuation of the plant will be carried out as per section 5.2 above.

6.1.3.4 Steps to be taken by fire alarm respondants **(Out of hours)**

- Top Security will contact one of the members of the alarm respondants table above in the event that the fire panel has been activated.
- The respondent must then decide the course of action to be taken based on their knowledge of the plant, information being given to them by the alarm company etc. Based on the information gathered, the respondent will determine the course of action to be taken i.e whether the emergency response services are to be called out or an investigation team sent into the facility to assess the situation.

6.1.4 Fire water generation.

6.1.4.1 Where there is a risk of fire water generation a member of the emergency team must initiate a diversion of this fire water run to the main tank farm.

6.1.4.2 The valve for the relevant surface water interceptor(s) must be closed as soon as possible.

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6.2 Steps to be taken in the event of an emergency spill response

Spills can occur during the movement of containers e.g. barrels and IBCs etc, loading and unloading of tankers, filling of process tanks etc.

Steps to be taken in the event of a spill

1. Alert personnel
2. Identify the Substance
3. Contain source
4. Limit the spread
5. Cleanup

1. Alert Personnel

Decide if you can safely take some immediate response steps or whether you need more assistance from other personnel/management. If other personnel are in the vicinity alert them to the spillage and either request their assistance in dealing with the spill or alerting more personnel/management.

2. Identify the Substance

Identify the spilled substance so as to be aware of the hazards it presents. If the spillage is from a container, the container should have a label identifying the primary hazard.

4. Contain the Source

If possible stop the spill at its source, e.g. by turning off pumps, equipment, close valves, right the container etc., only do so if you have the appropriate PPE or are not at risk of contact with the substance.

5. Limit the Spread

Limit the spread of the spill by using an appropriate absorbent material from the nearest spill kit. Alert other personnel and management of the spillage.

The sites interceptors should not be relied upon as a primary control measure in relation to spills. Where it is practical spillages should be prevented from entering the sites drainage system (eg drains blocked, spillages vacuumed up or use of oil absorbents).

Where chemicals have entered the drainage system discharges from the site should be stopped until an assessment is made of the spillage impact. It may be necessary to remove contaminated runoff retained in the interceptors/discharge tanks for appropriate disposal.

Where large volumes of oil or hydrocarbons have entered the drainage system it may be necessary to cease discharges and/or remove oil/water from the interceptor for appropriate disposal/recovery.

The quantity of the substance spilled must be determined in order to assess the potential impact i.e. has a significant volume been lost down the drain before the spill was noticed. A mass balance may be conducted to account for the volume spilled and identify any further measures necessary to limit the spread and recover the substance.

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Cleanup

The spilled material must then be recovered for example by pumping to a designated container/tanker or by soaking up the spill with the correct absorbent etc.

In the event of a spill the appropriate PPE must be worn before tackling the spill and reference the associated SDS as soon as practicable for relevant advice.

In the event of major spill of flammable material e.g. petrol or mixed fuel contaminated by petrol, specific precautionary measures may be taken to isolate work areas or evacuate part or all of the site. It is the responsibility of the emergency response core team to determine the actions to be taken.

In the event of a significant spill it is the responsibility of the HSE Department or Field services supervisor to inform the relevant authorities as per Appendix 3

All spent absorbent and PPE must be packaged and labeled appropriately before being disposed of in an appropriate manner.

All spill kits are checked on a weekly basis as per SOPN 74

6.3 Steps to be taken in the event of a medical emergency

6.3.1 General medical emergency

6.3.1.1 For all medical emergencies (ie serious injury/illness) the Emergency Team must be notified.

6.3.1.2 The certified First Aiders are listed in Table 1

6.3.1.3 It is the responsibility of the first aider to assess the injury and if the injured person is in immediate danger, assess removing the person from the immediate area and administer first aid if possible. If no danger is imminent, the injured/ill person should not be moved unless absolutely necessary.

6.3.1.4 The first-aider/ emergency team member at the scene must decide on assessing the situation whether to:

- i. Treat the person
- ii. Call the company doctor, Dr. Moran
- iii. Call emergency services

6.3.1.5 During normal working hours, a first aid box is available in the main office and laboratory.

6.3.1.6 Remain with the injured person until the ambulance arrives.

6.3.1.7 The first aider should meet the emergency services chief and notify of events to date.

6.3.1.8 The ERT should ensure a clear passageway is provided for the Emergency Services to get as close to the injured casualty as possible.

6.3.1.9 The Manager of the injured person should inform next of kin of injury (only necessary when casualty is being hospitalised) or delegate a appropriate person to do so.

6.3.1.10 All first-aid treatments should be recorded by completing the personal injuries incident report form in conjunction with the HSE department.

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6.3.1.11 First-aiders should ensure that a clear and concise account of the illness or injury is recorded

6.3.2 First Aid Checks

6.3.2.1 A monthly inspection is undertaken by the HSE assistant of all first aid boxes on the Dublin

6.4 ‘Man down’ in confined space

6.4.1 Where a person becomes unconscious in a confined space the watch man is responsible for raising the alarm. The Emergency Response Team must be notified in order to take control of the situation. Under no circumstances should any person attempt to undertake a search and rescue of a confined space without ERT assistance and a planned method of response.

6.4.2 The Emergency Response Team will formulate a plan which must include notification to the emergency services and the decision whether to carry out an Enva rescue. Only if full BA is on site and those that have received confined space and breathing apparatus training are present are permitted to attempt a rescue.

6.4.3 In order to carry out a rescue the following must be considered and form the basis of the rescue plan:

- Can you communicate with the person in the confined space
- Is there a meter alarming and can it’s outputs/display be observed.
- Is immediate danger evident
- Potential for a flammable atmosphere, risk of ignition;
- Is access and egress satisfactory;.
- Need for extra equipment (e.g. stretcher)
- Lighting in the confined space
- Weather conditions.
- Adjacent activities

The rescue plan may only be carried out when these and any other relevant factors have been considered.

6.4.5 Once the situation is stable revert to general medical emergency steps as outlined in section 6.3 above.

6.5 Steps to be taken in the event of a bomb threat or discovering a suspicious package

6.5.1 For a threat

6.5.1.1 If a bomb threat is received, the building will be evacuated by raising the fire evacuation alarm. The emergency team will meet at the Front car park assembly point to determine the action to be taken.

6.5.2 For a suspect package

6.5.2.1 Where a package is suspected to be containing a bomb, the area must be evacuated and a member of the Emergency response team contacted.

6.5.2.2 Do not touch the suspect package

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6.5.2.3 All employees must ensure that they are away from glass/window areas after evacuation.

6.5.2.4 Do not use radios or mobile phones near suspect packages.

6.5.2.5 Employees will follow normal evacuation procedures unless advised otherwise

6.7 Steps to be taken in the event of damage to underground high voltage electrical cable.

6.7.1 An underground electrical cable crosses the site from rear of the warehouse to the near side of the bund wall (See site map). If personnel/equipment were to come into contact with the electrical cable, it may result in personal injury or death by electrocution.

6.7.3 DO NOT TOUCH THE EXPOSED LINE OR ANY ACCIDENT VICTIM. The flow of electricity into the ground or around a person is dangerous to by-standers. The electricity could flow through the ground and electrocute those who come close.

6.7.4 Alert the ESB immediately **at 1850 372 999** and request power cut to line.

6.7.5 The Emergency response team must evacuate the building manually to prevent any further injuries.

6.7.6 Follow instructions of the ESB

6.7.7 Alert the ambulance service as per 6.3 above.

7.0 MEDIA QUERIES

7.1 Media queries in relation to any ENVA emergency situation must be directed to Enva's Marketing Manager (Anthony Brohan) or if not available then senior management. Under no circumstances should any other employee provide information or respond to the media in relation to Enva. Senior Management shall include the following:

- Managing Director (ENVA Ireland)
- Other ENVA Ireland Directors
- Other person designated by one of the above.

8.0 POST-EMERGENCY REVIEW

8.1 Following the occurrence of any emergency situation, false alarm or evacuation of the site/buildings a review will be carried out of the effectiveness of this Emergency Response Plan. All those directly involved should be consulted in carrying out this review.

8.2 The review will be co-ordinated by the HSE Department.

8.3 A record of the incident and the Emergency Response Plan review will be made and retained. This report will detail what occurred, causes contributing to the accidents as well as any lessons learnt.

8.4 The Emergency Response Plan may be updated accordingly and the relevant controls put in place.

8.5 The following Emergency Review Checklist may be useful in carrying out the review:

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EMERGENCY REVIEW CHECKLIST

- Location of the incident.
- Type of incident:
- Emergency Services Called.-Time, Fire Brigade, Ambulance, Gardaí
- Media contacts:
- Casualties/injuries.
- Site Evacuation, routes, time taken, roll call.
- Location of evacuated staff?
- Did they need to be sent elsewhere?
- Missing persons.
- Fire pumps running
- Sprinklers working
- Additional containment, e.g. rear barrier.
- Emergency shutdowns
- Plant clean-up after incident.
- Did the incident affect persons offsite?
- Did access to the industrial estate need to be closed?
- Is water damage limitation needed?
- Informing relatives
- Changes needed to plan
- Longer term corrective actions required.

Document	Standard Operating Procedure	SOP 1230
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APPENDIX 1 Other important contact numbers for emergency services & hospitals

Internal Emergency No. = Dial 0
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Emergency Contact Numbers

Name	Position	Telephone No Home	Mobile
Declan Ryan	Managing Director	01 2831621	087 2451822
Mattie Keogh	Operations Director	059-9135698	087 – 8174411
Gareth Kelly	Chief Operating Officer	01 6208704	087 – 8201622
Anne Phelan	HSE Manager	None available	086 - 3821830
Donal Conroy	Operations Manager	057 - 8622928	087- 6868503

Emergency Services Phone Numbers

General Emergency	999 or 112
Garda Station (Clondalkin)	01 6667600
Garda Station (Ballyfermot)	01 6667200
James Hospital (emergency department)	01 4162774 01 4162775
Dr Moran (Company Doctor)	
Top Security	01 4900333
South Dublin County Council	01 4138500
Liam Mc Gauley (South Dublin County Council)	086 6071168
ESB	1850 372 999

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APPENDIX 2 Contents of site emergency response folder

1. Site plans showing the following
 - a. Site access points
 - b. Electrical panels
 - c. Tank farm
2. Site Emergency Response plan
3. Storage tank register

Document	Standard Operating Procedure	SOP 1230
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APPENDIX 3 Notifying of Agencies

Certain agencies and authorities will need to be notified of the emergency depending on the nature of the incident. Typically this will include at least the HSA, South Dublin County Council and the EPA.

The ERT Team Leader shall ensure that these agencies are notified (directly or indirectly) as soon as practicable in the event of an emergency situation.

Injuries and safety related information must be notified to the HSA. Matters of public safety must be reported to the HSA and to South Dublin County Council.

Pollution and environmental issues must be notified to South Dublin County Council and to the EPA. Other agencies such as the fisheries board may need to be notified in the event of discharges of pollutants (e.g. via a storm drain).

Reporting to the EPA

Any incident with the potential for environmental contamination of surface water or ground water, or posing an environmental threat to air or land, or requiring response by the Local Authority must be reported to the EPA by telephone and Fax.

During Business Hours

Inform Licencing and Control Officer (Dublin) immediately by phone and fax. It is not sufficient to email or leave a phone message, alternatively phone the EPA LoCall number or the EPA headquarters in Wexford: also notify local authority or Fisheries board.

Outside business hours

Communicate details of the incident by telephone and fax. Telephone the EPA LoCall number, leave a message on the answering service and fax details to EPA Waste Management Licencing, Dublin. At the start of the next business day, inform Licencing and Control Officer (Dublin) by telephone.

Information to give to the EPA:

Where available, the notification at the minimum should contain

- Name, address and waste licence number of company
- Date and time of incident
- What type of incident (i.e. Fire, explosion, spillage, gas leak, process control malfunction)
- Category of incident (Emergency situations are generally Category 1 – *significant environmental damage or risk hazard to public or general environment* or Category 2 – *local / limited impact*. Note: Category 3 incidents are generally not reportable to the EPA as there was never at any time any damage, injury or risk of exposure to a hazard to the general public or the environment)

Document	Standard Operating Procedure	SOP 1230
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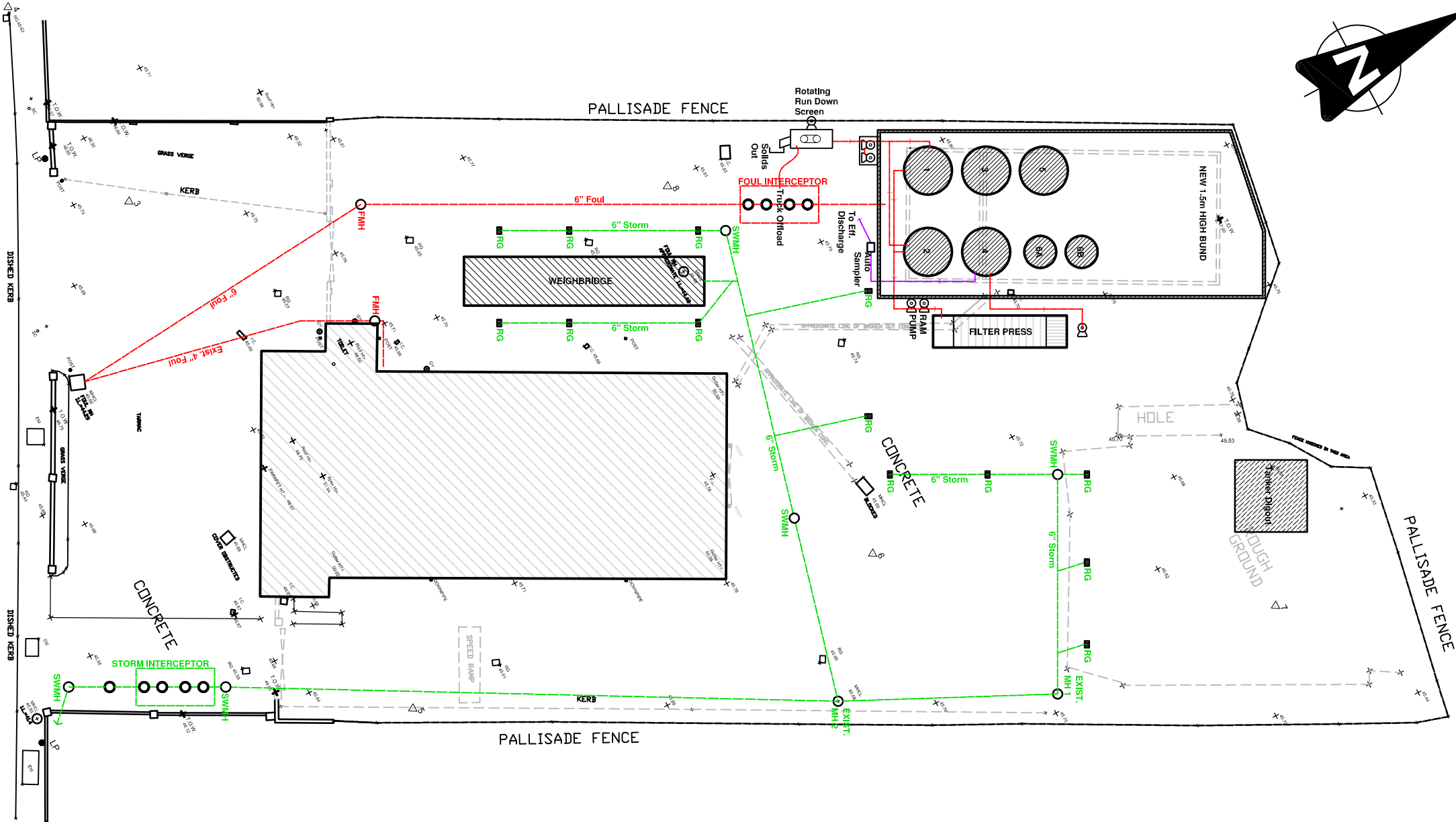
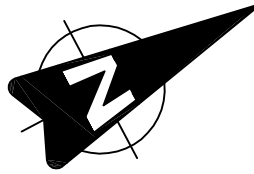
- Confirm whether incident is still occurring (when it was first noticed and duration etc)
- What is the pollution (appearance, smell, effect on surrounding environment, amount/volume)
- Pollution source
- Pollution pathway (air, land or water)
- Vulnerable receptors (river, road, industrial estate, town land etc)
- What action has been taken to minimize the emissions and to prevent the continuation or re-occurrence of the incident
- Determine likelihood of re-occurrence
- What emergency services were contacted
- What other regulatory bodies were contacted including Local Authority and Regional Fisheries Boards.
- Name and contact details of person notifying the incident.

Related documents and links

(see www.epa.ie/downloads/advice/licensee/epa_incident%2020guidance_20061.pdf)

Relevant Authorities Contact Numbers

Reporting to the Health and Safety Authority (HSA)	01 - 6147000
Reporting to Eastern Regional Fisheries Board	01 2787022
Reporting to South Dublin County Council	01 414 9000
Reporting to the EPA	1890 33 55 99
EPA (Dublin office)	(01) 2680100
EPA (Dublin office) (fax)	(01) 2680199



APPENDIX 8



CLOSURE, RESTORATION, AFTERCARE MANAGEMENT PLAN

**Enva Ireland Ltd,
JFK Road,
Naas Rd,
Dublin 12**

License no: W0196-01

March 2012



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1.0 INTRODUCTION & SCOPE STATEMENT

This Closure, Restoration, Aftercare Management Plan (CRAMP) has been prepared by Enva Ireland Ltd in respect of its facility in JFK Road, Naas Road, Dublin 12 in fulfilment of Condition 12.2 of Waste License number W0196-01.

An Initial Screening & Operational Risk Assessment has been carried out in accordance with the EPA guidance document on “Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision (2006)”. On the basis of the initial screening and operational risk assessment the Enva facility is classified as a Category 3 facility. As such this indicates that the full requirements for a Closure, Restoration and Aftercare Management Plan must be considered.

The scope of this risk assessment is the licensed activities covered under W0196-01. This plan shall be reviewed annually and any necessary inclusions to the scope will be accommodated accordingly.

1.1 Closure Scenarios

As the facility has only recently commenced operations no site closure is envisioned in the near future. In the event of ceasing waste license activities (due to site closure or otherwise) it is envisioned that this would involve clean closure of all site infrastructure associated with the waste activities.

2.0 SITE EVALUATION

A detailed description of site activities, site location etc is set out in the Waste License Application of the waste licence granted for the site in November 2004.

2.1 Facility Description & History

Enva operates a waste acceptance, processing and transfer station located on a 2500 m sq site in JFK Road, Naas Road, Dublin 12. Enva operates a 12 hour day for 6 days a week. Enva currently employs approximately 2 employees at the Dublin facility

Enva accepts the following wastes on site as per Schedule A 1 of its waste licence ref. W0196-01; waste oils, oily waters, process effluents and non hazardous wastes.

Surface water collection systems on site include a Class 1 interceptor, this interceptor collects all run off from the hard standing areas in the yard.

Effluent from the processing of waste oil and oily water is treated in the on site filter press plant prior to release to the sewer.

There is No known underlying contamination on site.

2.2 Facility Compliance Status

Enva have been operating under the conditions of its waste licence W0196-1 since it was issued the licence on the 23rd of November 2004. Enva, Dublin have never been convicted under the Environmental Protection Act or any other environmental legislation. Enva, Dublin are largely compliant with their waste licence reference W0 196-01.

The facility does not have a significant compliance history due to the lack of activity on the site. There were 0 non-conformities noted by the Agency in 2011 and one non-conformance with regard to mineral oils in the effluent discharge.

2.3 Facility Processes and Activities

The site processes consist of a processing plant for wastes such as oily water and process waters. Waste oil storage is also carried out in the main tank farm for onward movement to an Enva sister site.

All liquid waste (excluding waste oils) are treated by processing through a filter press. The resulting cleaned effluent is tested and discharged to the sewer.

A bunded racking area was installed in 2009 for the storage of packaged wastes (e.g. waste in drums, boxes, IBCs, FIBCs etc)

2.4 Inventory of Site Buildings, Plant, Raw Materials and Wastes

In the event of closure the following inventory would have to be considered:

- Office with associated welfare facilities
- Lockers and Showers for operatives and drivers
- Workshop
- Electrics room
- Washing machine area
- Oil transfer pumps and valves;
- A bunded tank farm consisting of 3 (50,000 litre) tanks, 1 (60,000 litre) tanks, 2 (7500 litre) tanks and 2 (20,000 litre) quarantine tanks.
- Dig out bay
- A bunded storage unit for the receiving and storage of packaged wastes.
- Weighbridge;
- Filter press treatment area.
- Surface water drainage network with oil interceptors.
- General stores area.
- Concrete surfacing.

3.0 CLOSURE CONSIDERATIONS

3.1 Clean or Non Clean Closure Declaration

In the event of permanently ceasing all waste activities at the site or in the event of full site closure, Enva would envision a clean closure. No wastes are buried on site and according to independent analysis of groundwater monitoring results; there is no contamination evident underlying the site.

Therefore it is expected that there would be no significant remaining environmental liabilities following full or part closure.

3.2 Plant or Equipment Decontamination Requirements

Following removal of all remaining waste i.e. liquid and packaged, waste tanks, bunds, pumps, associated pipe lines, valves and interceptors would be decontaminated and cleaned to a gas free standard where applicable. All process equipment will be electrically isolated. The decommissioning of the filter press process will take place once all effluents and rinse waters have been treated. The plant will be isolated but not physically disconnected from any incoming flow. A connection will be maintained for emergency purposes.

All non-process related material will be removed to another enva site for use or sent off site for appropriate disposal/recovery.

The garage/work shop area will have any waste removed from it and appropriately disposed of.

A CCTV inspection of storm water drains and gullies would be carried out and any residues washed to the oil interceptors as appropriate. Following this the interceptor would be cleaned as outlined above.

Any hazardous residuals such as the following

- Asbestos cement tiles in the warehouse roof – a survey of the roof will be undertaken prior to decommissioning of the site and recommendations followed where practicable.

3.3 Plant Disposal or Recovery

All plant items have inherent value for reuse within Enva Ireland Ltd or for sale to a third party as appropriate. Infrastructure such as the building, bunds, diversion tank, stormwater drains, groundwater monitoring wells, weighbridge, foul sewer network would remain in situ as they form part of the inherent capital value of the site and do not themselves present potential for environmental pollution.

Tanks, pumps, spill trays, laboratory equipment etc may either be removed for use on another Enva Ireland Ltd site or sale to third party or they may remain in place for use on-site (i.e. for non-waste activities).

3.4 Waste Disposal or Recovery

All wastes including those listed below will be dispatched to approved third party waste contractors. Recovery/reuse options for wastes will be sought in preference to treatment/disposal where this is possible and appropriate.

- Packaged wastes.
- Waste oil from bulk oil tanks.
- Sludge / residue from the interceptor.
- Washings from tanks, bunds, floors, equipment, and diversion tank.
- General refuse.
- Lab wastes.

Unused absorbent material for spillage control may be reused within Enva Ireland Ltd or sold to a third party.



4.0 CRITERIA FOR SUCCESSFUL CLOSURE

4.1 Addressing of Site Environmental Liabilities at Closure

Successful clean closure will be expected to be achieved when it can be demonstrated that there are no remaining environmental liabilities at the site. In practice this will require demonstration that the following criteria have been met:

- There are no residues which could pose an environmental hazard remaining on or within plant and equipment associated with waste activities.
- All wastes associated with licensed waste activities and with the cleaning and decontamination of plant and equipment as part of the closure have been removed off site to appropriately licensed facilities and carried by hauliers who have appropriate waste collection permits.
- Groundwater monitoring carried out following plant decontamination and waste removal indicates that no residual contamination exists within the soils or groundwater as a result of site activities.
- All relevant records relating to the closure have been retained on file.

5.0 CLOSURE PLAN COSTING

5.1 Decontamination Costs

Costs associated with decontamination of tanks, bunds, floors, drains, interceptors and would include detergent/caustic wash, labour, use of tanker / IBCs. Labour would be supplied from within Enva's own existing resources. Hire of a tanker and power washer would also be from within Enva's existing resources. Water and energy is supplied to the site and is not expected to present a significant cost over and above normal operating costs.

Desludging of the two oil interceptors would cost approximately €1,200

5.2 Plant & Waste Disposal Costs

As indicated earlier plant and equipment would have inherent value and in many cases would in fact add to the capital value of the site following closure. There are therefore no net costs associated with plant and equipment.

Waste oils and oily waters and packaged wastes from customers are accepted to the facility on a commercial basis. Thus costs of disposal are directly charged to the customer therefore there would be no net cost associated with disposal of these wastes.

The principal wastes for disposal would therefore be the waste washings from the decontamination activities. It is anticipated that there could be up to 5 tonnes of washings for disposal which would be treated and discharged from the facility. Sludge's from the cleaning out of tanks is estimated to create up to 20 tonnes of oily sludge's. These would have to be exported for disposal/recovery, the estimated cost of disposal/recovery is €70 /tonne amounting to €1,400.

The cleaning and decontamination of all the tanks on site is estimated to be approximately €4,500. This is based on 3 days required to carry out the cleaning of each tank at a cost of €1,500 for each day's activities.

Other wastes may include a small quantity of lab waste as well as general refuse. Estimated costs for these would be expected at less than €5,000.

5.3 On-going monitoring

It is not envisioned that any on-going monitoring would be required at the site. However, prior to closure the following monitoring and reports would be required to finalise the closure:

- CCTV of stormwater drains.
- One round of groundwater monitoring.

- Validation audit.

It is estimated that the costs of the CCTV would be of the order of €1,400 and the groundwater monitoring and report would be of the order of €1,000.

An independent audit will be carried out by external competent specialists in order to validate the implementation of the CRAMP. Costs of this are expected to be in the order €4,000.

5.4 Facility Security and Staffing

During closure facility security would be provided in the normal way and would not be expected to constitute additional costs. The site is surrounded with an 8 foot high palisade fence with two entrance gates which are operated by a fob system. The gates can additionally be padlocked if required.

Staffing would be provided from within Enva’s own resources for the purposes of decontamination and cleanup. No additional costs are envisioned in respect of this.

5.5 Summary of Costs

The total costs associated with this CRAMP are estimated as follows;

DESCRIPTION	COST
Cleaning and decommissioning of interceptors	€1200
CCTV and cleaning of underground pipelines	€1400
Cleaning of tanks and main tank farm bund	€4,500
Cleaning of bunds in the racked storage area and dig out bay	€550
Cleaning of run down screens	€650
Disposal of oily sludge’s	€1400
One round of ground water monitoring and report	€1000
Asbestos risk assessment of roof.	€1000
Validation audit and report	€4000
General waste disposal	€5,000
TOTAL	€20,700

6.0 CLOSURE PLAN UPDATE AND REVIEW

6.1 Proposed Frequency of Review

As per the waste license condition 4.3.1 it is proposed to review this CRAMP annually and to revise it whenever this is warranted due to significant changes to costs, site conditions, plant, infrastructure or waste activities.

6.2 Proposed Scope of Review

The annual review of the CRAMP referred to above will include the entire document.

7.0 CLOSURE PLAN IMPLEMENTATION

7.1 EPA Notification

In the event that closure is planned. Enva will notify the Agency in writing as soon as is feasible in advance of the closure. Enva would aim to ensure that this notification takes place at least one week in advance of implementing the CRAMP.

7.2 Local or other Statutory Authority notifications

The closure of waste activities at Enva Ireland Ltd in Dublin would not be likely to concern any other agencies or authorities. It is therefore not envisioned that any notification other than that mentioned in Section 7.1 above would be required.

7.3 Test Programme

There are no test programmes relevant to the closure.

7.4 Full or Partial Closure considerations

It is conceivable that a part of Enva's waste activities could be closed while others continue. In this event the plant, equipment, raw materials and wastes relating only to the part of the waste activities which are closed will be closed in accordance with this plan. For partial closure the specific components which are within the scope of the closure will be listed within the notification referred to in Section 7.1 above and validation against successful closure criteria will be carried out in respect of the listed items only.

8.0 CLOSURE PLAN VALIDATION

8.1 Closure Validation Audit

As part of the closure, Enva would employ an independent environmental specialist with experience and recognised qualifications as an environmental auditor (e.g. membership of IEMA or similar) to conduct a validation audit against the requirements of this CRAMP particularly the criteria set out in Section 4.1. The scope of the audit shall be the same as the scope of the closure.

8.2 Closure Validation Audit Report

An audit report would be prepared by the independent auditor clearly setting out the overall conclusions of the audit and specifying whether the audit criteria had been achieved.

8.3 Closure Validation Certificate

The closure will be deemed to be complete if all criteria set out in Section 4.1 have been deemed to be achieved in the auditor's report. This shall be regarded as certification of completion of the closure in accordance with this plan. The auditor's report will then be submitted to the Agency.

9.0 RESTORATION AND AFTERCARE MANAGEMENT PLAN (RAMP)

As indicated in Section 1, Enva is classified as a Category 3 risk site by default and therefore must consider the need for a Restoration and Aftercare Management Plan (RAMP). The EPA guidance document recognises that the majority, but not all, Category 3 facilities will require a restoration and aftercare management plan. In particular, the guidance document states that RAMP is needed for non-clean closure.

Enva Ireland Ltd would envision a clean closure for its Dublin waste activities and therefore would not envision the need for restoration or any aftercare. Part of the site closure plan includes verification that no significant contamination remains with soils/groundwater following closure. In the event that there are any remaining residues which could pose a hazard to the environment or that soil / groundwater contamination is discovered this situation will be reviewed.

9.1 Site Restoration and Aftercare Management Costs

In view of the above there are no anticipated costs associated with site restoration and aftercare management post closure.



Environmental Liability Risk assessment.

**Enva Ireland Ltd,
JFK Road,
Naas Rd,
Dublin 12**

License no: W0196-01

March 2012

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1. INTRODUCTION

1.1. General

Enva Ireland Limited (Enva) operates a waste licensed facility in JFK Road, Naas Road, Dublin 12 (see Appendix 1 for site location map) comprising of the following:

- Office with associated welfare facilities
- Lockers and Showers for operatives and drivers
- Workshop
- Electrics room
- Washing machine area
- Oily water/oil transfer pumps and valves;
- A bunded tank farm consisting of 3 (50,000 litre) tanks, 1 (60,000 litre) tanks, 2 (7500 litre) tanks and 2 (20,000 litre) quarantine tanks.
- Dig out bay
- A bunded storage unit for the receiving and storage of packaged wastes.
- Weighbridge;
- Filter press treatment area.
- Surface water drainage network with oil interceptors.
- General stores area.
- Concrete surfacing.

Environmental management of the site is regulated by the conditions prescribed in the sites Waste Management Licence Register No. W0196-01 issued on the 23rd of November 2004 by the Environmental Protection Agency (Agency). This site was previously owned by Mac Anulty Clear drains and purchased by Atlas Ireland, now known as Enva Ireland in June 2005

The original scope of the licence for this site was for a hydrocarbon treatment plant. This site had not been active the entire time since this licence has been granted.

Clause 12.2 of the Waste Licence requires the preparation and submittal to the Agency of an Environmental Liabilities Risk Assessment (ELRA).

Enva Ireland Ltd – Dublin - Environmental Liabilities Risk Assessment

Enva Ireland, JFK Road, Naas Rd. Dublin 12 a Waste Licence was granted (Register Number 196-01) on the 23rd of November 2004. Included in this licence was the provision to install a hydrocarbon treatment plant. These plans were revised once the site was purchased by Enva. The site currently is operating an oily water /process water treatment facility, tanker dig out bay and bunded area for the storage of packaged materials that may come on site in barrels, IBCs, ASPs, FIBC's etc.

1.2. Environmental Liabilities Risk Assessments

Any industrial site has the potential to generate environmental liabilities, i.e. damage to the environment, which must be remedied, such remediation being associated with a quantifiable financial cost.

Environmental liabilities may arise from *anticipated* or *foreseeable* events, i.e. known and quantifiable releases to the environment, which arise due to the day-to-day operation of the facility.

For a site subject to Waste Licensing, regular emissions to air, water and land have typically been the subject of detailed quantification and consequence analysis, i.e. assessment of the impact of emissions, during the licence application process. The resulting Waste Licence either establishes emission limits and other conditions at a level which prevents the arising of new liabilities, or which may require bonding or other secure funding mechanism to cover any expected liability. The latter case applies usually to, for example, on-site land filling activities.

Environmental liabilities may also arise from unanticipated or unforeseen events. Such events may be generally classified under the following headings:

- Events which are *sudden*, and which are identifiable as an incident or a series of related incidents, which give rise to an environmental liability concurrent with the incident or shortly thereafter;
- Events, which develop gradually or go unnoticed for a long period of time, which gradually gives rise to an environmental liability.

Examples of the former would include explosion/fire or accidental release of chemicals from a storage tank to a watercourse.

An example of the latter would be leaks in underground storage tanks or transfer lines, which would result in the gradual build-up of soil and/or groundwater contamination.

The costs of dealing with unanticipated or unforeseen events are usually issues which are addressed in the insurance cover for the industrial site in question. The degree to which existing insurance policies cover environmental liabilities depends on many factors including the specific wording of the policies and legal precedence. Most Public Liability insurance policies will contain some element of cover for environmental liabilities.

However, the extent and applicability of coverage is dependent on analysis of and professional judgement on the particular insurance policy.

Environmental liability risk assessment (ELRA) considers the risk of unplanned events occurring during the operation of a facility that could result in unknown liabilities materialising. Based on an initial risk categorisation of the activity into Low, Medium or High risk, different approaches are recommended according to the risk category. Simple approaches are proposed for low risk facilities to more detailed site-specific approaches involving detailed environmental liability risk assessment for higher risk facilities.

1.3. Basis for the ELRA

This report has been provided for the sole use of Enva and for submission to the EPA in accordance with the EPA guidance document entitled “Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision”.

The basis of this ELRA is as follows:

- A review of the activities carried out at the site, including process and services;
- A review of the following documentation:
 - Waste Licence Application Files;
 - Environmental Aspects and Impacts Register;
 - Environmental Management Programme;
 - HSE Management System Manual
 - Emergency Response Plan and Fire risk assessment
 - General Risk Assessments Register
 - Closure, Restoration, Aftercare Management Plan
 - Bund Integrity Report; and,
 - Operational Procedures.
- Identification of existing and potential hazards, including evaluation of materials and wastes generated; and,
- Consideration of historic environmental incidents and remediation works undertaken.

Based on the desk-based study research and a site inspection, a thorough assessment was made of potential environmental liabilities requiring remediation to which costs could be assigned. Remedial actions are described for these and remediation or corrective costs are identified.

1.4. Key Considerations

There is a reasonable degree of subjectivity and uncertainty involved in Environmental Liabilities Risk Assessment so it is important to identify at an early stage that the following was taken into account:

Enva maintains site conditions in accordance with their Waste License No. W0196-01 and has an Environmental Management System (EMS) accredited to ISO 14001. No provision has been made for costs associated with any criminal proceedings that could arise, as firstly, there is goodwill and a strong desire by Enva to remain compliant with relevant legislation and EPA requirements, and secondly, such costs are uninsurable and therefore cannot be underwritten by any third party or insurance organisation.

The ELRA has been based upon historic and current operational activities. It does not consider potential environmental liabilities associated with significant changes in use of the site, such as redevelopment for other commercial or industrial purposes by Enva or any other party, as these would require a

separate risk assessment exercise should they arise. Furthermore, the ELRA does not include a costing of the decommissioning and oversight of the facility in the event of a full site closure.

1.5. Structure of the ELRA

The ELRA report is structured as follows:

Section 2 provides an overview of the Enva facility including details of existing processes, buildings and structures present on the site at the time this report was prepared.

Section 3 describes the initial screening and operational risk assessment carried out for the facility.

Section 4 provides an overview of the historical environmental liabilities at the facility.

Section 5 provides an overview of the existing measures in place at the site to minimise possible environmental liabilities associated with the facility.

Section 6 described the site specific risk assessment, which was carried out for the facility. It includes section on Risk Identification, Occurrence Likelihood, Severity Assessment, Risk Evaluation and Prevention/Mitigation

Section 7 describes the financial provisions in place to deal with any unknown liabilities and identifies possible gaps between the level of cover provided and the level of risk associated with the facility.

Section 8 provides a summary and conclusion.

2. OVERVIEW OF ENVA

2.1. Site Location & Site History

Enva operates a waste acceptance, processing and transfer station located in JFK Road, Naas Road Dublin 12.

Prior to Enva Ireland Ltd. acquiring the site, the licence for the site had not been activated. The previous owner of the site operated an underground drain cleaning company from the site however no processing was carried out.

2.2. History of Enva

Enva can trace its history back to 1972, when Atlas Waste Oil was set up to collect waste oil primarily from the automotive industry, making it the longest standing hazardous waste management company in Ireland. The original waste facility was established in Portlaoise in 1978 initially to process waste oil.

In 1987, the company was purchased by Irish sales marketing and business support services group DCC plc, and between 1988 and 2000, services grew to include; Industrial and Automotive Services; Field Services; Environmental Products and Emergency Response. In 1999 Atlas Oil was issued an IPPC licence. In 2000, the facility in Portlaoise was awarded the first and only license for off-site treatment of petroleum contaminated soil by the EPA. In 1994 the Portlaoise facility was issued a Waste Licence ref 184-01 under which it currently operates

As part of DCC's ongoing expansion of DCC Environmental, Cork based water and effluent treatment firm Envirotech, was purchased in 2001. In January 2003, DCC acquired Shannon Environmental Services. This company based in Shannon provides key hazardous waste infrastructure in Ireland. The Shannon facility offers a range of Physico-Chemical and Biological treatment & disposal options.

In May 2005 Atlas (re-branded as Enva) and purchased the waste licensed facility in Dublin which is the focus of this ELRA. The facility currently acts as facility for processing oily waters/effluents/process waters. An upgrade of the facility has been carried out including the installation of a mass concrete bunded area, the installation of tanks for processing, installation of a bunded tanker dig out bay and a racking area for the storage of packaged wastes.

2.3. Site and Process Description

Enva operates a waste acceptance, processing and transfer station located in JFK Road Naas Road, Dublin 12. The facility may operate a 12 hour day for 6 days a week. Enva Dublin currently employs 2 people based from the site.

Enva accepts the following wastes on site as per Schedule A 1 of its waste licence ref. W0196-01; waste oils, oily waters, process effluents, non hazardous wastes such as grease trap wastes and other packaged hazardous and non hazardous materials.

The site has currently a limited capability for the performance of effluent and waste sample analysis.

The main features of this facility are summarised as follows:

- Office and Laboratory with associated welfare facilities
- Lockers and Showers for operatives and drivers
- Workshop
- Electrics room
- Oil transfer pumps and valves;
- A bunded tank farm consists of 3 (50,000 litre) tanks, 1 (60,000 litre) tanks, 2 (7500 litre) tanks and 2 (20,000 litre) quarantine tanks.
- Sludge bay for tanker dig out
- A bunded storage unit for the receiving and storage of hazardous waste materials
- Weighbridge;
- Bunded effluent treatment
- Surface water drainage network with oil interceptors
- Concrete surfacing

3. SCREENING AND OPERATIONAL RISK ASSESSMENT

3.1. General

As a starting point in the process, a relatively simple risk assessment decision matrix can be used to classify sites into Risk Categories (1-3) and thereby select the specific ELRA and Financial Provision (FP) requirements that will be needed. The risk assessment decision matrix outlined in the EPA ELRA Guidance Document 2006 was used.

The risk category assigned to the facility depends on the complexity of operations at the site, the environmental sensitivity of the receiving environment and the compliance record of the facility.

- **Complexity** – the extent and magnitude of potential hazards present due to the operation of the facility (e.g. a function of the nature of the activity, the volumes of hazardous materials stored on site etc.). A Complexity

Band (G1 least complex to G5 most complex) for each class of activity has been assigned and included in a Look-Up Table (Appendix B of the EPA ELRA Guidance Document 2006).

- **Environmental Sensitivity** – the sensitivity of the receiving environment in the vicinity of the facility, with more sensitive locations given a higher score (e.g. the presence of aquifers below the site, groundwater vulnerability, the proximity to surface water bodies and their status, the proximity to sensitive human receptors, etc). The Environmental Sensitivity is calculated on a site-specific basis using a sub-matrix (Table 3.1).
- **Compliance Record** – the compliance history of the facility. Each aspect is multiplied to give the **Total Score** for the facility, and this can be used to place the facility into an appropriate Risk Category as follows:
 - Risk Category 1 = Score < 5
 - Risk Category 2 = Score 5-23
 - Risk Category 3 = Score > 23.Once this has been completed, the licensee proceeds through the relevant steps of ELRA and FP that are considered appropriate for the Risk Category.

3.2. Complexity

Significant work has been done by the Environment Agency (England and Wales) in the development of the Environmental Protection Operator and Pollution Risk Appraisal (EPOPRA) methodology for classifying activities, and a similar but shortened version of this methodology has been developed for this process. Complexity Bands have where available, been derived from similar classification in the EP OPRA Complexity Score. A look up table for Irish activities has been included in Appendix B of the EPA's ELRA Guidance Document 2006.

The Complexity Band is used to determine the value used in the Operational Risk Assessments as follows: G1 = 1, G2 = 2, G3 = 3, G4 = 4 and G5 = 5

In November 2004, Enva Dublin were granted a Waste License Registration No. W0196-01, under Classes 7, 11, 12 and 13 in accordance with the Third Schedule of the Waste Management Acts 1996 to 2003 and Classes 3, 4, 6, 8, and 13 in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2003.

The relevant complexity band for Enva according to the EPA's ELRA Guidance Document 2006 is based on the following:

The following are activities that Enva are licensed to undertake under the following classes;

Class 7 (3rd schedule) Physico-chemical treatment not referred to elsewhere in this schedule which results in final compounds or mixtures which are disposed

of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 8 to 10 of this schedule (including evaporation, drying and calcinations)

This activity refers to the treatment of process waters and effluent via filter press for release to the sewer.

Class 11 (third schedule):

Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule: This activity is limited to the use of wastes obtained from any activity referred to in a preceding (paragraph of this Schedule for onward recovery, on or offsite, subject to the agreement of the Agency.

This activity is currently not carried out on site

Class 12 (third schedule)

Repacking prior to submission to any activity referred to in a preceding paragraph of this Schedule. Currently this is not carried out.

This activity is currently not carried out on site

Class 13(third schedule)

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.

This activity is limited to the storage of waste oils and /or fuels, packaged wastes prior to submission to a recovery activity.

Class 3 (fourth schedule):

Recycling or reclamation of metals and metal compounds

This activity is currently not carried out on site

Class 4 (fourth schedule):

Recycling or reclamation of other inorganic materials:

This activity is currently not carried out on site.

Class 6 (fourth schedule)

Recovery of components used for pollution abatement

This activity is currently not carried out on site.

Class 8 (fourth schedule)

This activity is currently limited to the storage and separation of oils and oily waters, resulting in the production of effluent, and where generated waste oils/fuels

Class 13 (fourth schedule):

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 (third & fourth schedule).

This activity is limited to the storage of waste for onward movement.

Based on the information above and the EPA's ELRA Guidance Document 2006, the relevant complexity band for Enva according to this activity is G5. More than one scheduled activity is carried out on site and Enva has also the capability to store >10, 000 tpa of hazardous waste destined for recovery/disposal. This is deemed to be a Class 13 activity as listed in the third and fourth schedules. Based on this information, Appendix B of the EPA's ELRA Guidance Document 2006 places Enva Dublin in the G5 complexity band in accordance with guidance document the G5 complexity band gets a score of **5**.

3.3. Risk Category

As a result of the assignation of a G5 to this site, the sites risk category is automatically a Category 3 as defined under Section 2.1 Step 1: Initial Screening and operational risk assessment.

Note: In accordance with the guidance it is not necessary to assess the environmental sensitivity or compliance history for the site as the complexity of the site is falling into Category 3

4. HISTORICAL ENVIRONMENTAL LIABILITIES

4.1. Releases to Air

With regard to sudden and accidental releases to air, there is no history of:

- Major fires or explosions at the site due to processing activities.;
- Run-away reactions resulting in significant discharge to atmosphere;
- Significant accidental releases of hazardous gases.

Based on a review of the sites activities there is no evidence to suggest that site operations have resulted in the development of any off-site environmental liability with respect to air emissions.

4.2. Process Water

There have been no discharges from the site prior to the commencement of effluent processing in 2009.

Therefore there is no evidence to suggest that process wastewater releases from the site have had any impact or resulted in an environmental liability.

4.3. Surface Water Discharges

With regard to sudden and accidental discharges, there is no history of:

- Major incidents at the site resulting in significant discharges to the surface water. Enva have drafted a fire water retention plan, in order to complete this, consultation must be carried out with Dublin Fire brigade, this will give a better idea of the sites capability in the event of generating fire water run off.
- Due to the limited activity which took place on site there is no evidence to suggest that surface water releases from the site have had any significant impact or resulted in an environmental liability.

4.4. Releases to Ground/Groundwater

As this site has not been used for processing there is a very low risk of groundwater contamination. One ground water well was installed as a part of the site licence requirements. Upon installation of this well it was found that there were no indications of contamination of the soil extracted when installing the well and there were no indications of hydrocarbons present in the water sample taken at the time. The bore hole was installed to the south west of the main tank farm as agreed with the Agency.

Currently it is deemed that there are no significant threats to ground water from historical site activities.

5. EXISTING ENVIRONMENTAL CONTROLS AT ENVA

5.1. General

Enva, have a Health, Safety and Environmental Policy that covers all it's facilities in Ireland. The policy aims to instil high environmental values in all employees, utilising the best environmental practices in processing and contributing to global sustainable developments.

Since the purchase of the site there have been significant improvements made to the sites infrastructure, this includes

- Office and small scale laboratory with associated welfare facilities
- Lockers and Showers for operatives and drivers
- Electrics room
- Upgrade of existing bunded area to comply with site licence bunding standards.
- Replacement of large areas of yard surfaces and re-instatement of pipelines and extension of existing surface water collection system.
- Installation of bunded storage unit for the receiving and storage of packaged waste materials
- Installation of Weighbridge;
- Installation of filter press process for the treatment of waste waters.

5.2. Environmental Management

Enva operates an integrated approach to the management of environmental aspects of the site, and environmental protection and compliance is always a key consideration.

The environmental management system is based on a combination of technical measures, documented environmental management programmes and documented procedures, whose objectives include:

- Complying with all the requirements of the site waste licence,
- Eliminating the risk of accidental events which could give rise to significant releases to the environment, and
- Ongoing continuous improvement of site environmental performance.

5.3. Releases to Atmosphere

There are no process emissions to atmosphere therefore the risk of releases to the atmosphere are limited to minor fugitive emissions.

5.4. Releases to Surface Water and Groundwater

All storm water runs to the site drainage system and is discharged to municipal surface water system having first passed through a two-stage oil interceptor fitted with coalescence filters. In the event of large volumes of contaminated firewater being generated the interceptor release valves can be manually shut off.

Storm drains are monitored on a daily basis as per license requirements. Significant process operations and storage of wastes are within bunded areas.

The main waste processing area currently in use is bunded to 110 % of it's largest tank, the existing bund has significant additional capacity if required. All surface water outside of the current tank farm, tanker dig out bay and racked storage area is directed to surface water interceptor.

Envas waste licence Schedules C.2. and D.3. sets out emission limit values and monitoring requirements in relation to surface water. Enva are compliant with these licence limits.

5.5. Emergency Planning/Preparedness

The site has a documented Emergency Response Plan (ERP). The ERP describes the emergency response system onsite and also contains specific action plans in the event of particular incidents such as fire/explosions, chemical spillage or medical emergency. The priority in the event of any emergency situation will be to ensure the safety of all people potentially affected by the incident, whether they are on-site or outside the site boundary. After this, the aim will be to prevent releases of pollutants and prevent damage to property or the environment.

The primary front line of defence against most emergency situations (such as fires and some major spills) will be the local Fire Services. No Enva personnel are expected to carry out front line defence in major emergency situations.

A permit to work system is in place on site and all staff have received fire extinguisher training. Full evacuation drills are held periodically to familiarise employees with evacuation requirements and to ensure head counts are completed effectively.

Consultation was carried out with Dublin fire brigade and no significant issues arose. It was deemed that should a water supply be needed for the site that there was more than adequate supply available within the estate to fight any potential fire on site given the current activities on site.

5.6. Prevention of Fire

5.6.1. Procedures

The plant ERP specifies the actions taken on discovering a fire or other emergency. The ERP includes the activation of fire alarms, the intruder alarm, evacuation and assembly requirements. Fire prevention is emphasised by engineering design, work permit restrictions, work practices, and ongoing audits of processes taking into consideration fire risk and safety awareness. Standard operational procedures (SOPs) and Safety Data Sheets (SDSs) specify emergency response requirements for various materials being used.

5.6.2. Training

All employees and contractors working on site are provided with induction training. The contents of the induction course include the following;

- HSE Manual and Policy
- Enva audit for ISO 14001 and OHSAS 18001
- Environmental requirements
- HSE requirements
- Emergency Response Plan

Only employees and contractors trained in the equipment, plant or machinery that they intend to operate are permitted to use it. Training must also be received in the procedures and risk assessments to which these items and activities relate before being permitted to use them. A training programme is in place to ensure each employee is made aware of HSE requirements related to their work activities. Job specific HSE training is also provided for relevant employees. This consists of training on appropriate risk assessments, standard operating procedures (SOPs), external task specific training and awareness training relating to our business.

Employees also receive training on the permit to work system in place on site and all staff has received fire extinguisher training. Full evacuation drills are held periodically to familiarise employees with evacuation requirements and to ensure head counts are completed effectively.

Considerable time and resources are utilised in the provision of training across the company. An annual training needs assessment is carried out and covers all personnel within the company. This is carried out by the HSE Department in conjunction with Line Managers and supervisors. A training plan is then drafted for the year ahead and courses organized accordingly.

The delivery of training involves both external training using training contractors in providing industrial task related training and internal training focusing on company specific procedures.

5.6.3. Equipment

The plant fire protection system includes a fire detection system for the main office and stores area.

Enva have a security monitoring system in place that operates after hours on site. The gate at the main entrance to the site operates using a secure key system provided to authorised members of staff

5.6.4. Firewater Retention

A fire water retention study was drafted and submitted to the Agency in 2009. Consultation with Dublin Fire brigade with regard to this site did not raise any concerns upon inspection by the Pre-fire planning section. Water sources are located nearby within the estate to fight any fire. No further corrective actions were deemed necessary from the site visit.

5.7. Hazard Studies

Enva have a register of risk assessments for this site. The register of risk assessments includes environmental risk assessments such as this ELRA. The register lists actions to be taken on identified risks and outlines progress made to date.

6. SITE SPECIFIC ELRA ASSESSMENT

6.1. General

Enva Dublin is classified as a Risk Category 3 facility. The objectives of the ELRA are:

- To identify and quantify environmental liabilities at the facility focusing on: unplanned, but possible and plausible events occurring during the operational phase;
- To calculate the value of financial provisions required to cover unknown liabilities;
- To identify suitable financial instruments to cover the identified financial provisions; and
- To provide a mechanism to encourage continuous environmental improvement through the management of potential environmental risks.

The methodology presented in the EPA, ELRA Guidance Document, 2006 will be outlined in the preceding section of this report. It includes a Risk Management Programme for the mitigation and management of any environmental liabilities identified at Enva. This programme is not required for the calculation or implementation of a financial provision at a facility. However, such a programme would encourage continuous environmental improvement and the reduction of environmental liabilities.

The ELRA will cover environmental risks leading to a potential or anticipated liability.

Environmental risks will be deemed to cover all risks to surface water, groundwater, atmosphere, land and human health.

6.2. Methodology – Risk Identification, Likelihood and Consequence

The following steps were undertaken as part of the site-specific ELRA;

- Risk Identification
- Risk Classification (includes an Occurrence Assessment and a Severity Assessment)
- Risk Evaluation
- Risk Prevention/Mitigation

6.2.1. Risk Identification

Risks were identified on the site through a combination of:

1. What-if analysis - A suggested method of carrying out this process is to initially identify all the 'processes' on site, list the hazards associated with each process, identify potential causes of failure of the processes and analyse the potential impacts on the environment.

Table 6.1 Example Hazard Identification Table

Risk ID	Potential Hazard	Environmental Effect
1	Describe scenario for occurrence of potential liability e.g. spill of solvent from solvent storage tank	Describe consequence of proposed scenario e.g. spill of solvent goes to surface water.

6.2.2. Risk Classification-Occurrence Analysis

Having identified the potential risk, the likelihood of its occurrence needs to be assessed.

An analysis of historical data and existing environmental controls, as outlined in previous actions of this report, was utilised when estimating *likelihood* of identified potential risks occurring at Enva. The following table defines various likelihoods of occurrence:

Table 6.2 Risk Classification Table - Occurrence

<i>Rating/ Score</i>	<i>Category</i>	<i>Description</i>	<i>Likelihood of Occurrence (%)</i>
1	Very Low	Very low chance of hazard occurring in 30 yr period	0-5
2	Low	Low chance of hazard occurring in 30 yr period	5-10
3	Medium	Medium chance of hazard occurring in 30 yr period	10-20
4	High	High chance of hazard occurring in 30 yr period	20-50
5	Very High	Greater than 50% chance of occurring in 30 yr period	>50

6.2.3. Risk Classification-Severity Assessment

Once the environmental impact had been identified one of the following consequences is assigned.

Table 6.3 Risk Classification Table - Severity Criteria

Rating/ Score	Category	Description	Cost of Remediation (€)Note 1
1	Trivial	No damage or negligible change to the environment	<10,000
2	Minor	Minor impact/localised or nuisance	10,000-100,000
3	Moderate	Moderate damage to the environment	100,000-500,000
4	Major	Severe damage to the environment	500,000-1,000,000
5	Massive	Massive damage to a large area, irreversible in medium term	>1,000,000

Note 1 – Costs specific to Enva

6.2.4. Risk Evaluation

Having identified the hazard and decided on its likelihood and severity, the significance of the risk is assigned. A risk score is determined by multiplying the occurrence score by the severity score. The risk scores can be tabulated in a risk matrix.

Occurrence	V. High	5					
	High	4					
	Medium	3					
	Low	2					
	V. Low	1					
				1	2	3	4
			Trivial	Minor	Moderate	Major	Massive
			Severity				

Where:

- **Red** – These are considered to be high-level risks requiring priority attention. These risks have the potential to be catastrophic and as such should be addressed quickly.
- **Amber / Yellow** – These are medium-level risks requiring action, but are not as critical as a red coded risk.
- **Green (light and dark green)** – These are lowest-level risks and indicate a need for continuing awareness and monitoring on a regular basis. Whilst there are currently low or minor risks, some have the potential to increase to medium or even high-level risks and must therefore be regularly monitored and if cost effective mitigation can be carried out to reduce the risk even further this should be pursued.

For all identified risks appropriate financial provision must be made to address any associated liabilities. With regard to ‘medium’ and ‘high’ risks the ELRA must detail how these risks will be minimised to acceptable levels.

6.2.5. Risk Prevention/Mitigation

Mitigation measures are assigned to each risks and each Risk Score is revised using post-mitigation severity and occurrence rankings. The risks are then re-ranked and tabulated in the risk matrix to illustrate the overall degree of risk reduction resulting from the risk mitigation measures. Where appropriate, the mitigation measures are accepted or implementation. A Risk Management Programme is then prepared for the ongoing management of risks and the implementation of risk mitigation measures. Target timeframes are also allocated for the implementation of each risk mitigation measure.

6.3. Identification of Risks at Enva

'Processes' on the Enva, Dublin site were identified, the hazards associated with each process listed along with the identification of any potential causes of process failures. If any effect to the environment could be identified from the failure, the effect was analysed and this was listed as a risk. A Risk Register was then developed which contained all of the Risks identified on site.

The costs associated with the known environmental liabilities (e.g. closure and aftercare costs) for the Enva facilities were calculated through the preparation and costing of the Closure, Restoration and Aftercare Management Plan (refer to Site Specific CRAMP).

Each process was considered separately and a 'what if' analysis was utilised to identify all risks associated with the process in question. A list of risks was developed and these were entered into a Risk Register. Table 6.4 illustrates the Risk Register.

Table 6.4 Enva Risk Register Risk

Risk ID	Potential Failure Mode
1	Spill occurring during loading/unloading of waste into or from the tank farm.
2	Failure in a bulk storage tank with in the tank farm
3	Loss of integrity of bunded area
4	On site fire.

These risks were assessed against the risk classification tables (RCT's) as provided in Table 6.2 and 6.3. The risk classification table was designed to reflect the critical levels of risk appropriate to the Enva site. Ratings, taken from the relevant risk classification table, were applied to the severity and likelihood of occurrence of each risk

Table 6.5 below illustrates the assessment carried out for each risk in terms of its severity and likelihood of occurrence.

Table 6.5 Enva site Risk Assessment

Risk ID	Process	Potential Hazard	Environmental Effect	Occurrence Rating	Basis of Occurrence	Severity Rating	Basis of Severity
1.	Loading or unloading of wastes into the main tank farm and racked storage area	Spill of oily waters/waste oil.	Contamination of surface water, ground water and soil	2	Bulk liquid waste is offloaded from tankers to the tanks in the tank farm. Wastes are offloaded and placed in the racked storage area.	2	Impact would be limited to site. Spillage is onto concrete surfacing and could be controlled immediately. Unloading supervised at all times
2	Failure of Bulk storage tank in the tank farm.	Spill of oily waters/oils into tank farm	Release of waste into the tank farm there is not deemed to be any effect on the environment.	1	Tanks are used for the storage of all the bulk liquid waste which comes on site.	1	Tanks are within a bunded storage area Tank integrity assessment is completed every three years as required by the licence. High level alarms are in place on all tanks.
3.	Loss of integrity of bunded area	Potential spill of waste to un bunded area	Release to ground water and soil	1	Tank farm is newly constructed and is subject to inspection every three years.	3	Site drainage is provided with an oil water interceptor which will automatically close when oil enters the system.

Risk ID	Process	Potential Hazard	Environmental Effect	Occurrence Rating	Basis of Occurrence	Severity Rating	Basis of Severity
4.	Fire	Potential fire on site	Release of fire water and contaminants to surface water, ground water/soil.	2	Waste stored on site is not classified as flammable material. Fire detection system is in place for the main office building. Site is protected with fencing on all boundaries and CCTV is in place.	2	Fire Water could be contained with the site bund.

6.4. Assessment of Risks at Enva

6.4.1. Risk Register

The risk register below ranks the risks in order to prioritise mitigation and management measures.

Table 6.6 Risk Register ranked by Risk Score

Risk ID	Description	Occurrence Rating	Severity Rating	Risk Score
1	Loading or unloading of wastes into the main tank farm and racked storage area	2	2	4
4	Fire	2	2	4
3	Loss of integrity of bunded area	1	3	3
2	Failure of Bulk storage tank in the tank farm.	1	1	1

6.4.2. Risk Matrix

The risk matrix below indicates the critical nature of each risk. (Risk ID's from the Risk

Register have been used to complete this matrix.)

Table 6.7 – Risk Matrix

OCCURRENCE	V.High	5					
	High	4					
	Medium	3					
	Low	2		Risk ID 1 & 4			
	V.Low	1	Risk ID 2		Risk ID 3		
			1	2	3	4	5
			Trivial	Minor	Moderate	Major	Massive
SEVERITY							

Where:

Red is a high level risk.

Yellow is a medium level risk.

Green (light and dark) is a low level risk.

Table 6.7 above indicates that there are currently no risks identified in the red zones or yellow zones requiring priority attention. This is as a result of existing environmental controls in place at the site. All risks identified are located in the (dark and light) green zone indicating that these are currently low risk. However, it is important to note that these risks are considered low risk as a result of existing control measures employed at the site aimed at reducing/eliminating both the occurrence and where this is not possible the severity of these risks. There is a need for continuing awareness and monitoring of these risks on a regular basis.

6.5. Risk Prevention, Mitigation and Management

The risk assessment and categorisation phase identified no red or yellow zone risk, which requires immediate action. All risks were classified in the (dark and light) green zone risks and require monitoring on a regular basis.

However, the (dark and light) green zone risks may have the potential to increase to yellow or red zone risks, and where additional risk management measures are available to manage them at their current levels or reduce them further, these may be implemented if considered cost-effective.

Table 6.8 illustrates the risk mitigation measures, which have been identified or are currently in use at the site. This table provides the risks in descending order of risk score with the proposed mitigation measure.

Table 6.8 Risk Mitigation Form

Risk ID	Process	Potential Hazard	Risk Score before Mitigation	Existing/Possible Mitigation measures	Risk Manager	Time to Complete	Revised Risk Score
1	Loading or unloading of wastes into the main tank farm tanker, racked storage area	Potential Spill	4	<p>Only trained operatives control the system.</p> <p>Off loading is not permitted until approved by Enva.</p> <p>All surface run off is directed to an oil water separator which automatically closes if oil is present.</p> <p>Offloading is monitored at all times therefore any potential spills can be controlled immediately.</p> <p>Spill kits are in place on site for control of any minor spills.</p>	HSE & Compliance Manager	Ongoing/Existing practise.	4
4	All activities	Fire	4	<p>Waste stored in the tank farm area is not classified as flammable and therefore the risk of fire from the main processing activity is deemed as being low.</p> <p>All packaged wastes are segregated appropriately in accordance HSG 71.</p> <p>Storage/garage and offices have a fire detection system in place.</p>	HSE & Compliance Manager	Ongoing/Existing practise.	4

				Fire water can be directed to the tank farm for collection.			
3	Storage of bulk liquid waste	Loss of integrity of bunded area	3	<p>Bund area is subject to three year inspections.</p> <p>Bund is newly constructed, damage likely to be noticed by personnel working daily in the bund and surrounding area. Surface of the yard is sealed and repaired routinely.</p> <p>Spill kits are located on site for any small spill which would occur.</p> <p>Emergency response procedure in place.</p> <p>Discharge from the site can be contained by manually shutting off the surface water discharge.</p> <p>Surface water drains to the oil/water interceptor will automatically close should the oil be present .</p>	HSE & Compliance Manager	Ongoing/Existing practise.	3
2	Storage of bulk liquid waste	Failure of Bulk storage tank in the tank farm.	1	<p>All tanks are located with in the tank farm which is built to hold 110% of the largest tank.</p> <p>Currently the tank farm significant extra capacity.</p> <p>All tanks are fitted high level alarms.</p>	HSE & Compliance Manager	Ongoing/Existing practise.	1

The risk matrix below remains unchanged from that presented in figure 6.7.

Table 6.8 – Risk Matrix

OCCURRENCE	V.High	5					
	High	4					
	Medium	3					
	Low	2		Risk ID 1 & 4			
	V.Low	1	Risk ID 2		Risk ID 3		
			1	2	3	4	5
			Trivial	Minor	Moderate	Major	Massive
SEVERITY							

Where:

Red is a high level risk

Yellow is a medium level risk

Green (light and dark) is a low level risk

The control measures and monitoring techniques employed at the site to deal with the risks identified were deemed adequate and these risks remain unchanged, however, this does not take away the need for continuing awareness and monitoring on a regular basis of these risks.

6.5.1. Quantification of Unknown Environmental Liabilities

The costs associated with the known environmental liabilities (e.g. closure and aftercare costs) for the Enva facility were calculated through the preparation and costing of the Closure, Restoration, Aftercare Management Plan (refer to Site Specific CRAMP prepared for Enva).

For the unknown liabilities identified in this report a financial model is necessary to estimate the environmental liability associated with these risks.

Each Risk has two characteristics that are derived from the Risk Classification Tables (See tables 6.2 and 6.3) that is used in the financial models:

- The range in probability (X-Y%) of the risk occurring
- The range in cost implications (€A-B) if the risk occurs

The requirements of the financial model must first be defined in terms of worst, most likely or best case scenarios. If the model is for the worst case scenario, then the higher end of each range is used in the calculations, if the model is for the most likely case then the median of each range is used and similarly if the best case scenario is required then the lower end of each range is used resulting in the lowest cost.

The simplest form of financial model can be based on simply multiplying the minimum, median or maximum value of each range for each Risk (depending on the scenario considered) and totalling the values for each Risk in the Register. For the Enva facility the worst case scenario was calculated. Table 6.10 illustrates how the financial output for the worst case scenario is calculated. From this, financial instruments for unknown liabilities can be selected as outlined in Section 7 of this report.

Table 6.10 - Worst Case Scenario Financial Model

Risk ID	Potential Hazard	Occurrence Rating	Likelihood of Occurrence Range	Severity Rating	Cost Range (€)	Worst Case Probability	Worst Case Severity (€)	Worst Case Cost (€) ^{Note 1}
1	Loading or unloading of wastes into the main tank farm and racked storage area	2	5-10	2	10,000-100,000	10%	100,000	10,000
4	Fire	1	0-5	2	10,000-100,000	5%	100,000	5,000
3	Loss of integrity of bunded area	1	0-5	3	10,000 –100,000	5%	100,000	5,000
2	Failure of Bulk storage tank in the tank farm.	1	0-5	1	<10,000	5%	10,000	500
Total worst-case cost of unknown liabilities								20,500

Note 1: The financial provision was estimated using the guidance document provided by the EPA. It is noted that this is an estimated cost potential based on estimated probability of a risk occurring and estimated magnitude of any resulting environmental liability. It is the opinion of Enva that liabilities in excess of the total shown on the table above could conceivably occur and that consequently financial provision in excess of this figure will be maintained by the site.

7. FINANCIAL PROVISIONS

In the preceding sections the site sensitivity, known historic environmental liabilities and the measures, both technical and managerial, currently in place to eliminate/reduce the risk of new environmental liabilities arising have been summarised.

It can be concluded that the site environmental and safety management system are robust in terms of preventing the development of any new significant off-site environmental liability.

In the following sections, we will discuss the financial provisions at the site and whether these provisions are adequate to satisfactorily address the liabilities identified in section 6.

7.1. Current Financial Provisions

Enva is a wholly owned subsidiary of the DCC. DCC was founded in 1976 and was listed on the Irish and London stock exchanges in 1994. DCC is headquartered in Ireland and currently employs approximately 7,200 people. Revenues from DCC existing activities exceeded 6400 million and maintained an operating profit of over 180 million in 2008/09.

DCC maintain various insurance policies, which provide a range of cover subject to certain exclusions, excess and warranties. These insurance policies provide a range cover for all DCC sites, subsidiaries or associated companies. There are a number of policies which provide cover for the following risks:

- Employers liability
- Public/Products Liability;
- Motor Insurance;
- Engineering Combined.

The public/products liability provides indemnity in respect of legal liability for accidental bodily injury to any person or accidental loss or damage to property arising from the performance of the contract work (i.e. activities undertaken by Enva as defined in the Insurance policy). The policy has a limit of indemnity of €13,000,000. The policy is subject to an excess of €15,000 each and every claim.

The policy provides limited cover in respect of pollution or contamination risks in that cover is only provided where same has been caused by a sudden identifiable unintended and unexpected incident which takes place in its entirety at a specific time and place during the period of insurance. The liability of the underwriter for all damages and compensation payable in respect of all Pollution or Contamination which is deemed to have occurred during the period of insurance shall not exceed €13,000,000.

7.2. Assessment of Enva Financial Provision

The environmental liabilities identified and assessed in this report (refer to Section 6) are in the main unforeseen or unanticipated events that could occur suddenly as a result of an accident or failure of control systems. Other liabilities identified are the result of gradual and unforeseen discharge consequent upon

failure of control systems, which may result in a discharge to the environment such loss of integrity of banded areas over time.

Having consideration for the worst-case costs calculated in Table 6.10, a comparison of existing financial provisions presented in Section 7.1 above may be made with the type of unknown liabilities identified at the site.

Risk Type	Existing Enva Financial Provision	Comment
Immediate, sudden and unforeseen discharge consequent upon an accident.	DCC UK and Ireland Insurance policies Insurance - Public/Products Liability	Each claim has an excess of €15,000 which must be paid by Enva.
Gradual unforeseen discharge consequent upon failure of control systems.	Financed internally by DCC and/or Enva funds.	Unlikely that these are included within the current insurance cover for the site. Potential liabilities which arise that are not covered under existing insurance policies would be paid for with Enva based funds.
Closure Restoration and Aftercare Liabilities	Financed internally by DCC and/or Enva funds.	Enva have completed a Closure, Restoration, Aftercare Management Plan for the site with a specified total cost of €20,700 for effective site closure and aftercare. This document will be reviewed annually by Enva

Table 7.1 – Assessment of Enva Financial Provision annually by Enva.

Based on a review of the current level of insurance maintained by the site, it appears that environmental liabilities resulting from Risk Ids 1,2 3 & 4 as shown in table 6.10 above would be covered under the existing insurance policies were they to occur in sudden and unforeseen circumstances. Indemnity for Risk I.D No. 3 is dependant on the circumstances which this occurs in order to assess if it qualifies under the current policy.

Appendix 1