

Facility Information Summary

AER Reporting Year	2017
Licence Register Number	W0196-01
Name of site	MacAnulty Specialist Underground Services Limited.
Site Location	John F. Kennedy Industrial Estate, John F. Kennedy Road, Naas Road, Dublin 12
NACE Code	3821
Class/Classes of Activity	3.7, 3.11, 3.12, 3.13, 4.13, 4.3, 4.4, 4.6, 4.8
National Grid Reference (6E, 6 N)	53.3279 6.35314

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.**

Site Performance: The company continues to demonstrate its commitment towards HSE management standards - the site maintains ISO14001 and OHSAS 18001. This ensures a standard approach is taking to managing activities from an environmental and safety aspect. There were no issues raised during the reporting period regarding maintenance to the standard.

Infrastructure / EMP progress: There has been no changes in infrastructure on the site. **Environmental Performance:** There was two exceedance of a trigger limit in 2017, with Mineral oils exceeding the trigger level in a groundwater sample that was tested. This was due to the external laboratory using a different method and not informing Enva of the change. this has now been rectified with ALS. Surface water action limits were exceeded in quarter 4 2017. This was not released but reverted back into process. The site did not recieve any other non compliances in 2017 and was compliant with the licence.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

Signature	Richard Kennedy	Date	30/03/2018
Group/Facility manager			
(or nominated, suitably qualified and experienced deputy)			

AIR-summary template	Lic No: W0196-01	Year: 2017
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Answer all questions and complete all tables where relevant

1 Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables

No	Additional information
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Periodic/Non-Continuous Monitoring

2 Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below

SELECT	
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3 Was all monitoring carried out in accordance with EPA guidance [Basic air monitoring checklist](#) note AG2 and using the basic air monitoring checklist? [AGN2](#)

SELECT	
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Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision thereof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments - reason for change in % mass load from previous year if applicable
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

AIR-summary template	Lic No: W0196-01	Year: 2017
Continuous Monitoring		

4 Does your site carry out continuous air emissions monitoring?
 If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)

5 Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below

6 All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

7 Did your site experience any abatement system bypasses? If yes please detail them in table A3 below

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
	SELECT			SELECT	SELECT					
	SELECT				SELECT					
	SELECT				SELECT					
	SELECT				SELECT					
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table [Bypass protocol](#)

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

SELECT

Table A4: Solvent Management Plan Summary	Solvent regulations	Please refer to linked solvent regulations to complete table 5 and 6
Total VOC Emission limit value		

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision thereof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary								
	(I) Inputs (kg)			(O) Outputs (kg)				
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-	Solvents destroyed onsite through	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: W0196-01 Year 2017

Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If you **do not have** licensed emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections

Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections

Yes	Additional information W1 has been completed for surface water monitoring.
No	

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licensed Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
SW 1	onsite	SELECT	pH	22/11/2017	-	SELECT	7.74	pH units	yes	Quarterly Sample, Highest Value Of The Year Listed Here
SW 1	onsite	SELECT	BOD	22/03/2017	-	SELECT	11.6	mg/L	yes	Quarterly Sample, Highest Value Of The Year Listed Here
SW 1	onsite	SELECT	COD	22/03/2017	-	SELECT	49.2	mg/L	yes	Quarterly Sample, Highest Value Of The Year Listed Here
SW 1	onsite	SELECT	Suspended Solids	22/11/2017	-	SELECT	25.6	mg/L	yes	Quarterly Sample, Highest Value Of The Year Listed Here
SW 1	onsite	SELECT	Mineral oils	22/11/2017	5000	All values < ELV	1450	µg/L	yes	Mineral oils exceeded the action limit of 1376.29 in Q4. This was due to the external lab changing their method and not notifying Enva. This was reported to the agency.

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below

Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box

Yes	Additional information
Yes	

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision thereof ^{Photo 2}	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments
SE 1	Wastewater/Sewer	BOD	composite	Monthly	Monthly	1000	All values < ELV	307	mg/L	yes	Dissolved Oxygen Meter (Electrode)	UK SCA "Blue Book" series	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	2301.09	
SE 1	Wastewater/Sewer	COD	composite	Weekly	Monthly	3000	All values < ELV	1730	mg/L	yes	Spectrophotometry (Colorimetry)	APHA / AWWA "Standard Methods"	SOP 1241	25202.86	
SE 1	Wastewater/Sewer	Mineral oils	discrete	Monthly	Monthly	10	All values < ELV	7.13	mg/L	yes	EPH in Waters	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	36.51	
SE 1	Wastewater/Sewer	Suspended Solids	composite	Weekly	Monthly	1000	All values < ELV	39	mg/L	yes	Gravimetric analysis	APHA / AWWA "Standard Methods"	SOP 1291	768.40	
SE 1	Wastewater/Sewer	Sulphate	composite	Weekly	Monthly	1000	All values < ELV	13	mg/L	yes	Spectrophotometry (Colorimetry)	APHA / AWWA "Standard Methods"	SOP 1032	62.89	
SE 1	Wastewater/Sewer	Ammonia	composite	Weekly	Monthly	1005.53	All values < ELV	623	mg/L	no	Spectrophotometry (Colorimetry)	APHA / AWWA "Standard Methods"	SOP 2667	10737.50	
SE 1	Wastewater/Sewer	pH	composite	Weekly	Monthly	6 - 10	All values < ELV	8.29	pH units	yes	pH Meter (Electrode)	Manufacturer method	SOP 1134	n/a	
SE 1	Wastewater/Sewer	Temperature	discrete	Daily	Monthly	42	All values < ELV	14.146	degrees C	yes	Temperature Probe	Manufacturer method	SOP 1513	n/a	
SE 1	Wastewater/Sewer	Detergents (as MBAS)	discrete	Monthly	Monthly	100	All values < ELV	3.38	mg/L	yes	The Determination of Methylene Blue Active Substances in Waters	Standard Methods for the Examination of Water and Wastewater. 20th Edition. 1998	Standard Methods for the Examination of Water and Wastewater. 20th Edition. 1998	4.77	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)														Lic No:	W0196-01	Year	2017
SE 1	Wastewater/Sewer	Total Organic Carbon (as Toluene)	discrete	Monthly	Monthly	1	All values < ELV	0.053	mg/L	yes	GC - FID	Manufacturer method	Determination of GRO by Headspace in waters	0.0550			
SE 1	Wastewater/Sewer	Xylenes	discrete	Monthly	Monthly	1	All values < ELV	0.91	mg/L	yes	GC - FID	Manufacturer method	Determination of GRO by Headspace in waters	0.3307			
SE 1	Wastewater/Sewer	Zinc and compounds (as Zn)	composite	Weekly	Monthly	5	All values < ELV	1.0000	mg/L	yes	ICP / ICPMS (Inductively Coupled Plasma - Mass Spectrometry)	US EPA	TM30/PM14	4.1550			
SE 1	Wastewater/Sewer	Copper (as Cu)	composite	Weekly	Monthly	5	All values < ELV	0.39	mg/L	yes	ICP / ICPMS (Inductively Coupled Plasma - Mass Spectrometry)	US EPA	TM30/PM14	0.358			
SE 1	Wastewater/Sewer	Phosphates (as PO ₄ -P)	composite	Weekly	Monthly	50	All values < ELV	31	mg/L	yes	Spectrophotometry (Colorimetry)	EPA Methods 325.1 & 325.2	EPA Methods 325.1 & 325.2, The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers	28.591			
SE 1	Wastewater/Sewer	Volumetric flow	composite	Continuous	Monthly	180	All values < ELV	176.29	m ³ /day	yes	SELECT	SELECT		26969.71			

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

Continuous monitoring

5 Does your site carry out continuous emissions to water/sewer monitoring? Additional Information

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6 Did continuous monitoring equipment experience downtime? If yes please record downtime in table W4 below

7 Do you have a proactive service contract for each piece of continuous monitoring equipment on site?

8 Did abatement system bypass occur during the reporting year? If yes please complete table W5 below

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
	SELECT	SELECT		SELECT	SELECT	SELECT					
	SELECT	SELECT		SELECT	SELECT	SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund testing dropdown menu click to see options

- Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed the integrity test-all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)
- 1 Please provide integrity testing frequency period
Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)
 - 2 How many bunds are on site?
 - 3 How many of these bunds have been tested within the required test schedule?
 - 4 How many mobile bunds are on site?
 - 5 Are the mobile bunds included in the bund test schedule?
 - 6 How many of these mobile bunds have been tested within the required test schedule?
 - 7 How many sumps on site are included in the integrity test schedule?
 - 8 How many of these sumps are integrity tested within the test schedule?
- Please list any sump integrity failures in table B1**
- 11 Do all sumps and chambers have high level liquid alarms?
 - 12 If yes to Q11 are these failsafe systems included in a maintenance and testing programme?
 - 13 Is the Fire Water Retention Pond included in your integrity test programme?

Additional information	
Yes	
3 years	
9	
9	
1	
Yes	
1	
0	
0	
N/A	
N/A	
N/A	

Table B1: Summary details of bund /containment structure integrity test														
Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)

- * Capacity required should comply with 25% or 110% containment rule as detailed in your licence
- Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance? [bundings and storage guidelines](#)
- 15 Are channels/transfer systems to remote containment systems tested?
 - 17 All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

Commentary	
Yes	
No	
Yes	

Pipeline/underground structure testing

- Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing **all underground structures and pipelines on site which failed the integrity test and all which have not been tested within the integrity test period as specified**
- 1 Please provide integrity testing frequency period
- *please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

Yes	
3 years	

Table B2: Summary details of pipeline/underground structures integrity test											
Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

[Click here to access EPA guidance on Environmental Liabilities and Financial provision](#)

			Commentary
1	ELRA initial agreement status	Submitted and agreed by EPA	
2	ELRA review status	Review required and completed	
3	Amount of Financial Provision cover required as determined by the latest ELRA	66,642	Pending bond agreement with Agency
4	Financial Provision for ELRA status	Required but not submitted	
5	Financial Provision for ELRA - amount of cover	TBC	
6	Financial Provision for ELRA - type	SELECT	
7	Financial provision for ELRA expiry date	Enter expiry date	
8	Closure plan initial agreement status	Closure plan submitted and agreed by EPA	
9	Closure plan review status	Review required and completed	
10	Financial Provision for Closure status	Required but not submitted	
11	Financial Provision for Closure - amount of cover	169,476	Pending bond agreement with Agency
12	Financial Provision for Closure - type		
13	Financial provision for Closure expiry date	TBC	

Environmental Management Programme/Continuous Improvement Programme template	Lic No:	W0196-01	Year	2017
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Highlighted cells contain dropdown menu click to view		Additional Information	
1	Do you maintain an Environmental Management System (EMS) for the site. If yes, please detail in additional information	Yes	
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Additional improvements	Reduction of fugitive odour emissions. Installation of carbon filters on the effluent holding tanks	Complete	installed on all effluent discharge tanks and are monitored or effectiveness onsite.	Operations Manager	Increased compliance with licence conditions
Additional improvements	Installation of automatic weighbridge / waste delivery system	90	90% complete. Needs programming modifications.	Operations Manager	Increased compliance with licence conditions
Groundwater protection	Site surface integrity will continue to be monitored, as vehicular movements and weathering can reduce integrity. Further works will be carried out in 2016 including repair of front yard and installation of new manlid covers.	90	Front yard has been fully upgraded and repaired, with new manlids installed. Surface integrity and maintenance plan is in place for the rear yard where monitoring and repairs are undertaken on an ongoing basis.	Operations Manager	Increased compliance with licence conditions
Reduction of emissions to Wastewater	To improve the quality of effluent release monitoring.	Complete	Ensure operatives are trained in relevant procedures and good laboratory practice onsite to properly test all material entering the facility and ensure treatment processes are operating as required.	Operations Manager	Increased compliance with licence conditions
Reduction of emissions to Wastewater	To improve the quality of effluent release monitoring.	20	SCADA Process Management System to be installed onsite to manage and control the entire waste treatment process plant is due for installation by mid-2018.	Operations Manager	Increased compliance with licence conditions
Energy Efficiency/Utility conservation	Review lighting onsite.	60	LED lighting has been installed in main office. Use of LED lighting in the yard area to be reviewed for installation in 2018. Any areas of the yard where new lighting was replaced utilised LED lights. Emergency exit lights are currently being replaced.	Operations Manager	Improved Environmental Management Practices

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Energy Efficiency/Utility conservation	Rainwater conservation	20	Review possibility to utilise captured rainwater to fill the vehicles with water.	Operations Manager	Improved Environmental Management Practices
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All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

Noise monitoring summary report

Lic No: W0196-01 Year

2017

1 Was noise monitoring a licence requirement for the AER period?

Yes

If yes please fill in table N1 noise summary below

2 Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6?

[Noise Guidance note NG4](#)

Yes

3 Does your site have a noise reduction plan

No

4 When was the noise reduction plan last updated?

Not Applicable

5 Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?

No

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA _{eq}	LA ₉₀	LA ₁₀	LA _{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
01/11/2017	13.59pm	NB1		59	53	61	64	No		Enva Activity: HGV movement, tanker unloading at run down screen. Extraneous Activity : Traffic on local industrial road dominant (especially HGVs).	Yes
01/11/2017	14.29pm	NB1		55	50	57	62	No		Enva activity: Tanker unloading at run down csreen. Forklift Extraneous Activity : Traffic on local industrial road dominant (especially HGVs)	Yes
01/11/2017	14.59pm	NB1		52	48	57	61	No		Enva activity: HGV on idle, run down screen (pumps), forklift Extraneous Activity : Traffic on local industrial road dominant (especially HGVs)	Yes
01/11/2017	14.46pm	NB2		56	53	58	64	No		Enva Activity: forklift, tanker unloading at run down screen. Extraneous Activity : Traffic on the local industrial road audible (dominant in the absence of vehicle movement onsite).	Yes
01/11/2017	15.17pm	NB2		55	52	61	65	No		Enva Activity: forklift, HGV on idle. Extraneous Activity : Traffic on the local industrial road audible (dominant in the absence of vehicle movement onsite).	Yes
01/11/2017	15.47pm	NB2		59	54	62	65	No		Enva Activity: forklift, unloading tanker at run down screen. Extraneous Activity: Traffic on the local industrial road audible (dominant in the absence of vehicle movement onsite).	Yes
01/11/2017	16.22pm	NB3		51	50	60	71	No		Enva Activity: run down screen (pumps), Extraneous Activity: neighbouring facility (fans)	Yes
01/11/2017	16.52pm	NB3		52	49	52	56	No		Enva Activity: run down screen (pumps), forklift, HGV movement Extraneous Activity: neighbouring facility (fans)	Yes
01/11/2017	17.27pm	NB3		53	50	53	58	No		Enva Activity: run down screen (pumps), forklift, HGV movement Extraneous Activity: neighbouring facility (fans)	Yes
01/11/2017	16.05pm	NB4		59	54	60	71	No		Enva Activity: forklift, run down screen (pumps). Extraneous Activity : Traffic on the local industrial road audible (in the absence of activity at run down screen).	Yes
01/11/2017	16.35pm	NB4		66	56	64	74	No		Enva Activity: tanker unloading to run down screen, forklift, run down screen (pumps). Extraneous Activity : Traffic on the local industrial road audible (in the absence of activity at run down screen).	Yes
01/11/2017	17.05pm	NB4		66	57	69	77	No		Enva Activity: run down screen (pumps), forklift. Extraneous Activity : Traffic on the local industrial road audible (in the absence of activity at run down screen).	Yes
01/11/2017	12.20pm	NSL1	Place of Worship to the West	64	55	61	75	No		Dominant noise : local industrial traffic passing NSL (almost continuous and included HGVs). Enva Activity: Tank unloading at run down screen and vehicle movement	Yes
01/11/2017	12.51pm	NSL1	Place of Worship to the West	64	55	61	76	No		Dominant noise : local industrial traffic passing NSL (almost continuous and included HGVs). Enva Activity: Tank unloading at run down screen and vehicle movement	Yes

01/11/2017	13.21pm	NSL1	Place of Worship to the West	63	56	64	74	No		Dominant noise : local industrial traffic passing NSL (almost continuous and included HGVs). Enva Activity: Tank unloading at run down screen and vehicle movement	Yes
01/11/2017	22.13pm	NSL1	Place of Worship to the West	52	50	53	60	No		Dominant noise : Industrial noise from the E/SE and traffic on Naas Road / Killeen road. Traffic from the west. is audible. Occasional hiss from Enva audible. Local traffic passes: approx. 20 cars	Yes
01/11/2017	22.43pm	NSL1	Place of Worship to the West	52	50	54	58	No		Dominant noise : Industrial noise from the E/SE and traffic on Naas Road / Killeen road. Traffic from the west. is audible. Occasional hiss from Enva audible. Local traffic passes: approx. 20 cars	Yes

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options?

SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

1 When did the site carry out the most recent energy efficiency audit?
 Please list the recommendations in table 3 below

2 Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information

[SEAI - Large Industry Energy Network \(LIEN\)](#)

3 Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information

Additional information	
Not Applicable	
No	
N/A	

Table R1 Energy usage on site				
Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	72.31	76.183		
Total Energy Generated (MWHrs)	NA	NA	NA	NA
Total Renewable Energy Generated (MWHrs)	NA	NA	NA	NA
Electricity Consumption (MWHrs)	72.31	76.183		
Fossil Fuels Consumption:	NA	NA	NA	NA
Heavy Fuel Oil (m3)	NA	NA	NA	NA
Light Fuel Oil (m3)	2.001	3.003		
Natural gas (m3)	NA	NA	NA	NA
Coal/Solid fuel (metric tonnes)	NA	NA	NA	NA
Peat (metric tonnes)	NA	NA	NA	NA
Renewable Biomass	NA	NA	NA	NA
Renewable energy generated on site	NA	NA	NA	NA

Green Diesel

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.
 ** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site					Water Emissions	Water Consumption
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m ³ yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr
Groundwater						
Surface water						
Public supply	98.33	93.972			93.972	
Recycled water						
Total	98.33	93.972			93.972	

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.
 ** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary					
	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	6776.608				
Non-Hazardous (Tonnes)	27893.71				

Resource Usage/Energy efficiency summary	Lic No: W0196-01	Year: 2017
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Table R4: Energy Audit finding recommendations								
Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry) please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

WASTE SUMMARY	Lic No: W0196-01	Year: 2017
SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES	PRTR facility login	dropdown list click to see options

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility? (waste generated within your boundaries is to be captured through PRTR reporting)

If yes please enter details in table 1 below

2 Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information

3 Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information

Additional Information	
Yes	
No	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licensed annual tonnage limit for your site (total tonnes/annum)	EWC code	Source of waste accepted	Description of waste accepted Please enter an accurate and detailed description - which applies to relevant EWC code	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ increase over previous year +/- %	Reason for reduction/ increase from previous reporting year	Packaging Content (%) - only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments
		European Waste Catalogue EWC codes	European Waste Catalogue EWC codes								
30500 (Non Haz per annum)	02 02 01	Wastes from the preparation and processing of meat, fish and other foods of animal origin	Foul water	130.52	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
30500 (Non Haz per annum)	08 01 20	Wastes from MSFU of other coatings	Aqueous liquids containing paint/varnish	9.14	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
30500 (Non Haz per annum)	08 03 08	Wastes from MSFU of printing inks	Aqueous Waste containing Ink	6	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
30500 (Non Haz per annum)	12 01 01	Wastes from shaping and physical and mechanical surface treatment of metals	Ferrous metal filings	9.48	0		Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 01 11*	Waste hydraulic oils	Synthetic Hydraulic Oils	2.5	0		Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
4900 (Haz per annum)	13 02 05*	Waste engine, gear and lubricating oils	Waste Oil	0.16	0		Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
4900 (Haz per annum)	13 02 08*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Waste Oil	114.865	120.08	-4.34%	Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
4900 (Haz per annum)	13 04 01*	Bilge oils	Bilge oils	35.4	0	#DIV/0!	Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
4900 (Haz per annum)	13 04 03*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Bilge Oily Water	80.58	19.06	322.77%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 05 01*	Oil/water separator contents	Interceptor Waste	1.96	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 05 02*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Sludge from interceptors	65.54	29.02	125.84%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 05 03*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Sludge from interceptors	1063.03	505.27	110.39%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 05 06*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Oils from interceptors	245.44	2.94	8248.30%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 05 07*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Oily water from interceptors	3676.693	2199.31	67.17%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 05 08*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Mixtures of waste from interceptors	302.66	971.32	-68.84%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 07 01*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Fuel oil / water	144.21	49.94	188.77%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 07 02*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Petrol/water	12.04	0	#DIV/0!	Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
4900 (Haz per annum)	13 07 03*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Mixtures of fuels	329.69	45.03	632.16%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	13 08 02*	13- OIL WASTES AND WASTES OF LIQUID FUELS (except edible oils, and those in	Oily water	641.54	829.57	-22.67%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	15 02 02*	Absorbents, filter materials, wiping cloths and protective clothing	Solid oily Waste	1.38	0	#DIV/0!	Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
4900 (Haz per annum)	16 07 08*	16- WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Wastes containing oil	29.06	0.04	72550.00%	Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
30500 (Non Haz per annum)	16 10 02	16- WASTES NOT OTHERWISE SPECIFIED IN THE LIST	Aqueous Liquids	42.08	2603.88	-98.38%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
4900 (Haz per annum)	17 02 04*	17- CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL	Contaminated Wood	19.02	5.96	219.13%	Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
30500 (Non Haz per annum)	19 07 03	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER	Leachate	20520.65	17460.37	17.53%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
	19 08 05	Wastes from waste water treatment plants not otherwise specified	Waste water	208.4	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
	19 08 09	Wastes from waste water treatment plants not otherwise specified	Grease and oil mixture	3.36	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
	19 08 13*	Wastes from waste water treatment plants not otherwise specified	Sludges containing dangerous substances	6.96	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
30500 (Non Haz per annum)	19 09 02	19- WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER	Alum Cake	6715.06	8692.52	-22.75%	Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
	19 11 06	Wastes from oil regeneration	Onsite effluent	115.4	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
30500 (Non Haz per annum)	20 01 25	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL	Grease Trap Waste	92.3	102.04	-9.55%	Variance in business and waste streams from job	N/A	R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary		
	20 03 03	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL	Street cleaning residues	13.9	0	#DIV/0!	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		
30500 (Non Haz per annum)	20 03 06	20- MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL	Water from sewage cleanings	27.42	686.52	-96.01%	Variance in business and waste streams from job	N/A	D9-Physico-Chemical treatment not specified elsewhere which results in final compounds or		

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4 Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	Yes
5 Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	Yes
6 Does your facility have relevant nuisance controls in place?	Yes
7 Do you have an odour management system in place for your facility? If no why?	Yes
8 Do you maintain a sludge register on site?	No

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	License permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste	Lined disposal area occupied by waste	Unlined area	Cm m are sts
										SELECT UNIT	SELECT UNIT	SELECT UNIT	m m. lu. st.
Cell 8													

Table 4 Environmental monitoring-landfill only [Landfill Manual-Monitoring Standards](#)

Was meteorological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under 853(A/S) of WMA been submitted in reporting year	Comments

+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9 Is leachate from your site treated in a Waste Water Treatment Plant?	SELECT
10 Is leachate released to surface water? If yes please complete leachate mass load information below	SELECT

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	



[Guidance to completing the PRTR workbook](#)

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2017
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1. FACILITY IDENTIFICATION

Parent Company Name	Enva Ireland Limited
Facility Name	Enva Ireland Limited (Naas Road)
PRTR Identification Number	W0196
Licence Number	W0196-01

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	John F. Kennedy Industrial Estate
Address 2	John F. Kennedy Road
Address 3	Naas Road
Address 4	
	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	David McKelvey
AER Returns Contact Email Address	David.McKelvey@Enva.com
AER Returns Contact Position	Environmental Administrator
AER Returns Contact Telephone Number	014242201
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	2
User Feedback/Comments	
Web Address	www.enva.com

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(a)	Installations for the recovery or disposal of hazardous waste
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?	
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. WASTE IMPORTED/ACCEPTED ONTO SITE

[Guidance on waste imported/accepted onto site](#)

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	
--	--

This question is only applicable if you are an IPPC or Quarry site

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	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 Ex	0.35	0.35	0.0	0.0
06	Ammonia (NH3)	C	OTH	Standard Methods for the Ex	1082.99	1082.99	0.0	0.0
24	Zinc and compounds (as Zn)	C	OTH	Standard Methods for the Ex	4.155	4.155	0.0	0.0
78	Xylenes	C	OTH	Determination of GRO by He	0.33	0.33	0.0	0.0
					0.0	0.0	0.0	0.0

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

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

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
303	BOD	C	OTH	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids, MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA	2301.09	2301.09	0.0	0.0
306	COD	C	OTH	Blue Book 130	25202.86	25202.86	0.0	0.0
308	Detergents (as MBAS)	C	OTH	Standard Methods for the Ex The Determination of Methylene Blue Active Substances in Waters, Standard Methods for the Examination of Water and Wastewater. 20th Edition. 1998	4.77	4.77	0.0	0.0
332	Ortho-phosphate (as PO4)	C	OTH	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers, EPA Methods 325.1 & 325.2,	28.59	28.59	0.0	0.0

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

PRTR#: W0196 | Facility Name: Enva Ireland Limited (Nias Road) | Filename: W0196_2017.xls | Return Year: 2017

30/03/2018 13:31

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste: Name and Licence/Permit No. of Next Destination Facility 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					
Within the Country	02 07 04	No	0.0	materials unsuitable for consumption or processing	D13	M	Weighed	Offsite in Ireland	Future Pigs Ltd, T/A Green Generation Ltd., P0420-03	Gorteen Lower,,Nurney,Co. Kildare,Ireland	Lindeschmidt, 471498089,Kr ombacher Strasse, 42 - 46,Kreutzal,D57223,Germany	Krombacher Strasse, 42 - 46,Kreutzal,D57223,Germany
Within the Country	13 02 08	Yes	143.76	other 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 01	Yes	52.2	solids from grit chambers and oil/water separators	D15	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 02	Yes	0.0	sludges from oil/water separators	D15	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 03	Yes	7.94	interceptor sludges	D9	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 08	Yes	0.0	mixtures of wastes from grit chambers and oil/water separators	D9	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	130.96	other emulsions	D9	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	0.38	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1	Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	Kreis Weseler Abfallgesellschaft mbH & Co. KG (KWA),498/1713/Efb,Graft Strasse 25,47475,Kamp-Lintfort,,Germany	KWA Asdonkshof,Graft Strasse 25,47475,Kamp-Lintfort,Germany
Within the Country	16 01 14	Yes	0.0	antifreeze fluids containing dangerous substances	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1	Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	KS Recycling GmbH & Co. KG,12 150 13987 TMS,Raiffeisenstraße 38,D-47665,Sonsbeck,,Germany	Raiffeisenstraße 38,D-47665,Sonsbeck,,Germany
Within the Country	16 01 15	No	0.0	antifreeze fluids other than those mentioned in 16 01 14	R13	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	17 05 04	No	0.0	soil and stones other than those mentioned in 17 05 03	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1	Cavan County Council/Corranure Landfill,W0077-04	Lisnagraty & Corranure Townlands,Cootehill Road,,Co. Cavan,Ireland	Ringsend Wastewater Treatment Works ,Pigeon House Road ,Dublin,NA,Ireland
Within the Country	20 01 25	No	28.1	edible oil and fat	R13	M	Weighed	Offsite in Ireland	Ringsend Waste Water Treatment,D0034-01	Ringsend Wastewater Treatment Works ,Pigeon House Road ,Dublin,NA,Ireland	H&L Environmental Services Limited,WFP-T-12-0003-02	Moyn,Derryville,Thurles,Tipperary,Ireland
Within the Country	20 01 25	No	14.36	edible oil and fat	R13	M	Weighed	Offsite in Ireland	Future Pigs Ltd, T/A Green Generation Ltd., P0420-03	Gorteen Lower,,Nurney,Co. Kildare,Ireland	Future Pigs Ltd, T/A Green Generation Ltd., P0420-03	Ballynalurgan,Kilmainhamwood,Kells,Meath,Ireland
Within the Country	20 01 25	No	50.66	edible oil and fat	R13	M	Weighed	Offsite in Ireland	Disposal Limited,W0195-02	Disposal Limited,W0195-02	Disposal Limited,W0195-02	Disposal Limited,W0195-02
Within the Country	13 07 01	Yes	20.77	fuel oil and diesel	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1	Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	KS Recycling GmbH & Co. KG,12 150 13987 TMS,Raiffeisenstraße 38,D-47665,Sonsbeck,,Germany	Raiffeisenstraße 38,D-47665,Sonsbeck,,Germany
Within the Country	15 01 10	Yes	1.16	packaging containing residues of or contaminated by dangerous substances	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1	Enva Ireland Ltd,W0-184/1	Recyfuel S.A.,Zoning Industriel d'Ehein,,B-4480 Engis,,Belgium	Zoning Industriel d'Ehein,,B-4480 Engis,,Belgium
Within the Country	16 07 08	Yes	0.32	wastes containing oil	R13	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	17 02 04	Yes	0.16	glass, plastic and wood containing or contaminated with dangerous substances	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1	Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	Recyfuel S.A.,Zoning Industriel d'Ehein,,B-4480 Engis,,Belgium	Zoning Industriel d'Ehein,,B-4480 Engis,,Belgium
Within the Country	19 02 05	Yes	170.08	sludges from physico/chemical treatment containing dangerous substances	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1	Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	Recyfuel S.A.,Zoning Industriel d'Ehein,,B-4480 Engis,,Belgium	Zoning Industriel d'Ehein,,B-4480 Engis,,Belgium
Within the Country	19 12 02	No	6.38	ferrous metal	R13	M	Weighed	Offsite in Ireland	MSM Recycling,79-1	Cookstown Industrial Estate,Unit 41,Tallaht,Dublin 24,Ireland	Enva Ireland,W0184-1,Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	Clonminam Industrial Estate,Portlaoise,Laois,,Ireland
Within the Country	13 04 03	Yes	22.74	bilge oils from other navigation	R13	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	7.94	oily water from oil/water separators	D9	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 02	Yes	5.19	petrol	R9	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0-184/1	Clonminam Industrial Estate,Portlaoise,Co Laois,Co Laois,Ireland	KS Recycling GmbH & Co. KG,12 150 13987 TMS,Raiffeisenstraße 38,D-47665,Sonsbeck,,Germany	Raiffeisenstraße 38,D-47665,Sonsbeck,,Germany
Within the Country	13 05 06	Yes	5.85	oil from oil/water separators	R13	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
To Other Countries	17 02 04	Yes	16.54	contaminated with dangerous substances	R13	M	Weighed	Abroad	Reiling MS-Recycling GmbH,E97897324	Reiling MS-Recycling GmbH,E97897324	Reiling MS-Recycling GmbH,E97897324	Reiling MS-Recycling GmbH,E97897324

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



WRIGHT ENVIRONMENTAL

S E R V I C E S

CONFIDENTIAL REPORT

Client

Enva Ireland Ltd
JFK Industrial Estate
Naas Road
Dublin 12

Attn. Mr. Tom Keogh

Title

Annual Environmental
Noise Survey 2017
Enva Ireland Ltd. – Dublin
EPA Waste Licence Reg. No. 196-1

Report Ref: 1783

Survey and
Report by:

Frances Wright

Frances Wright
LFOH, BSc, PgDip Env, Dip SHWW

Date recd:

Approved by:

Paddy Wright

Paddy Wright
BSc, PgDip ChemEng, Cert OH

Copies to:

Date:

28th February 2018

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1. INTRODUCTION:

Enva Ireland Ltd. (Enva) 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 Mr. Tom Keogh of Enva Ireland Ltd., Wright Environmental Services carried out this Noise Survey on the 1st November 2017.

This report presents and interprets the results of the survey with reference to the company's 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.

2. SUMMARY

In accordance with their EPA Waste Licence (Reg. No. 196), Enva Ireland Ltd are required to have an annual noise survey undertaken to ensure compliance with their noise criteria set out in their licence. Wright Environmental Services carried out this environmental noise survey on the on the 1st November 2017 at the following locations.

	NB1	NB2	NB3	NB4	NSL1
Day Time Survey	3 sampling periods	3 sampling periods	3 sampling periods	3 sampling periods	3 sampling periods
Night Time Survey	-	-	-	-	2 sampling periods

Noise was measured at one noise sensitive location and four site boundary locations. The dominant noise source at the noise sensitive location was traffic noise and external industrial noise. The main noise sources onsite during the daytime survey were unloading tankers, run down screen and vehicle movement. The Enva facility is closed at night however there is minimum equipment operating (e.g. fans) to maintain the site.

The noise levels measured at NSL 1 were above the criterion levels set out in the licence. There was an occasional hiss audible from Enva (run down screen) at this location however extraneous noise (traffic and industrial noise) were the dominant noise sources at this location. From observing the noise levels during the testing, noise from Enva had little to no impact on the L_{eq} noise level at this location. It is therefore concluded that the elevated noise levels at this location were attributable to extraneous noise and not Enva. Noise measurements were measured at the four boundary locations. Using the inverse square law, the highest noise level measured at NB4 (closest to NSL1) was used to calculate the resultant noise levels at NSL1. This was below the criterion levels. The noise was also perceived at the noise monitoring locations to investigate the presence of tones. There were no tones perceived at any of the monitoring locations.

It is therefore concluded that the facility is in compliance with the noise criterion in their Waste Licence.

3. MONITORING RESULTS AND DISCUSSION:

Wright Environmental Services carried out the day and night Environmental Noise Survey on the 1st November 2017. Noise was measured at one noise sensitive location and four site boundary locations.

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 (approximately 5m from run down screen).
- 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.

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 5 below along with appropriate comments regarding noise in the monitoring environment.

Table 1

NB 1 - Monitoring Location - Daytime

Start Time t = 30mins	L _{eq} (dBA)	L ₁ (dBA)	L ₁₀ (dBA)	L ₉₀ (dBA)	Comments
13:59	59	64	61	53	Enva activity: HGV movement, tanker unloading at run down screen. Extraneous Activity : Traffic on local industrial road dominant (especially HGVs).
14:29	55	62	57	50	Enva activity: tanker unloading at run down screen. forklift Extraneous Activity : Traffic on local industrial road dominant (especially HGVs)
14:59	52	61	57	48	Enva activity: HGV on idle, run down screen (pumps), forklift Extraneous Activity : Traffic on local industrial road dominant (especially HGVs)

Table 2

NB 2 - Monitoring Location - Daytime

Start Time t = 30mins	L _{eq} (dBA)	L ₁ (dBA)	L ₁₀ (dBA)	L ₉₀ (dBA)	Comments
14:46	56	64	58	53	Enva Activity: forklift, tanker unloading at run down screen. Extraneous Activity : Traffic on the local industrial road audible (dominant in the absence of vehicle movement onsite).
15:17	55	65	61	52	Enva Activity: forklift, HGV on idle Extraneous Activity : Traffic on the local industrial road audible (dominant in the absence of vehicle movement onsite).
15:47	59	65	62	54	Enva Activity: forklift, unloading tanker at run down screen. Extraneous Activity: Traffic on the local industrial road audible (dominant in the absence of vehicle movement onsite).

Table 3

NB 3 - Monitoring Location - Daytime

Start Time t = 30mins	L _{eq} (dBA)	L ₁ (dBA)	L ₁₀ (dBA)	L ₉₀ (dBA)	Comments
16:22	51	71	60	50	Enva Activity: run down screen (pumps), Extraneous Activity: neighbouring facility (fans)
16:52	52	56	52	49	Enva Activity: run down screen (pumps), forklift, HGV movement Extraneous Activity: neighbouring facility (fans)
17:27	53	58	53	50	Enva Activity: run down screen (pumps), forklift, HGV movement Extraneous Activity: neighbouring facility (fans)

Table 4

NB 4 - Monitoring Location - Daytime

Start Time t = 30mins	L _{eq} (dBA)	L ₁ (dBA)	L ₁₀ (dBA)	L ₉₀ (dBA)	Comments
16:05	59	71	60	54	Enva Activity: forklift, run down screen (pumps). Extraneous Activity : Traffic on the local industrial road audible (in the absence of activity at run down screen).
16:35	66	74	64	56	Enva Activity: tanker unloading to run down screen, forklift, run down screen (pumps). Extraneous Activity : Traffic on the local industrial road audible (in the absence of activity at run down screen).
17:05	66	77	69	57	Enva Activity: run down screen (pumps), forklift and HGV movement Extraneous Activity : Traffic on the local industrial road audible (in the absence of activity at run down screen).

Table 5

NSL 1 - Monitoring Location

Start Time t = 30mins	Leq (dBA)	L1 (dBA)	L10 (dBA)	L90 (dBA)	Comments	
12:20	64	75	61	55	Dominant noise : local industrial traffic passing NSL (almost continuous and included HGVs). Enva Activity: Tank unloading at run down screen and vehicle movement	DAY
12:51	64	76	61	55	Dominant noise : local industrial traffic passing NSL (almost continuous and included HGVs). Enva Activity: Tank unloading at run down screen and vehicle movement	
13:21	63	74	64	56	Dominant noise : local industrial traffic passing NSL (almost continuous and included HGVs). Enva Activity: Tank unloading at run down screen and vehicle movement	
22:13	52	60	53	50	Dominant noise : Industrial noise from the E/SE and traffic on Naas Road / Killeen road. Traffic from the west. is audible. Occasional hiss from Enva audible. Local traffic passes: approx. 20 cars	NIGHT
22:43	52	58	54	50	Dominant noise : Industrial noise from the E/SE and traffic on Naas Road / Killeen road. Traffic from the west. is audible. Occasional hiss from Enva audible. Local traffic passes: approx. 20 cars	

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>

The dominant noise source at the noise sensitive location (NSL1) was traffic noise and external industrial noise. The main noise sources onsite during the daytime survey were unloading tankers, run down screen pumps and vehicle movement. The Enva facility is closed at night however there is minimum equipment operating (e.g. fans) to maintain the site.

Noise was measured at one noise sensitive monitoring location, NSL 1, adjacent to Enva. The L_{eq} noise levels measured at this location ranged from 63dB(A) to 64dB(A) for the day time measurements and 52dB(A) during the night time survey. There was an occasional hiss audible from Enva (run down screen) at this location however extraneous noise (traffic and industrial noise) were the dominant noise sources at this location. From observations of the continuous noise response during the testing, noise from Enva had little to no impact on the L_{eq} noise level at this location. It is therefore concluded that the elevated noise levels at this location were attributable to extraneous noise and not Enva.

Noise measurements were taken at the four boundary locations. The L_{eq} noise levels were above 55dB(A) at NB1, NB2 and NB4. Vehicle movement and tanker unloading to the run down screen were the dominant onsite noise sources. The Inverse Square Law (see Appendix I for details) can be used to calculate the expected reduction in noise levels as one moves away from a given noise source, which is assumed to radiate uniformly in all directions. The noise measured at NB4 were highest. NB4 is also closer to the adjacent noise sensitive location. Therefore the highest noise levels measured at NB4 (66dB(A)) was used to

calculate the expected noise level at the noise sensitive location. Applying the inverse square law, the expected noise levels at NSL1 due the prescribed noise sources would be less than 55dB(A), hence below the criterion levels at the noise sensitive location. The surrounding area is an industrial estate, with no other noise sensitive locations identified within the vicinity.

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.”

The noise was perceived at each of the monitoring locations to investigate the presence of tones. There were no tones perceived at any of the noise sensitive locations.

Therefore it is concluded that the facility are in compliance with this requirement of their licence.

APPENDIX I

Methodology

METHODOLOGY

The methodology of the survey was based upon procedures set out in the International Standard, ISO 1996-2:2007 (Acoustics – description, measurement and assessment of environmental noise Part 2: Determination of Environmental Noise Levels.). The survey was carried out in accordance with EPA published document (*NG4*) *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities*.

Environmental noise levels were determined by using a Pulsar Model 33 , Type 1 Real Time Sound Level Meter, with half inch condenser microphone and a B&K Type 2250 Light. The instruments were calibrated directly before and after the noise measurements. Details of the instrumentation and external calibration are presented in Appendix II of this report.

Results reported were determined using the fast response, A-Weighting (ref. 20 μ Pa) 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

Date	Time	Air Temperature °C	Relative Humidity %	Wind Direction	Wind Speed m/s	General Conditions
01.11.2017	16:00	7	92	W	3.6	Dry – no precipitation
01.11.2017	22:20	4	98	WNW	43.6	Dry – no precipitation

The Inverse Square Law is used to calculate the expected reduction in noise levels as one moves away from a given noise source, which is assumed to radiate uniformly in all directions:

$$L_{p2} = L_{p1} - 20 \text{ Log } (R^2/R1)$$

where:

- L_{p1} is the measured reference Sound Pressure Level (SPL) at a distance of $R1$ metres from the source.
- L_{p2} is the calculated SPL at a distance of $R2$ metres from the source.

APPENDIX II

Instrumentation and External Calibration Details

Certificate of Calibration



Equipment Details

Instrument Manufacturer Pulsar Instruments plc
Instrument Type Model 33
Description Sound Level Meter
Serial Number T223417

Calibration Procedure

The instrument detailed above has been calibrated to the publish test and calibration data as detailed in the instrument hand book, using the techniques recommended in the latest revisions of the International Standards IEC 61672-1:2002, IEC 60651:1979, IEC 60804:2001, IEC 61260:1995, IEC 60942:1997, IEC 61252:1993, ANSI S1.4-1983, ANSI S1.11-1986 and ANSI S1.43-1997 where applicable.
Sound Level Meters: All Calibration procedures were carried out by substituting the microphone capsule with a suitable electrical signal, apart from the final acoustic calibration.

Calibration Traceability

The equipment detailed above was calibrated against the calibration laboratory standards held by Cirrus Research plc. These are traceable to International Standards {A.0.6}. The standards are:

Microphone Type	B&K 4192	Serial Number	1920791	Calibration Ref.	S6450
Pistonphone Type	B&K 4220	Serial Number	613843	Calibration Ref.	S6388

Calibrated by

M. BERRY

Calibration Date

16 January 2017

Calibration Certificate Number

245308

This Calibration Certificate is valid for 12 months from the date above.

Pulsar Instruments plc, The Evron Centre, John Street, Filey, North Yorkshire, YO14 9DW
Telephone: +44 (0) 1723 518011 Fax: +44 (0) 1723 518043
Email: sales@pulsarinstruments.com

Certificate of Calibration



Equipment Details

Instrument Manufacturer Pulsar Instruments plc
 Instrument Type Model 100B
 Description Acoustic Calibrator
 Serial Number 42171

Calibration Procedure

The acoustic calibrator detailed above has been calibrated to the published data as described in the operating manual. The procedures and techniques used to follow the recommendations of the IEC standard Electroacoustics – Sound Calibrators IEC 60942:2003, IEC 60942:1997, BS EN 60942:1998 and BS EN 60942:2003 where applicable. The calibrator's main output is 94.00 dB (1 Pa) and this was set within the 0.01 dB resolution of the test system, i.e. one hundredth of a decibel. Numbers in {parenthesis} refer to the paragraph in IEC 60942.

Calibration Traceability

The calibrator above was calibrated against the calibration laboratory standards held by Cirrus Research plc. These are traceable to International Standards {A.0.6}. The standards are:

Microphone Type	B&K 4192	Serial Number	1920791	Calibration Ref.	S6450
Pistonphone Type	B&K 4220	Serial Number	613843	Calibration Ref.	S6388

Calibration Climate Conditions

The climatic test conditions were all maintained within the permitted limits of IEC 60942:1997.

Temperature	{B.3.2}	Permitted band	15°C to 25°C
Humidity	{B.3.2}	Permitted band	30% to 90% RH
Static Pressure	{B.3.2}	Permitted band	85 kPa to 105 kPa
Ambient Noise Level	{B.3.3.6}	Max permitted level	64 dB(Z)

Measurement Results

The figures below are the Calibration Laboratory test limits for this model calibrator and have a smaller tolerance than those permitted in IEC 60942.

94 dB Output	93.99 dB	Permitted band	93.95 to 94.05dB
104 dB Output	103.98 dB	Permitted band	103.80 to 104.30dB
Frequency	995 Hz	Permitted band	990 to 1010Hz

Uncertainty

With an uncertainty coefficient of k=2, i.e. a 95% confidence level, the uncertainty of each measure is

94 dB Output	± 0.13 dB	104 dB Output	± 0.14 dB
Frequency	± 0.1 Hz	Level Stability	± 0.04 dB

Calibrated by

M. BERRY

Calibration Date

16 January 2017

Calibration Certificate Number

245309

This Calibration Certificate is valid for 12 months from the date above.

Pulsar Instruments plc, The Evron Centre, John Street, Filey, North Yorkshire, YO14 9DW
 Telephone: +44 (0) 1723 518011 Fax: +44 (0) 1723 518043



The Calibration Laboratory
Skodsborgvej 307, DK-2850 Nærum, Denmark



CERTIFICATE OF CALIBRATION

No: CDK1609408

Page 1 of 10

CALIBRATION OF

Sound Level Meter:	Brüel & Kjær Type 2250	No: 2654662	Id: - 2654662
Microphone:	Brüel & Kjær Type 4950	No: 2737145	
Preamplifier:	Brüel & Kjær Type ZC-0032	No: 6822	
Supplied Calibrator:	Brüel & Kjær Type 4231	No: 2460008	
Software version:	BZ7222 Version 2.1	Pattern Approval:	PTB1.63-4046158
Instruction manual:	BE1712-18		

CUSTOMER

Enfonic Ltd
Tecpro House
IDA Business & Technology Park
Dublin
D17 NX50
Ireland

CALIBRATION CONDITIONS

Preconditioning: 4 hours at 23°C ± 3°C
Environment conditions: See actual values in *Environmental conditions* sections.

SPECIFICATIONS

The Sound Level Meter Brüel & Kjær Type 2250 has been calibrated in accordance with the requirements as specified in IEC61672-1:2002 class 1. Procedures from IEC 61672-3:2006 were used to perform the periodic tests. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Sound Level Meter Calibration System 3630 with application software type 7763 (version 4.9 - DB: 4.90) by using procedure 2250-4189.

RESULTS

Calibration Mode: **Calibration as received.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device under calibration.

Date of calibration: 2017-02-13

Date of issue: 2017-02-13

Mikail Önder
Calibration Technician

Susanne Jørgensen
Approved Signatory

Reproduction of the complete certificate is allowed. Parts of the certificate may only be reproduced after written permission.

APPENDIX III

Site Plan showing Noise Monitoring Positions

