



2021 Annual Environmental Report (AER)

Company Name: Flemings Fireclays Manufacturing Ltd.

Licence Number: P0527-01

Address: The Swan, Athy, Co. Laois

Class of Activity¹: 13.4.1

¹ See Appendix I

Purpose of this Report

One of the functions of the Environmental Protection Agency (EPA) is to licence and regulate the activities² of large scale industrial (e.g. chemical, food processors, power plants) and waste facilities. Submitting an Annual Environmental Report (AER) is a requirement of all EPA licences.

An AER is a public document. To this end, this format has been developed for industrial and waste licence holders (other than the intensive agriculture sector) to use as a template. This is to assist any member of the public to interpret and understand the environmental performance of the licensed facility.

The AER is a **summary** of environmental information for a given year. It includes:

- Details of the licence holder's environmental goals achieved, goals to maintain compliance and/or improve their environmental performance;
- Answers to questions regarding their facility's activities;
- Tables of results from monitoring emissions such as air, water, noise, and odour; and
- Details of waste generated, accepted and treated.

An AER does **not** provide detailed technical data. Such information is available in three ways:

- 1) Contacting the licence holder directly. The Contact Us section of this template enables the licence holder to provide details of where a member of the public can obtain further information on topics reported in this document.

² See Appendix I

- 2) Some documents³ are available on the EPA website via the licence details page for each individual licence. This can be found by browsing either the <http://www.epa.ie/licensing/> or <http://www.epa.ie/enforcement/> pages of the EPA website.
- 3) All formal enforcement correspondence exchanged between the EPA and a licence holder during the regulatory process is available for public viewing by appointment at any EPA Office.

If you have a question or query about an AER or an individual EPA licensed facility see the EPA's website or contact the relevant EPA office. See <http://www.epa.ie/about/contactus/> for contact details.

³ This includes EPA site inspection and compliance monitoring reports, licence holders' self-monitoring reports, AERs and special reports

Contents

Glossary	5
Declaration	8
1) Introduction	9
Contact us.....	9
2) How we Manage our Facility.....	10
3) Energy & Water.....	11
Energy.....	11
Water.....	14
4) Environmental Complaints.....	15
5) Environmental Incidents	17
6) Our Environmental Emissions	20
Storm Water	21
Waste Water	23
Air	25
Fugitive Solvent Emissions.....	27
Groundwater	28
Noise.....	29
7) Waste	30
Waste Generated	30
Waste Accepted	31
8) Financial Provision	32

Glossary

Abatement Equipment	Technology used to reduce pollution
AER	Annual Environmental Report.
CRAMP	Closure, Restoration and Aftercare Management Plan.
ELRA	Environmental Liability Risk Assessment.
Emission Limit Value	Limits set for specified emissions, typically outlined in Schedule B of an EPA licence.
EMS	Environmental Management System.
Environmental Goal	An objective or target set by a licensee as part of an environmental management system (EMS).
Environmental Pollutant	Substance or material that due to its quantity and/or nature has a negative impact on the environment.
Facility	Any site or premises that holds an EPA industrial or waste licence.
FP	Financial Provision.
GJ	Giga joules, a unit of energy measurement.
Groundwater	All water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
Incident	As defined by an EPA industrial or waste licence.

Inert Waste	Is waste that will not undergo physical, chemical or biological change thereby, is unlikely to cause environmental pollution or harm human health.
List of Wastes (LoW)	A list of wastes drawn up by the European Commission and published as Commission Decision 2014/955/EU.
Noise Sensitive Location	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Non-Renewable Resource	A resource of economic value that cannot be replaced at the same rate it is being consumed e.g. coal, peat, oil and natural gas.
Oil Separator	Separator system for light liquids (e.g. oil and petrol).
PRTR	Pollutant Release and Transfer Register.
Renewable Energy Sources	Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.
Sanitary Waste	Waste water from toilet, washroom and canteen facilities.
Storm Water	Rain water run-off from roof and non-process areas.

Surface Water	Lakes, rivers, streams, estuaries and coastal waters.
Trade Effluent	Treated or untreated effluent discharged from any trade or industrial facility but does not include domestic waste water or storm water.
Trigger Level	A value set for a specific parameter, the achievement or exceedance of which requires certain actions to be taken by the licence holder.
Volatile Organic Compounds	Gases produced from solids or liquids that evaporate readily in ambient conditions.
Waste	Any substance or object which the holder discards or intends or is required to discard.

Disclaimer

These are **not** legal definitions. Legal definitions can be found in the corresponding legislation.

Declaration

I, Seamus Holland, Operations & Facilities Manager, confirm that by ticking the box below, all information in this report is truthful and accurate to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting required by our EPA licence and summarised herein is available for inspection by the EPA.

Tick here



1) Introduction

See below a brief description of our facility and a summary of our environmental performance in 2021.

Flemings Fireclays Ltd. manufactures coarse ceramics (flue liners and bricks). The site falls under Class 13.4.1 of the Industrial Pollution Control (IPC) Licensing Regulations; The manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain. Production output at Flemings Fireclays in 2021 was similar to 2020. There were no process changes on site in 2021. The site operated in line with budgeted production volumes with some planned outage for preventative maintenance on production equipment. Kiln 2 was the only kiln in operation in 2021.

Contact us

If you have any questions or would like further information on any aspect of this report, please contact us directly.

See below details:

Flemings Fireclays Manufacturing Ltd., The Swan, Athy, Co. Laois.
Tel: 059 8635513

2) How we Manage our Facility

Explanation

To ensure our facility's activities do not cause environmental pollution we are required to have detailed documentation systems in place to help us manage and track our environmental performance. These systems are referred to as Environmental Management Systems (EMS). We review our EMS every year and set up-to-date **environmental goals** to continually improve our environmental performance.

The information below sets out the environmental goals for our facility to help us prevent environmental pollution and reduce our impact on the environment. Target dates for completing each goal and progress towards achieving the goal are outlined in Table 1.

Table 1 Environmental Goals 2021 and 2022

Environmental Goal	Target Date	Progress
Re-use of all cardboard packaging and reduced purchase and use of virgin packaging materials.	End of 2022	On-going
Increased Waste Segregation	2021 & 2022	On-going
Repair & re-use of wooden pallets	2021 & 2022	On-going
Use of recycled pallets in place of virgin wooden pallets	2021 & 2022	In use for 1.2m x 0.8m pallets
Introduce a pallet return scheme for customers	2021 & 2022	Scheme commenced in 2021 and is active.
Promotion of positive environmental culture	2021	Completed with group sustainability promotion.

Integrity testing of drains	2022	TBC Q1 - 2022
Sustainability communication & promotion to form part of environmental programme.	2022	On-going

Comment

Not applicable

3) Energy & Water

Energy

Explanation

Fossil fuels used to produce energy are a non-renewable resource. As a result, our EPA licence requires that we measure our energy use and set targets to improve the energy efficiency of our activities and reduce our overall use, where possible. For this report our energy use is split into two sources:

- renewable (wind, solar etc.)
- fossil fuel (oil, coal, gas etc.).

Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the heat and electrical energy we used in 2021.

Table 2 Energy Used (Heat and Electricity) in 2021

Energy Used	Quantity (GJ)	% Increase/ decrease on previous year
Fossil Fuels	10024.40	0.5% decrease
Renewable Energy		
Total Energy Used	10024.40	

Comment

Comparing 2021 figures of 10024.40GJ to 2020 figures of 10073.48GJ, total energy use decreased by 0.5%. There was 9.9% decrease in electricity consumption and a 3.6% decrease in LPG consumption. Electricity supply is from a 100% renewable source.

The information below summarises the heat and/or electrical energy we generated on our site in 2021.

Table 3 Energy Generated (Heat and Electricity) in 2021

Energy Produced	Quantity (GJ)	% Increase/ decrease on previous year
Fossil Fuel		
Renewable Energy		
Total Energy Produced		

Comment

No energy generated at this site.

Water

Explanation

Water is a natural resource and we are required by our EPA licence to identify ways to reduce our use where possible. Water used in industry can be extracted from groundwater, rivers and lakes (surface water), taken from public water supplies (Irish Water), recycled from the facility's processes or harvested from rainwater.

The information below summarises and compares the quantity of water used in 2021 compared to the previous year.

Table 4 Water Used in 2021

Source of Water Used	Quantity (m ³ /year)	% Increase/ decrease on previous year
Groundwater		
Surface Water		
Public Supply	1,454	28.6% decrease
Recycled Water		
Rainwater		
Total Water Used		

Comment

Water is used in the production process and for general use around the yard for cleaning and other purposes. It is also used in the canteen and toilet facilities.

4) Environmental Complaints

Explanation

Our EPA licence requires that activities do not cause environmental nuisance such as odour, dust or noise. Our licence also requires that we have procedures in place to record, investigate and respond to environmental complaints if or when they arise.

We have an environmental complaints procedure in place where you can contact us⁴ directly. You can also contact the EPA⁵ if you wish to make an environmental complaint about us.

See the information below for a summary of **all** the environmental complaints about our activities made directly to us or to the EPA in 2021.

Table 5 Summary of All Environmental Complaints Received in 2021

Type of Complaint	Number of Complaints Received	Number Closed in 2021
Odour / Smells	0	
Noise	0	
Dust	0	
Water Quality	0	
Air Quality	0	
Waste	0	
Litter	0	
Vermin/Flies/Birds	0	
Soil Contamination	0	
Vibration	0	
Other	0	

⁴ See Section 1, Introduction – Contact Us

⁵ If you wish to contact the EPA to make an environmental complaint about an EPA licenced facility, please go to <https://lema.epa.ie/complaints>

Comment

Not applicable

5) Environmental Incidents

Explanation

It is our responsibility as an EPA licensed facility to ensure we have systems in place to prevent incidents that have the potential to cause environmental pollution. If an incident occurs we are required to report it to the EPA, investigate the cause and fix the problem.

The EPA classify environmental incidents into 5 categories based on the potential impact on the environment:

- Minor
- Limited
- Serious
- Very Serious
- Catastrophic

See Table 6 for the number of the environmental incidents we reported to the EPA in 2021.

Table 6 Number of Environmental Incidents in 2021

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Abatement Equipment Offline					
Breach of Ambient ELV					
Breach of Emission Limit					
Explosion					
Fire					
Monitoring Equipment Failure					
Odour					
Spillage					
Breach of trigger Level					
Uncontrolled Release					

Incident Category	Minor	Limited	Serious	Very Serious	Catastrophic
Other					

Comment

Not Applicable

6) Our Environmental Emissions

Explanation

We are required to ensure the emissions from our activities do not cause environmental pollution.

We are required to monitor any of the following emissions that we make:

- Storm water
- Waste water
- Air
- Groundwater
- Noise

We regularly test any such emissions for specific pollutants and materials to ensure they do not contain levels of pollution that exceed emission limit values (ELVs) or cause environmental pollution. If monitoring of an emission indicates an ELV is exceeded, we are required to report this to the EPA⁶.

The next sub-sections of this report summarise our compliance with any ELVs set in our EPA licence. Some emissions monitored do not have specific ELVs, but we still carry out monitoring and report all incidents that may give rise to environmental pollution.

⁶ See section 5, Incidents

Storm Water

Explanation

Storm water is rain water run-off from roof and non-process areas of a facility, e.g. car parks, and generally shall not contain any pollution. Storm water is usually released into a local water body after a basic form of treatment. Our EPA licence requires that we manage storm water to ensure no polluting substances or materials are released into the environment.

The information below summarises how the storm water from our facility is treated, where it is released and the results of monitoring in 2021.

1. Storm water from our facility is managed prior to release by;

On the manufacturing site, stormwater falling on the finished products stockyard discharges into SW1 & SW2.

Stormwater is pumped from the quarry floor to a settlement pond prior to discharge at SW3.

SW4 & SW5 are both from roof areas and clean yard areas in the production area and terminate through common pipework

2. Storm water from our facility is released into the following water bodies:

Rainwater falling on roof and yard areas is discharged via the drainage system on the site to the Clogh River.

Table 7 Summary of Storm Water Monitoring in 2021

Parameter measured	No. of Samples	% Compliant⁷	Comment
COD	11		No ELV or trigger level applicable
Suspended solids	11	100%	
COD	11		No ELV or trigger level applicable
Sodium	11		No ELV or trigger level applicable
Aluminium	11		No ELV or trigger level applicable
Arsenic	11		No ELV or trigger level applicable
Boron	11		No ELV or trigger level applicable
Cadmium	11		No ELV or trigger level applicable
Chromium	11		No ELV or trigger level applicable
Copper	11		No ELV or trigger level applicable
Iron	11		No ELV or trigger level applicable
Mercury	11		No ELV or trigger level applicable
Manganese	11		No ELV or trigger level applicable
Nickel	11		No ELV or trigger level applicable
Lead	11		No ELV or trigger level applicable
Antimony	11		No ELV or trigger level applicable
Selenium	11		No ELV or trigger level applicable

Add rows as necessary

Comment

⁷ % compliant = [(number of samples compliant) / (number of samples taken)] x 100. Compliance could refer to emission limit values or trigger levels. The EPA commonly use trigger levels on stormwater discharges.

Waste Water

Explanation

There are two types of waste water that can be produced:

- Process waste water produced from the activities and;
- Sanitary waste water from toilets, washrooms and canteens.

Our EPA licence requires us to manage our waste water and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the waste water produced from our activities, where it is released and the results of monitoring in 2021.

1. Waste water produced by our activities is treated as follows before discharge to a receiving waterbody;

There is no process wastewater produced at our facility

2. Treated waste water from our facility is released into the following water bodies:

Wastewater from sanitary use is discharged to the public sewerage system.

Table 8 Summary of Waste Water Monitoring in 2021

Parameter measured	No. of Samples	% Compliant	Comment

Add rows as necessary

Comment

No wastewater monitoring required at this site.

Air

Explanation

Generally, three types of air emissions are monitored from industry in Ireland: gases, dust (particulates) and odour. Our EPA licence requires us to ensure that any air emissions from our activities do not cause air pollution or create an odour nuisance.

The information below details the number of air emission points we monitor, the results from testing the air emissions and any odour assessments carried out by us and the EPA in 2021.

1. We monitor air emissions from the following number of emission points at our facility.

Kiln 2 (New Kiln) was the only kiln in operation in 2021.

Table 9 Summary of Air Emissions Monitoring in 2021

Parameter measured	No. of Samples	% Compliant	Comment
Hydrogen Fluoride	4	100%	
Hydrogen Chloride	4	100%	
Carbon Monoxide	1	100%	
Sulphur Dioxide	1	100%	
Particulates	1	100%	
Flow Rate	4	100%	

Add rows as necessary

Comment

Not Applicable.

Table 10 Summary of Odour Assessments Carried Out in 2021

Assessment Conducted By	No. of Odour Assessments	% Compliant⁸	Comment
Licence Holder			
EPA			

Add rows where necessary

Comment

No odour assessments carried out in 2021.

⁸ A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at <http://www.epa.ie/pubs/advice/air/emissions/ag5-odourassessment.html>

Fugitive Solvent Emissions

Are you are required to monitor fugitive solvent air emissions from your facility?

Yes

No

Explanation

The use of solvents is regulated under Irish and European Union (EU) Regulations⁹. Solvents are chemicals that, by their nature, are volatile (evaporate readily under ambient conditions). Solvents can be found in many inks, glues and cleaning agents. Due to the volatility of solvents some emissions may be released into the atmosphere during our activities before being captured in our air treatment system. This type of emission is called a **fugitive solvent emission**.

The information below summarises the quantity of solvents used in 2021, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 11 Summary of Fugitive Solvent Emissions in 2021

Quantity of Solvents Used (Kg)	% Fugitive Solvent Emissions	Compliant

Comment

Fugitive solvent emissions monitoring is not required at this site.

⁹ See Annex VII of the Industrial Emissions Directive

<https://ec.europa.eu/environment/industry/stationary/ied/legislation.htm>

Groundwater

Explanation

Groundwater is an important and sensitive resource in Ireland. Our EPA licence requires that we monitor groundwater to ensure our activities do not cause groundwater pollution.

Understanding how groundwater flows through soil and rock layers and eventually into surface and coastal waters is a complex science. Sometimes groundwater pollution that occurred in the past can take years and even decades to disappear. Therefore, it is important that experts help us monitor and interpret results from groundwater monitoring and testing.

The information below is a basic summary of the condition of the groundwater in 2021.

1. Do you have a groundwater monitoring programme in place?

Yes

No

2. Have the groundwater monitoring results over the last 5 years indicated the presence of groundwater pollution?

Yes

No

Table 12 List of Groundwater Pollutants Identified

Pollutants

Add rows as necessary

Comment

Groundwater monitoring not required at this site.

3. Give details of the investigations and subsequent actions taken, where applicable, to manage the groundwater pollution.

Not applicable

Noise

Explanation

Our EPA licence requires that we monitor noise emissions from our facility. Noise monitoring can be conducted at the boundary of our facility and/or at locations beyond the boundary referred to as “noise sensitive locations”. Noise monitoring requires the use of special noise monitoring equipment. Our EPA licence requires that noise produced by our facility shall not exceed the noise limit values and/or give rise to nuisance.

The information below gives a summary of when and where we conducted noise monitoring in 2021 and if results complied with our EPA licence limits.

1. We conducted noise monitoring on the following dates in 2021:

Noise monitoring not required at this site.

2. Was the noise monitoring carried out at:

- i. the boundary of our facility,
- ii. noise sensitive locations off-site, or
- iii. both?

Not applicable

3. Were measured noise levels compliant with your EPA licence limits?

Yes

No

If No, we took the following actions to address the noise level exceedances?

Comment

Not applicable

7) Waste

Waste Generated

Explanation

Our EPA licence requires us to manage the waste we generate in a manner that does not cause environmental pollution.

We manage and record all outgoing hazardous, non-hazardous and inert waste. We ensure that waste transported off-site for treatment is carried out in accordance with the relevant waste Regulations.

The information in table 13 is a summary of waste we generated in 2021 and the percentage increase or decrease on the previous year.

Table 13 Waste Generated in 2021

Type	Quantity (Tonnes)	% Increase/ decrease on previous year
Hazardous	55.06	Increase over 2020 as zero hazardous waste disposed of in 2020
Non-Hazardous	10.84	70.9% decrease
Inert		
Total Tonnes	65.9	76.77% increase

Comment

Comparing 2021 figures to 2020, general waste decreased by 53% and recycling waste decreased by 89%. There was a large increase in Hazardous waste generated due to the removal of asbestos containing material from the site.

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal in 2021?

Yes

No

Explanation

We manage the waste we accept in a manner that does not cause environmental pollution.

We manage and record all incoming and outgoing hazardous, non-hazardous and inert waste. The waste we accept may be treated, recovered, disposed or stored at our facility depending on our licence requirements.

The information in Table 14 provides a summary of waste we accepted in 2021 and the percentage increase or decrease on the previous year. It also details the tonnes of this waste accepted that was for disposal or recovery.

Table 14 Waste Accepted in 2021

Type	Quantity (Tonnes)	% Increase/ decrease on previous year	Waste Disposed	Waste Recovered
Hazardous				
Non-Hazardous				
Inert				
Total Tonnes				

NOTE:

See Appendix II for detailed figures of waste accepted in 2021.

Comment

Not applicable

8) Financial Provision

Explanation

We are required to assess the risk our activities pose to the environment if we cease our activities or if an incident occurred. If we are identified as a high risk facility¹⁰ by the EPA, we are required to put provision in place such as a financial bond or insurance to cover the cost of restoring our site to a satisfactory condition. This financial provision can then be used to cover the cost of managing the restoration or clean up should such an event occur.

1. Are you required to have an agreed financial provision in place?

Yes

No

2. What year was your Closure, Restoration and Aftercare Management Plan (CRAMP) last agreed by the Agency?

Not applicable

3. What year was your Environmental Liability Assessment Report (ELRA) agreed by the Agency?

Not applicable

4. Has there been any significant changes on your site since the last agreements?

Yes

No

If yes, have you submitted details to the EPA?

Yes

No

N/A

¹⁰ See Appendix III

Appendix I

Class of Activity

Industrial and waste facilities are classed into different sectors depending on the nature of their activity and its potential impact on the environment. The EPA Act 1992 as amended, outlines these as follows:

Class 1	Minerals and other materials
Class 2	Energy
Class 3	Metals
Class 4	Mineral fibres and glass
Class 5	Chemicals
Class 6	Intensive Agriculture ¹¹
Class 7	Food and drink
Class 8	Wood, paper, textiles and leather
Class 9	Fossil fuels
Class 10	Cement, lime and magnesium oxide
Class 11	Waste
Class 12	Surface Coatings
Class 13	Other Activities

¹¹ This reporting template is not applicable to the **intensive agriculture sector**. Their annual environmental reporting template is different and can be found at <http://www.epa.ie/pubs/advice/aerprtr/aerguid/>

Appendix II

Waste Accepted Data

Table 15 Waste Accepted On-Site in 2021

List of Waste Code	Quantity (Tonnes)	Waste Description	Disposal or Recovery

Add rows as necessary

Appendix III

High Environmental Risk Categories

If an industrial or waste licence falls into one of these categories it is deemed, by the EPA, as a high environmental risk. As a result, the licence holder is required to have financial provision in place. See section 8, Financial Provision.

1. Landfills
2. Non-Hazardous Waste Transfer Station
3. Incineration and Co-Incineration Waste Facilities
4. Category A – Extractive Waste Facilities
5. Upper and Lower Tier Seveso Facilities
6. Hazardous Waste Transfer Stations
7. High Risk Contaminated Land
8. Exceptional Circumstances

NOTE:

This list is subject to change.

See the link below for further information.

<http://www.epa.ie/pubs/advice/licensee/fp/epaapproachtoenvironmentalliabilitiesandfinancialprovision.html>