



Annual Environmental Report (AER) 2023

Company Name: Intel Ireland Limited

Licence Number: P207-05

Address: P0207-05

Class of Activity¹: Collinstown Industrial Park, Leixlip, Co.
Kildare

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 | 10 |
| 2) How we Manage our Facility..... | 11 |
| Environmental Management System | 11 |
| Beyond Compliance..... | 14 |
| 3) Energy & Water..... | 15 |
| Energy | 15 |
| Water | 18 |
| 4) Environmental Complaints..... | 19 |
| 5) Environmental Incidents | 21 |
| 6) Our Environmental Emissions | 24 |
| Storm Water..... | 25 |
| Wastewater..... | 28 |
| Air | 31 |
| Fugitive Solvent Emissions..... | 35 |
| Groundwater..... | 36 |
| Noise | 38 |
| 7) Waste..... | 40 |
| Waste Generated | 40 |
| Waste Accepted | 41 |
| 8) Financial Provision | 42 |

Glossary

| | |
|-------------------------|---|
| Abatement Equipment | Technology used to reduce pollution |
| AER | Annual Environmental Report. |
| Beyond Compliance | Beyond compliance is concept to help deliver greater organisational performance and long-term value for the environment, society and the economy. |
| 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, an international 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 Resource | Wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases. |
| Sanitary Waste | Wastewater 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. |
| 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, **Marina Lucey (Environmental Health & Safety 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 this year.

Intel is a semiconductor manufacturing facility licensed by the Environmental Protection Agency (EPA) to manufacture integrated circuits and printed circuit boards. Secondary licensed activities taking place on site to support the manufacturing process include:

- Operation of combustion installations with a rated thermal input equal to or greater than 50 Megawatts and
- Surface treatment of products using organic solvents, in particular for coating and/or cleaning, with a consumption capacity of more than 200 tonnes per year

The site operates in strict compliance with its EPA licence. There were 14 minor environmental incidents in 2023. Of these 14 minor environmental incidents, 12 were related to CEMS (Continuous Emissions Monitoring System) analyser downtime, 1 was related to Stormwater monitoring equipment downtime and one was related to an "approach to limit" for volumetric flow from an air emission point. There was no environmental impact associated with any of these incidents.

There was no complaint received from neighbours in 2023 in relation to licensed activities.

Construction work continued on a new manufacturing building on site in 2023, which comprises Fab 34 MOD 1 and MOD2. This building is referred to as the "REMF" in the IE licence (P0207-05) and is also known as "Fab 34". Fab 34 MOD 1 started production in late September 2023.

Intel's Environmental Management System is certified to the ISO 14001 standard. The site underwent an ISO 14001 surveillance audit in May 2021

and an ISO 50001 (Energy Management Standard) recertification audit in November 2023 which were carried out by the National Standards Authority of Ireland (NSAI).

In 2023, Intel Ireland were nominated for the Environmental Award at Chambers Ireland Sustainable Business Impact Awards and was the winner of the Outstanding Achievement Award and Excellence Environment (for nanofiltration System). Intel also won the Excellence in Community and Sustainable Development award at the County Kildare Chamber awards 2023.

Intel Ireland also contributes to the achievement of Intel's RISE (Responsible, Inclusive, Sustainable & Enabling) Sustainability 2030 goals. More information on our environmental goals at site level & our work which goes beyond compliance are provided in Section 2 and Appendix III.

Contact Us

If you have any questions or would like further information on any aspect of our licensed activity, please contact us directly.

See below details:

Sarah Sexton – Director of Community Relations and Sustainable Operations.
sarah.sexton@intel.com Tel: +353 (1) 606 8537

2) How we Manage our Facility

Environmental Management System

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

| Environmental Goal | Target Date | Progress |
|---|--------------------|---|
| Meet the Intel Corporate waste target to achieve zero total waste* to landfill by 2030. | Dec 2029 | On track - In 2023 zero waste to landfill. |
| Contribute to Intel corporate target to implement circular economy strategies for 60% of our manufacturing waste streams, in partnership with our suppliers. | Dec 2029 | Ahead of schedule – 82.5% achieved in 2023. |
| Contribute to the Intel Corporate water conservation 2030 goals through the site's water conservation programme. | Dec 2029 | On track (See Appendix III). |
| Contribute to the Intel Corporate energy conservation 2030 goals | Dec 2029 | On track (See Appendix III). |

| | | |
|---|----------------|---|
| through the site's energy conservation programme. | | |
| Maintain certification of Intel's ISO 50001 Energy Management System with Ireland as the headquarter site. | Nov 2023 | Complete. |
| Upgrade of Continuous Emissions Monitoring Systems on the Solvent Exhaust Systems. | Dec 2022 | Complete. |
| Develop a new application to improve the management of refrigerants. | Jun 2022 | Complete. |
| Continuously improve our EHS Management Systems, with a focus on improved employee communication and engagement. | Dec 2023 | Complete. |
| Continue to maintain our site Biodiversity Program. | Jan – Dec 2023 | Complete. |
| Ensure all required bund/ underground pipe integrity testing is completed for 2023. | Dec 2023 | Complete. |
| Implement natural gas boiler upgrades to increase efficiency and reduce NOx emissions. | Sep 2023 | Complete (3 boilers upgraded) |
| Implement natural gas boiler upgrades to increase efficiency and reduce NOx emissions. | Sep 2024 | In Progress |
| Review fugitive emissions programme in line with Condition 3.14 of IE Licence P0207-05. | Dec 2023 | Delayed (Expected completion date is end of Q4'2024) |
| Ensure all required bund/ underground pipe integrity testing is completed for 2024. | Dec 2024 | On Track. |
| Continue to maintain our site Biodiversity Program. | Jan – Dec 2024 | On Track. |
| Maintain certification of Intel's ISO 14001 and 45001, | May 2024 | On Track |

| | | |
|---|--|--|
| Environmental, Health & Safety Management System | | |
|---|--|--|

(*The Intel definition of "zero waste to landfill" is for <1% waste to landfill).

Comment

| |
|---|
| The site Environmental Management Program captures projects relating to both Intel's legal requirements and voluntary commitments the site makes in line with Intel Corporation's RISE 2030 Sustainability Goals (10-year goals). |
|---|

Beyond Compliance

Explanation

We are legally required to comply with our environmental licence. However, the EPA realise that some sites go further than just complying with their environmental licence requirements. Some projects carried out at facilities can have long term positive impacts on the environment and local communities.

The EPA's beyond compliance initiative is encouraging us to identify and report on these environmental and sustainability projects. For example, the project could involve renewable energy, biodiversity, water conservation or exemplar community engagement.

Did any project completed on your site in the reporting year go beyond your licence requirements?

Yes

No

If yes, provide details of one case study in Appendix III that demonstrates how the project went beyond compliance of your licence.

3) Energy & Water

Energy

Explanation

Fossil fuels such as coal, gas and oil are non-renewable resources. 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. Where we have the means and technology on-site to generate energy, this is also captured in this report.

The information below summarises the energy used this year compared to the previous year and includes renewable and non-renewable energy types.

Table 3 Energy Used

| Energy Used | Quantity (GJ) | % Increase/ decrease on previous year |
|------------------------------------|----------------------|--|
| Electricity | 4,235,531 | 16% |
| Heavy Fuel Oil | 0 | 0% |
| Light Fuel Oil | 11,778 | 151% |
| Natural Gas | 953,633 | -5% |
| Coal / Solid Fuel | 0 | 0% |
| Peat | 0 | 0% |
| Renewable Biomass | 0 | 0% |
| Renewable Energy Generated On-site | 0 | 0% |
| Total Energy Used | 5,200,942 | 11% |

Comment

The Leixlip site's energy consumption increased in 2023 due to the startup of production in Fab 34. Natural gas consumption decreased in 2023 as Fab 34's heat recovery system was brought on-line which reduced the requirement for fossil fuel heating. The electricity used at the Intel Ireland site is

generated off site from 100% renewable sources as covered by Guarantees of Origin.

The information below summarises the energy we generated on our site this year with specific focus on renewable energy generation.

Table 4 Energy Generated

| Energy Generated | Quantity (GJ) | % Increase/ decrease on previous year |
|-------------------------------|----------------------|--|
| Renewable Energy | 0 | N/A |
| Total Energy Generated | 0 | N/A |

Comment

No renewable energy was generated on-site. All electricity supplied to site is 100% renewable as covered by Guarantees of Origin.

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 this year compared to the previous year.

Table 5 Water Used

| Source of Water Used | Quantity (m³/year) | % Increase/ decrease on previous year |
|-----------------------------|--------------------------------------|--|
| Groundwater | 0 | N/A |
| Surface Water | 0 | N/A |
| Public Supply | 8,603,978 | 3% |
| Recycled Water | 2,876,626 | 18% |
| Rainwater | 0 | N/A |
| Total Water Used | 11,480,604 | 7% |

Comment

The Leixlip site's water consumption increased in 2023 due to the start-up of production in Fab 34.

Intel recycles water internally by diverting certain streams of process water from drain for use in facilities systems. The volume of water recycled in 2023 increased as Fab 34 moved from commissioning to production which enabled increased levels of internal water recycling.

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, confidentially or not.

See the information below for a summary of **all** the environmental complaints relating to our activities made directly to us and to the EPA this year.

Table 6 Summary of All Environmental Complaints Received in

| Type of Complaint | Number of Complaints | Number Closed |
|---------------------------|-----------------------------|----------------------|
| Odour / Smells | | |
| Noise | | |
| Dust | | |
| Water Quality | | |
| Air Quality | | |
| Waste | | |
| Litter | | |
| Vermin/Flies/Birds | | |
| Soil Contamination | | |
| Vibration | | |
| Other | | |

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

There was no complaint related to the licenced activities on site in 2023.

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 this year.

Table 7 Number of Environmental Incidents

| Incident Category | Minor | Limited | Serious | Very Serious | Catastrophic |
|------------------------------|--------------|----------------|----------------|---------------------|---------------------|
| Abatement Equipment Offline | | | | | |
| Breach of Ambient ELV | | | | | |
| Breach of Emission Limit | | | | | |
| Explosion | | | | | |
| Fire | | | | | |
| Monitoring Equipment Failure | 13 | | | | |
| Odour | | | | | |
| Spillage | | | | | |
| Breach of trigger Level | | | | | |
| Uncontrolled Release | | | | | |

| Incident Category | Minor | Limited | Serious | Very Serious | Catastrophic |
|-------------------|-------|---------|---------|--------------|--------------|
| Other | 1 | | | | |

Comment

There were 13 minor incidents related to monitoring equipment failure:

- 12 incidents were related to solvent air abatement system CEMS (Continuous Environmental Monitoring System) analyser downtime. There was no environmental impact associated with these incidents as the solvent abatement systems were operating within specification at all times.
- 1 incident was related to surface water flow monitoring on the discharge to the Ryewater (SW1). There was no environmental impact associated with this failure.

The minor incident included in the "Other " category above related to an "approach to limit" for volumetric flow from the WT1 Scrubber (A341) on 2nd November 2023. There was no environmental impact associated with this emission.

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
- Wastewater
- 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. carparks, 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 this year.

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

Site storm water flows via interceptors to the site's storm water retention pond and then to the River Rye. Flow and pH of the discharge to the River Rye is continuously monitored. There is an outlet valve which can be closed remotely or manually at any time if there are any concerns over the discharge quality.

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

River Rye water.

Table 8 Summary of Storm Water Monitoring

| Parameter measured | No. of Samples | % Compliant ⁷ | Comment |
|-----------------------------|-----------------------|--------------------------|--|
| pH | Continuous monitoring | 100% | Trigger levels agreed with the EPA |
| Flow | Continuous monitoring | N/A | Flow monitoring at the discharge (SW1) was off-line from 5 th to 7 th April in 2023. There was no environmental impact associated with this event. |
| COD | 52 | | |
| Conductivity | 52 | | |
| Total Organic Carbon (as C) | 52 | | |
| Total Heavy Metals | 2 | | |

Add rows as necessary

Comment

All storm water emissions monitoring was carried out as per IE Licence. 52 weekly SW1 samples taken during 2023.

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.

Wastewater

Explanation

There are two types of wastewaters that can be produced:

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

Our EPA licence requires us to manage our wastewater on or off-site and ensure that it does not cause environmental pollution when discharged into the environment.

The information below summarises how we treat the wastewater produced from our activities, where it is released and the results of monitoring this year.

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

The wastewater generated at Intel is neutralised onsite before being discharged to Irish Water's Leixlip Municipal Wastewater Treatment Plant for further treatment.

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

Wastewater from Intel is discharged from Irish Water's Leixlip Municipal Wastewater Treatment Plant for further treatment before being discharged into the River Liffey.

Table 9 Summary of Wastewater Monitoring

| Parameter measured | No. of Samples | % Compliant | Comment |
|-------------------------------------|-----------------------|--------------------|----------------|
| COD Equivalence | 52 | 100% | |
| Inorganic Suspended Solids | 52 | 100% | |
| Suspended Solids | 52 | 100% | |
| Total Dissolved Solids | 52 | 100% | |
| Total Nitrogen | 52 | 100% | |
| Total Phosphorus | 52 | 100% | |
| Fluorides (as total F) | 52 | 100% | |
| Cyanides (as total CN) | 52 | 100% | |
| Arsenic and compounds (as As) | 52 | 100% | |
| Copper and compounds (as Cu) | 52 | 100% | |
| Chromium and compounds (as Cr) | 52 | 100% | |
| Nickel and compounds (as Ni) | 52 | 100% | |
| Tin | 52 | 100% | |
| Lead and compounds (as Pb) | 52 | 100% | |
| Cobalt (as Co) | 52 | 100% | |
| Total Heavy Metals | 52 | 100% | |
| Ammonia (as N) | 52 | 100% | |

| | | | |
|-----------------|-----------------------|------|--|
| | | | |
| Nitrate (as N) | 52 | 100% | |
| Sulphate | 52 | 100% | |
| Volumetric flow | Continuous monitoring | 100% | |
| pH | Continuous monitoring | 100% | |
| Temperature | Continuous monitoring | 100% | |

Add rows as necessary.

Comment

All wastewater monitoring was carried out as per the IE Licence P0207-05.

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 this year.

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

97

Table 10 Summary of Air Emissions Monitoring

| Parameter measured | No. of Samples | % Compliant |
|---------------------------------|--|-------------|
| Carbon Monoxide | RCTO: continuous monitoring Trimix: 7 samples Boilers: 15 samples | 100% |
| Nitrogen Oxides (as NO2) | RCTO: continuous monitoring Trimix: 7 samples Boilers: 15 samples Acid Scrubbers: 4 samples | 100% |
| Total Organic Carbon | RCTO: continuous monitoring | 100% |

| | | |
|--|--|------|
| Total Acids (as HCl) | Acid Scrubbers: 81 samples | 100% |
| Hydrofluoric acid (Gaseous) (as HF) | Acid Scrubbers: 81 samples | 100% |
| Total Fluorides (as HF) | Acid Scrubbers: 81 samples | 100% |
| Organics Class I | RCTO: 99 samples | 100% |
| Organics Class II | RCTO: 44 samples | 100% |
| Ammonia | Trimix: 310 samples Ammonia Scrubbers: 1,963 samples | 100% |
| Volumetric Flow | RCTOs: 99 samples Acid Scrubbers: 162 samples Ammonia Scrubbers: 1,963 samples Trimix: 310 samples Speciality Exhaust: 5 samples | 100% |
| Inorganic Dust Particles Class I | Speciality Exhaust: 5 samples | 100% |
| Inorganic Dust Particles Class II | Speciality Exhaust: 5 samples | 100% |
| Inorganic Dust Particles Class III | Speciality Exhaust: 5 samples | 100% |
| Total Dusts | Acid Scrubbers: 4 samples Speciality Exhaust: 4 samples | 100% |

Add rows as necessary.

Comment

All air emissions monitoring required by the IE Licence were carried out. All samples were within compliance limits.

Table 11 Summary of Odour Assessments Carried Out

| Assessment Conducted By | No. of Odour Assessments | % Compliant⁸ | Comment |
|--------------------------------|---------------------------------|--------------------------------|----------------|
| Licence Holder | 0 | N/A | |
| EPA | 0 | N/A | |

Add rows where necessary

Comment

Odour monitoring is not required by the site IE Licence

⁸ A compliant odour assessment is based on EPA Odour Impact Assessment Guidance available at [Air Enforcement | Environmental Protection Agency \(epa.ie\)](#)

Fugitive Solvent Emissions

Are you 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 this year, the percentage of fugitive solvent emissions (% of total quantity used) and whether the percentage complied with the targets set in the EU Regulations.

Table 12 Summary of Fugitive Solvent Emissions

| Quantity of Solvents Used (Kg) | % Fugitive Solvent Emissions | Compliant |
|--------------------------------|------------------------------|-----------|
| 4,145,987 | 0.72% | Yes |

Comment

As per IE Licence Condition 6.11.1, fugitive solvent emissions shall not exceed 15% of total solvent input. In 2023, fugitive solvent emissions were 0.72%, well within compliance limits.

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 this year.

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 13 List of Groundwater Pollutants Identified

| Pollutants |
|---|
| 1. Hydrocarbon at MW18 |
| 2. Hydrocarbon at Fab 34 construction site. |
| 3. Orthophosphate at MW11. |

Add rows as necessary.

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

1. Extractable hydrocarbons at a single localised monitoring well MW18 (related to a historical local diesel spill in 1997). Risk assessment and monitoring has confirmed there is no potential for migration and is contained locally. Source removed and natural degradation and monitoring is ongoing.
2. Hydrocarbon groundwater contamination identified in the Fab 34 construction area in January 2022, and reported to the Agency. (See more details below).
3. Two rounds of investigative sampling in 2023 indicted the possibility of exfiltration from a foul (sanitary) sewer. Relining of the foul sewer north of MW10, MW11 and MW12 was carried out in Q3 2023. Orthophosphate, which was above the GTV (Groundwater Threshold Value) in MW11 in the H1'2023 (May/June 2023) sampling round showed a significant improvement in the H2'2023 (Nov/Dec 2023) sampling round although the levels is somewhat above the GTV.

Comment

In relation to Item 2 above, a groundwater monitoring and sampling program has been implemented along with the installation of a hydrocarbon treatment system. Monthly monitoring showed a high level of compliance with the agreed target value of 10ug/l for discharges to the groundwater recharge area. Two end state groundwater treatment systems were commissioned in Q1'2024, and reporting has reduced from monthly to quarterly as per agreement with the EPA in 2023.

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 this year and if results complied with our EPA licence limits.

1. We conducted noise monitoring on the following dates this year:

25th and 27th July 2023
16th and 17th August 2023
10th, 11th and 19th October 2023

2. Where was the noise monitoring carried out?

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

Both at the boundary of our facility and at noise sensitive locations.

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?

N/A

Comment

50 word limit

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, store and record hazardous, non-hazardous and inert waste we generate in accordance with our licence. We ensure that this waste is subsequently treated or disposed of in accordance with the relevant waste Regulations.

The information in Table 14 is a summary of waste we generated this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste generated that was reused, recycled or recovered.

Table 14 Waste Generated

| Type | Quantity (Tonnes) | % Increase/ decrease on previous year | % Recovery |
|---------------------|-------------------|---------------------------------------|--------------|
| Hazardous | 18,230 | -28.3% | 91.6% |
| Non-Hazardous | 22,786 | -3.6% | 99.0% |
| Inert | 117 | -97.4% | 100.0% |
| Total Tonnes | 41,133 | -23.3% | 95.4% |

Comment

Hazardous Waste in 2023 decreased by 28% relative to 2022. This is due to reduction in production levels. The Inert waste has reduced significantly from 2022 to 2023 as the construction work has progressed to a final stage. Total Waste decreased by 23% in 2023 relative to 2022. Intel has maintained a high level of recovery of waste.

Waste Accepted

Did you accept waste onto your facility for storage, treatment, recovery or disposal this year?

Yes

No

Explanation

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

We manage, store 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 15 provides a summary of waste we accepted this year and the percentage increase or decrease on the previous year. The percentage recovery is the amount of total waste accepted that was reused, recycled or recovered.

Table 15 Waste Accepted

| Type | Quantity (Tonnes) | % Increase/ decrease on previous year | % Recovery |
|---------------------|-------------------|---------------------------------------|------------|
| Hazardous | | | |
| Non-Hazardous | | | |
| Inert | | | |
| Total Tonnes | | | |

Comment

Not Applicable

8) Financial Provision

Explanation

Our EPA licence requires us 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?

2023

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

2023

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

Yes

No

¹⁰ See Appendix II

If yes, have you submitted details to the EPA?

Yes

No

N/A

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 Agriculture¹¹
- 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 structure is different and can be found at [Compliance & Enforcement: Licensees: Reporting Publications | Environmental Protection Agency \(epa.ie\)](#)

Appendix II

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.

[Compliance & Enforcement: Financial Provisions Publications | Environmental Protection Agency \(epa.ie\)](#)

Appendix III

Beyond Compliance

The case study below shows how we went beyond the requirements of our licence in the reporting year.

Water Conservation: In 2023 the site achieved 3 million cubic meters of water conservation to contribute towards the Intel Corporate RISE Water Conservation goal of 227 million cubic meters (60 billion gallons) by 2030. This was achieved through a number of water conservation and water reuse projects, the largest of which is the Nanofiltration system which treats wastewater for reuse in site facilities systems.

Energy Conservation: The completion of 13 energy conservation projects in 2023 delivered 25.8 million kWh of annualised savings to contribute to the Intel Corporate RISE Energy Conservation goal of 4 billion kWh by 2030. These projects included installing new efficient chillers, LED lighting upgrades and an expansion of the site's heat recovery system.

Site Biodiversity Program: Intel remains committed to its Site Biodiversity Program, with recent actions including surveying the wildflower summer meadow on-site and fulfilling reporting requirements to the National Biodiversity Data Centre. In April 2023, a Biodiversity Map was installed on the external wall of the IR2 Bike shed. Biodiversity Awareness Stands were set up during four shifts in February 2023 to educate employees about pollinator-friendly planting areas and the existing wildflower meadow north of the site. Business in the Community Ireland organized an Ecologist & Biodiversity Workshop for Intel in August 2023. Additionally, the Biodiversity Walking Group was launched in May 2023. Moreover, Intel sponsored Pride of Place 2023, supporting various school projects focused on biodiversity planting, with each group receiving funding of up to €5,000 per project. In collaboration with the National Parks and Wildlife Service, a significant project to restore a 60-hectare blanket bog in the Wicklow Mountains is on-going.